

**DEPARTMENT OF DEFENSE AUTHORIZATION FOR
APPROPRIATIONS FOR FISCAL YEAR 2018 AND
THE FUTURE YEARS DEFENSE PROGRAM**

HEARINGS

BEFORE THE

**COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE**

ONE HUNDRED FIFTEENTH CONGRESS

FIRST SESSION

ON

S. 1519

TO AUTHORIZE APPROPRIATIONS FOR FISCAL YEAR 2018 FOR MILITARY
ACTIVITIES OF THE DEPARTMENT OF DEFENSE, FOR MILITARY CON-
STRUCTION, AND FOR DEFENSE ACTIVITIES OF THE DEPARTMENT OF
ENERGY, TO PRESCRIBE MILITARY PERSONNEL STRENGTHS FOR
SUCH FISCAL YEAR, AND FOR OTHER PURPOSES

PART 1

U.S. CENTRAL COMMAND AND U.S. AFRICA COMMAND

U.S. EUROPEAN COMMAND

U.S. STRATEGIC COMMAND

U.S. SOUTHERN COMMAND AND U.S. NORTHERN COMMAND

U.S. PACIFIC COMMAND AND U.S. FORCES KOREA

U.S. TRANSPORTATION COMMAND

U.S. SPECIAL OPERATIONS COMMAND

U.S. CYBER COMMAND

ARMY POSTURE

AIR FORCE POSTURE

DEPARTMENT OF DEFENSE BUDGET POSTURE

NAVY POSTURE

MARCH 9, 23; APRIL 4, 6, 27; MAY 2, 4, 9, 25; JUNE 13, 15, 2017



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**DEPARTMENT OF DEFENSE AUTHORIZATION
FOR APPROPRIATIONS FOR FISCAL YEAR
2018 AND THE FUTURE YEARS DEFENSE
PROGRAM**

THURSDAY, MARCH 9, 2017

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

**UNITED STATES CENTRAL COMMAND AND UNITED
STATES AFRICA COMMAND**

The committee met, pursuant to notice, at 9:29 a.m. in Room SH-216, Hart Senate Office Building, Senator John McCain (chairman of the committee) presiding.

Committee members present: Senators McCain, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Perdue, Graham, Sasse, Strange, Reed, Nelson, McCaskill, Shaheen, Gillibrand, Blumenthal, Donnelly, Hirono, Kaine, King, Heinrich, Warren, and Peters.

OPENING STATEMENT OF SENATOR JOHN MCCAIN, CHAIRMAN

Chairman MCCAIN. Good morning.

The Senate Armed Services Committee meets this morning to receive testimony on the posture of U.S. Central Command and Africa Command.

We are pleased to welcome our witnesses: General Votel and General Waldhauser. We thank each of you for your decades of distinguished service and for your leadership of our men and women in uniform.

More than a decade and a half since the September 11th terrorist attacks, our Nation is still at war with terrorists that seek to attack our Homeland, our interests, our allies, and our partners. In this fight, our military servicemembers are doing everything we ask of them from North Africa to the Middle East to South Asia. Thanks to their tremendous talent and dedication, we have made important tactical and operational progress.

Our military has gradually eroded ISIS's [Islamic State of Iraq and Syria] territorial control and removed key personnel from the battlefield. ISIS has been expelled from its Libyan stronghold in Sirte, and I am confident that soon the same will be true in Mosul and Raqqa. Our military has kept up the pressure on terrorists operating in countries like Yemen and Somalia. In Afghanistan, we

have kept al Qaeda on the run and helped our Afghan hold the line against renewed Taliban assaults.

But much to the frustration of the American people, this hard-won tactical progress has not led to enduring strategic gains. In fact, the sad reality is America's strategic position in the Middle East is weaker today than it was 8 years ago. The positions of Vladimir Putin's Russia and the Iranian regime and its terrorist proxies have improved. This is not a military failure. Instead, it is a failure of strategy, a failure of policy, and most of all, a failure of leadership.

The fact is for at last the last 8 years, we have tried to isolate the fight against terrorism from its geopolitical context. Or as General Mattis put it 2 years ago, we have been living in a "strategy-free environment" for quite some time. The result is that we have failed to address and, at times, exacerbated the underlying conflict, the struggles for power and sectarian identity now raging across the Middle East. We have been unable or unwilling to either ask or answer basic questions about American policy in the region. We have been reluctant to act, and when compelled to do so, we have pursued only the most limited and incremental actions.

We are fighting ISIS in Syria but ignoring the Syrian civil war that was its genesis and fuels it to this day. We are fighting ISIS in Iraq but failing to address the growing influence of Iran. We are fighting al Qaeda in Afghanistan but pretending the Taliban is no longer our problem. We are fighting al Qaeda in the Arabian Peninsula in Yemen but refraining from confronting the threat posed by Iran's Houthi proxies. In short, we are treating the symptoms and ignoring the disease, and we should not be surprised at the results: a Middle East aflame, America's influence squandered, America's adversaries emboldened, America's friends disheartened, and America's policy options narrowed and worsened.

This is the unfortunate inheritance of the new administration. Yet as difficult and complex as our challenges are in the Middle East, we have an opportunity to chart a new and different course. Seizing this opportunity will require more than just a plan for the accelerated defeat of ISIS. We have to raise our sights, look beyond the tactical and operational fight, and start answering some basic but difficult strategic questions. What enduring objectives do we hope to achieve across the Middle East? How will we achieve those goals, and on what timeline, and at what cost?

In Iraq, Mosul will be retaken eventually, but that will only likely reignite the battle for the future of Iraq, a battle in which we have an important stake. What is America's policy and strategy to deal with the problems that lie ahead: combating the malign influence of Iran and its militias, addressing the future of the Kurds and their place in Iraq, and attenuating the disenfranchisement of Sunni Iraqis that gave rise to ISIS in the first place?

Likewise in Syria, I believe Raqqa will eventually be liberated. But the closer we come to that day, the more it becomes clear that we cannot avoid difficult questions about Syria any longer. What is America's policy and strategy concerning a political transition in Syria, the future of Assad and his regime, the fate of the Kurds in Syria, and the influence of extremist forces from Sunni terrorists

to Iranian-backed militias? In short, what is America's vision of an end-state in Syria?

In Libya, the ISIS stronghold in Sirte has been degraded. But what remains is a divided nation littered with independent militias, flooded with arms, and searching in vain for legitimate governance and political unity. What is America's policy and strategy for addressing these conditions, which unless confronted will make Libya fertile ground for extremism and anti-Western terrorism?

In Afghanistan, we have settled for a strategy of "don't lose." The result is that last month, General Nicholson testified before this committee that this war is now in a stalemate after 15 years of fighting. After 15 years of fighting, we are in a stalemate. What is America's policy and strategy for rolling back a resurgent Taliban, for addressing the terrorist sanctuaries within Pakistan's borders, and pushing back against Iranian and Russian meddling? In short, what does victory look like in Afghanistan, and what is our strategy for achieving it?

Across the region, Russian and Iranian influence is growing at America's expense. Russia and Iran even hosted Syrian peace talks in Moscow last year without America present at the table.

Russia's cruise missiles crisscross the region while its aircraft indiscriminately target Syrian civilians. Iran's proxies wield lethal rockets and ballistic missiles with impunity, sensing that the nuclear deal shields them from American pressure. What is America's policy and strategy to counter Russian and Iranian malign influence that often manifests itself below the threshold of open conflict? How do we restore the trust of our regional allies and partners and convince them to forego hedging strategies that only add to uncertainty and instability?

These are the major policy and strategy questions hanging in the balance. The stakes are high, not just for the stability of the Middle East and Africa, but for America's national security. It is not the job of our witnesses to provide answers to these questions. That is the job of the President, his administration, and the Congress. We owe our witnesses and the men and women they lead unambiguous national security priorities, clarity in our strategic thinking, and an unwavering commitment to provide them the resources required to support the necessary courses of action.

Once again, I want to thank our witnesses for appearing before the committee today and look forward to hearing how the military efforts will help us achieve favorable strategic outcomes.

Senator Reed?

STATEMENT OF SENATOR JACK REED

Senator REED. Well, thank you, Mr. Chairman, and thank you to our witnesses not only for your appearing here today but for your extraordinary service to the Nation over many, many years. Also please relay our thanks to the men and women that you lead, and we appreciate their efforts extraordinarily so.

You are in a situation of very challenging times in all of the areas of operation. This hearing is especially timely, given unfolding events on the ground in Iraq and Syria and the reported completion of a proposed strategy to accelerate efforts against ISIS. Our assistance to partners on the ground is helping them to make

steady progress in reclaiming areas of Iraq and Syria once held by ISIS, most notably in Mosul.

However, the situation in Syria seems to get more complicated by the day as different actors on the ground pursue divergent goals. Russia's continued support for the Assad regime fuels the country's civil war, enables the abuse and killing of the Syrian population, and allows ISIS to exploit the resulting instability for its own gains. Chairman of the Joint Chiefs of Staff General Dunford met with his Russian and Turkish counterparts just this week to discuss deconflicting operations in Syria, a battlespace that has become increasingly complicated as United States, Turkish, Russian, Iranian, Assad regime, and local partner forces converge in northern Syria. General Votel, we look forward to your update on these particular issues.

According to public reports, the Defense Department has presented the White House with a draft strategy to accelerate progress against ISIS. While details of the strategy have not been publicly released, reports indicate that it retains many of the core elements of the strategy put in place under the Obama administration. General Dunford has described the strategy as a "political-military plan" and a "whole-of-government approach" requiring important contributions from other non-DOD departments and agencies, most notably the State Department.

This is why it is so concerning to me that the Trump administration's budget would apparently cut the State Department by a reported 37 percent at the very time that we need a surge of diplomatic and other assistance efforts to achieve the political conditions necessary to ultimately prevail in our fight against ISIS. As then General and now Secretary of Defense Mattis warned this committee, "if you don't fund the State Department fully, then I need to buy more ammunition." We just cannot keep buying bullets as the Trump administration is proposing.

General Waldhauser, the importance of a robust interagency is perhaps of even greater importance in your area of responsibility, where you are primarily working by, with, and through partner military forces in conjunction with United States interagency efforts. General, as you share your assessment of current and future AFRICOM [United States Africa Command] efforts in places like Libya and Somalia, I look forward to hearing the ways you are incorporating a whole-of-government approach into your planning. Such incorporation is particularly important in places like these where conflict resolution will ultimately rely less on the military toolkit and more on generating the proper political conditions to sustain and build upon security gains.

Turning back the CENTCOM [United States Central Command] AOR [Area of Responsibility], over the last few years, there has been a persistent focus on Iran's nuclear program and appropriately so. We passed the 1-year anniversary of the implementation of the Joint Comprehensive Plan of Action, or JCPOA [Joint Comprehensive Plan of Action], in January, and Iran appears to be living up to its commitments under this agreement. However, the JCPOA only addresses one facet of the challenge posed by Iran. Its destabilizing activities in the region, ballistic missile development

efforts, and unprofessional and dangerous behavior in the maritime environment continue.

Sanctions related to Iran's nuclear program were successful because of the extraordinary unity within the international community. We must approach the remaining challenges in a similar way if we are to be successful in changing Iran's behavior. Any new sanctions must be carefully applied in concert with our international partners so that we do not give Iran a pretext to withdraw from the JCPOA and risk reversing the progress that has been made on limiting their nuclear ambitions.

Last month, as the chairman indicated, General Mick Nicholson, Commander of Resolute Support and United States Forces-Afghanistan, testified that despite significant security gains and political efforts, Afghanistan is currently facing a stalemate. Further complicating the security landscape are the range of external actors, including Iran, Russia, and Pakistan, who seem intent upon interfering with the stability in Afghanistan. It was General Nicholson's assessments that increased troop levels for the NATO [North Atlantic Treaty Organization] train, advise, and assist mission, as well as the continued growth in the size and capability of the Afghan Air Force, would be necessary to break the stalemate.

General Votel, the committee would benefit from hearing your assessment of the current situation in Afghanistan and what can be done to protect the hard-won progress that has been achieved and ensure that further progress is made.

Again, thank you both for your continued service to the Nation, and I look forward to your testimony.

Chairman MCCAIN. I welcome the witnesses. Your written statements will be made part of the record. We will begin with you, General Votel. Welcome and thanks for the service that you both render to our Nation.

**STATEMENT OF GENERAL JOSEPH L. VOTEL, USA,
COMMANDER, U.S. CENTRAL COMMAND**

General VOTEL. Chairman McCain, Ranking Member Reed, distinguished members of the committee, good morning, and thank you for the opportunity to be here today to discuss the current posture and state of readiness of the United States Central Command.

I am very pleased to appear today with my good friend and highly respected brother in arms, General Tom Waldhauser.

I come before you today on behalf of the outstanding men and women of the command, military, civilians, and contractors, along with our coalition partners representing nearly 60 nations. Our people are the very best in the world at what they do, and I could not be more proud of them and their families. Without question, they are the strength of our Central Command team.

I have been in command of CENTCOM for about a year now. It has been an incredibly busy and productive period. Over the past 12 months, we have dealt with a number of significant challenges in Iraq and Syria, Afghanistan, Pakistan, Yemen, Egypt in the Sinai, the Bab al Mandeb Strait, and elsewhere throughout our area of responsibility. We are making progress in many areas, but as you know, there is much work that remains.

We are also dealing with a range of malign activities perpetrated by Iran and its proxies operating in the region. It is my view that Iran poses the greatest long-term threat to stability for this part of the world.

Generally speaking, the central region remains a highly complex area, widely characterized by pervasive instability and conflict. The fragile security environments, which reflect a variety of contributing factors, including heightened ethno-sectarian tensions, economic uncertainty, weak or corrupt governance, civil wars, and humanitarian crises are exploited by violent extremist organizations and terrorist groups such as al Qaeda and ISIS. These groups have clearly indicated their desire and intent to attack the U.S. Homeland, our interests abroad, and the interests of our partners and allies.

At the same time, the central region is increasingly crowded with external nation states such as Russia and China, and they are pursuing their own interests and attempting to shift alliances.

The point that I would emphasize to you is this, that while there may be other more strategic or consequential threats in regions in the world today, the central region has come to represent the nexus for many of the security challenges our Nation faces. Most importantly, the threats in region continue to pose the most direct threat to the U.S. Homeland and the global economy. Thus, it must remain a priority and be resourced and supported accordingly.

The team at U.S. Central Command remains appropriately focused on doing what is necessary to protect our national interests and those of our partners. Our strategic approach is straightforward: prepare, pursue, and prevail. I will explain what I mean by that.

We prepare the environment to ensure an effective posture. We actively pursue opportunities to strengthen relationships and support our interests, and when we do put our forces into action, we prevail in our assigned missions.

I would also point out to you that today to the credit and professionalism of our armed forces and coalition partners, we are executing campaigns in the central region with significantly fewer U.S. Forces on the ground than in previous years. As you have seen clearly demonstrated in Iraq and Syria, Afghanistan, Yemen, and elsewhere throughout our area of responsibility, we have adopted a by, with, and through approach that places a heavy reliance on indigenous forces. While this approach does present some challenges and can be more time-consuming, it is proving effective and is likely to pay significant dividends going forward. Indigenous force partners continue to build needed capability and capacity and they are personally invested in the conduct of operations and thus inclined to do what is necessary to preserve the gains they have achieved going forward.

We also have a vested interest in ensuring increased stability and security in this strategically important central region. To this end, I will close by highlighting three areas where I do believe, if we apply the appropriate amount of energy and effort, we can and will have a lasting impact in this part of the world.

First, we must restore trust with our partners in the region while at the same time maintaining the strong trust of our leader-

ship here in Washington. The fact is we cannot surge trust in times of crisis, and we must do what is necessary now to assure our partners of our commitment and our staying power.

Second, we must link our military objectives and campaigns as closely as possible to our policy objectives and our other instruments of national power. In other words, we must rely on our military objectives and our soft power capability with desired national and regional strategic end states, recognizing that if we do not do this, we risk creating space for our adversaries to achieve their strategic aims.

Finally, we must make sure that we are postured for purpose in the region. We must have credible, ready, and present force, coupled with foreign military sales and foreign military financing programs that serve to build and shape partner nations' capability in a timely and effective fashion.

Ours is a challenging and important mission. Much is at stake today in the central region. We recognize this fact, and I assure you that the CENTCOM team stands ready and willing to do what is necessary to protect our national interests and the interests of our allies and partners.

Let me close by thanking the committee for the strong support that you continue to provide to the world-class team at United States Central Command and particularly to our forces located forward in the region. As I said at the outset, the 80,000-plus soldiers, sailors, airmen, marines, coast guardsmen, and civilians that make up the command are truly the very best in the world at what they do, and I could not be more proud of them and their families. I know that you are proud of them as well.

Thank you again, and I look forward to answering your questions.

[The prepared statement of General Votel follows:]

PREPARED STATEMENT BY GENERAL JOSEPH L. VOTEL

INTRODUCTION.

The outstanding men and women who make up the U.S. Central Command (USCENTCOM) Team are the very best in the world at what they do. The incredibly dynamic, volatile and tumultuous Central Region presents a complex convergence of compounding multi-faceted security challenges. Such an environment generates near continuous crisis action planning and response. These conditions demand a highly capable, vigilant capability at USCENTCOM Headquarters and our Service Component Headquarters, as well as forward throughout our area of responsibility (AOR). The exceptional individuals on the USCENTCOM Team expertly navigate this challenging environment. In doing so, they effectively protect and promote our Nation's interests and they represent our values wherever they go around the world. They work selflessly each day in support of our mission and the exceptional men and women serving in harm's way around the globe. We could not be more proud of them and proud of their families. They truly are the strength of our USCENTCOM Team.

The Central Region is a fascinating area of the world. Spanning over 4 million square miles it is populated by 550+ million people from more than 20 ethnic groups representing multiple religions and speaking eighteen languages with hundreds of dialects. The region lies at the intersection of three continents and important commercial sea lanes, flight corridors, pipelines, and overland routes run across it supporting regional and global economic networks.

It is also a highly-complex area, widely characterized by pervasive instability and conflict. The 20 nations that make up the Central Region have various forms of government, ranging from absolute and constitutional monarchies to theocratic, parliamentary, and presidential republics. The economic and social-political landscape

is diverse, volatile at times, and rivalries often create tensions that affect security and stability. Violent extremist organizations (VEOs), such as the terrorist organizations al Qaeda and the Islamic State of Iraq and al-Sham (ISIS), exploit these conditions to foment unrest, challenge or destabilize governments, and threaten the global economy and U.S. national interests.

The turbulence across the region reflects a number of contributing factors or “drivers of instability,” including ethnic and sectarian hostilities between Shiite and Sunnis, and Arabs and Persians; economic uncertainty and sustained low oil prices that severely strain energy-based economies across the region, contributing to reduced government services and weakened prospects for economic growth; a disproportionately large youth population facing increasing poverty and unemployment, which may make them susceptible to unrest, radical ideologies, and VEO recruitment; expanding ungoverned or under-governed spaces, exploited by VEOs; civil wars, which are “engines of instability” all by themselves; worsening humanitarian crises, contributing to growing refugee and internally displaced person (IDP) populations; and, competition among outside actors, including Russia and China, seeking to promote their interests and supplant U.S. influence in the region. While we must take the necessary actions to counter immediate threats, such as ISIS in Iraq and Syria, we also need to find ways to address these and other root causes of instability if we hope to achieve lasting positive effects in that part of the world. This cannot be accomplished solely through military means. The military can help to create the necessary conditions; however, there must be concomitant progress in other complementary areas (e.g., reconstruction, humanitarian aid, stabilization, political reconciliation). There are a variety of interagency programs and efforts underway that are essential to translating military gains into actual achievement of stated goals and objectives. Support for these endeavors is vital to our success.

The current evolving security environment in the Central Region is further complicated by the fact that most challenges transcend borders; they are trans-regional (cutting across multiple combatant commands (CCMD)), all-domain (land, sea, air, space, cyberspace), and multi-functional (e.g., conventional, special operations, ballistic missile defense, cyber). Of note, the Middle East remains the global epicenter for terrorism and violent Islamist extremism. According to the Institute for Economics and Peace’s 2016 Global Terrorism Index, the U.S. Central Command (USCENTCOM) AOR accounted for 78 percent of all terrorism incidents worldwide, and the turmoil stretches across CCMD seams into Africa, Europe, South Asia, and beyond.

The security environment is further challenged by the emergence of a “virtual caliphate” and increased access and activity in the cyber domain. Ready access to the Internet, social media, and other messaging platforms has enabled a new generation of extremists to spread their radical Islamist views, incite widespread violence, and recruit new followers to their cause. As we have seen with the ongoing campaign to defeat ISIS, diminishment of the physical organization does not equate to the dismantlement of their virtual presence. To the contrary, terrorist organizations’ activities in cyberspace enable them to remain relevant despite setbacks on the battlefield, while reaching out to direct, enable, and/or inspire audiences well beyond the region’s geographic borders. Countering the “virtual caliphate” will require a concerted “whole-of-government” effort led by the people of the region. We can support our partners’ activities, but their voices and influence will be required to achieve enduring positive results.

We also acknowledge, particularly in the current resource-constrained environment, the need to find additional means for countering existing and emerging threats and deterring potential adversaries. No other country in the world has a military with a greater ability than the U.S. to achieve kinetic and non-kinetic effects and sustain those effects. Through the application of “hard” and “soft” power capabilities, including kinetic strikes, raids, and information operations, we have been very effective at degrading and disrupting violent extremist networks in the USCENTCOM AOR and elsewhere around the world. It is an important and a necessary competency. However, a solely military response is not sufficient. We must continue to look for ways to further enhance our effectiveness through the application of military and non-military activities. Ultimately, we want to increasingly involve other elements of the U.S. Government and the International Community, recognizing that it is only through a combination of capabilities that we will achieve and sustain our strongest deterrence posture.

This is especially true today given the changing character of warfare. For much of the past 15+ years our Nation has increasingly operated in the “gray zone” of military confrontation—that range of activities short of conventional conflict; a dangerous space in which miscalculation can easily occur, leading to escalatory conflict and misunderstanding. In the “gray zone,” adversaries employ unconventional meth-

ods that include cyber warfare, propaganda, and support to proxy elements in an effort to achieve their objectives while minimizing the scope and scale of actual fighting. At the same time, these unconventional methods increase tensions between partners by emphasizing competing priorities that detract from support for our common objectives (e.g., Turks and Syrian Kurds). To be successful in this ambiguous environment, we must find alternate ways to compete against our adversaries in the “gray zone” short of conflict, while collaborating with our partners to achieve our desired end-states.

We must—and will—continue to pursue the many opportunities that exist today throughout the Central Region, recognizing that by pursuing these opportunities we will achieve improved stability and security in that challenged part of the world. As Sir Winston Churchill wisely stated, “Difficulties mastered are opportunities won.” The key to success is ensuring that we remain ready and capable of effectively countering all threats. We need to make sure that we have an accurate understanding of the situation. We must take care to build and cultivate strong relationships, here at home and abroad. We need to be responsive to our partners and always listen and strive to understand their points of view and priorities. We also need to be properly postured with the necessary capabilities, resources, and appropriate authorities to protect and promote U.S. and partner nations’ interests.

In recent years, we have been encouraged to see many of our regional partners take a more active role in providing for the security of their sovereign spaces. Ultimately, we want to empower our partners and allies by helping them build additional capability and capacity while strengthening relationships and improving cooperation and interoperability among nations. This is—and will remain—a top priority for the USCENTCOM Team at our headquarters in Tampa, Florida, as well as among our Component Commands, combined/joint task forces, and forward in the region.

U.S. Central Command’s Mission. “USCENTCOM directs and enables military operations and activities with allies and partners to increase regional security and stability in support of enduring U.S. interests.”

Our Strategic Approach. Our strategic approach is focused on protecting our national interests and those of our partners. It is designed to reflect our values, align our behaviors, and support the National Military Strategy. It is proactive in nature and endeavors to set in motion tangible actions in a purposeful, consistent, and continuous manner. Each aspect of our approach—Prepare—Pursue—Prevail—enables the next and collectively contributes to the successful achievement of our goals, objectives, and overall mission.

Prepare the Environment—The volatile nature of the Central Region requires that we be well-postured to protect our enduring national interests. “Well-postured” means that we are ready to execute military tasks; physically and virtually present in the AOR; integrated in all our actions; responsive to the needs of our partners; and, able to provide options for our leadership. Proper preparation in advance of crises creates decision space for leaders and allows for the responsible and effective employment of available resources and forces. Well-prepared and motivated personnel with shared values provide a comparative advantage over our adversaries and competitors. Preparation of the environment—including agreements for assured access, basing, and overflight and the ability to adapt our expeditionary and enduring footprint—ultimately ensures a high level of readiness, increased responsiveness, and strong and productive relationships with partners and allies, all of which serve to enable our success in our various endeavors.

Pursue Opportunities—In a region beset by myriad challenges we must always be on the look-out for opportunities to seize the initiative to support our objectives and goals. Pursuing opportunities means that we are proactive—we don’t wait for problems to be presented; we look for ways to get ahead of them. It also means that we have to become comfortable with transparency and flat communications—our ability to understand our AOR better than anyone else gives us the advantage of knowing where opportunities exist. Pursuing opportunities also means we have to take risk—by delegating authority and responsibility to the right level, by trusting our partners, and being willing to trust our best instincts in order to move faster than our adversaries.

Prevail in Conflict—There are no easy victories or quick wins in the USCENTCOM AOR—ours is an area of protracted struggles and conflicts. Our overriding objective, despite these challenges, is to prevail. Prevailing means winning; coming out on top of our adversaries. We prevail when our national interests and objectives are preserved; when we maintain decision space for our leaders; and, when we maintain and sustain our access, posture, and relationships with our vital partners. We choose to prevail “by, with, and through” our partners. Prevailing in this AOR requires resolve and resiliency—and continued momentum.

U.S. CENTRAL COMMAND PRIORITIES.

Ensure an Effective Posture—An effective posture with trained and ready forward-stationed forces and equipment demonstrates our tremendous capability and enduring commitment to our partners and allies in the region. It reassures them; it enables access and influence; and, it positions us to secure our enduring national interests. An effective posture also optimizes freedom of movement, deters state aggressors, and provides decision space and flexible response options for national-level decision makers.

Strengthen Allies and Partnerships—A coalition approach—at home and abroad—expands our ability to operate on multiple fronts. Strong relationships based upon shared values create greater cohesion and enhance the effectiveness of available resources and capabilities. Integration with partners, within the region and beyond, enriches the benefit of our presence, mitigates resource constraints, and expands the reach of the force. By building the capacity of regional partners, we enable them to assume a larger share of the responsibility for securing their sovereign spaces.

Deter and Counter State Aggressors—Effectively posturing to maintain freedom of movement, freedom of action, and freedom of navigation is essential to securing our enduring national interests and the interests of our partners and allies. We must also actively counter malign influence, and be prepared to confront aggression, while reducing the freedom of action of surrogates and proxies operating in the region.

Disrupt and Counter Violent Extremist Organizations and their Networks—We must protect our Homeland from terrorist threats that emanate from the Central Region. We will accomplish this by degrading and defeating VEOs and their networks, including ISIS and al Qaeda and their associated forces, and by preventing the further spread of sectarian-fueled conflict and VEOs. Ultimately, our goal is to achieve a Central Region where improved security leads to greater stability, and where regional cooperation counters actors that threaten U.S. interests.

Desired End States. Our efforts in support of partners throughout the USCENCOM AOR are designed to achieve our desired end states. These end states include: USCENCOM properly postured to protect U.S. interests; free flow of commerce and access to areas in accordance with international law; strong and supportive allies and partners; state aggressors deterred or countered; WMD safeguarded and use prevented; VEOs degraded and their influence eroded; and, lasting increased regional stability and security. The key to achieving these ends is the effective use of available ways and means to address challenges and pursue opportunities in the region.

Challenges and Opportunities in the Central Region. Many conditions exist in the strategically-important Central Region that threaten stability, access to the region, and transit via maritime chokepoints. The resulting challenges—to include the ongoing conflicts in Iraq and Syria, Afghanistan, and Yemen, rising tensions with Iran, and increased provocative behavior by Iranian-backed elements in and around the Bab al Mandeb (BAM) Strait—clearly demand our attention and directed efforts. Among the dynamics contributing to the complexity of the current security environment are the same socio-political factors that caused the Arab Awakening, fomenting social unrest and creating conditions for sectarianism, violence, and extremism. In parts of the region, reforms have fallen short, politics remain exclusive, economic growth stagnates, education systems under-deliver, and/or social contracts are falling out of balance. Opportunities for youth remain limited. Concurrently, large-scale displaced populations stress already fragile economies, social welfare systems and security architectures. The resulting instability provides opportunities for VEOs and insurgents and those who actively provide support and sanctuary to them. Competition for water, oil, and other natural resources are other drivers of instability and conflict. Resurgent geopolitics and the continuation of national rivalries fuels interstate hostility and may potentially hasten the pursuit of nuclear weapons. As we look to address the multitude of challenges present today across the USCENCOM AOR, it is absolutely essential that we understand the conditions and root causes of the instability and turmoil. If not, our efforts are likely to be insufficient or even misdirected and any gains achieved, temporary.

In addition to addressing challenges, we must pursue the many opportunities present today throughout the Central Region. Doing so will enable us, working together with our partners, to shape the security environment and increase stability across our AOR. Opportunities manifest in a variety of ways, including bilateral and multilateral exercises and training programs, Foreign Military Sales (FMS) cases, Foreign Military Financing (FMF) assistance, information operations and messaging, and other cooperative endeavors in support of common objectives. Most notably, by supporting and enabling partner-led operations we achieve shared goals while limiting U.S. investment and troop presence and increasing regional partners'

capability, confidence, and overall stake in providing for the security of their sovereign spaces. For example, we continue to support the Iraqi Security Forces (ISF) and the Syrian Democratic Forces in their efforts to counter ISIS in Iraq and Syria. Also, in recent months we supported successful United Arab Emirates (UAE)-led operations in Yemen against the al Qaeda affiliate, al Qaeda in the Arabian Peninsula (AQAP). In terms of future opportunities, we need to find ways to increase information sharing with key partners, like the UAE, to further enable their efforts. Enhanced information sharing with regional partners can also advance efforts against ISIS and other terrorist facilitation networks. We should pursue increasing our support for the Lebanese Armed Forces (LAF), which have demonstrated tremendous return on investment in recent years. The need for improved communication between and among elements, particularly regarding common regional disputes (e.g., Sunni-Shiite tensions, Kurdish expansionism) also presents opportunities and should be pursued by relevant elements of the U.S. Government (USG). The key outcomes achieved through the pursuit of these and other opportunities present in the Central Region are improved awareness and information-sharing, enhanced capability, and increased trust and confidence among partner nations, all of which are key components underpinning our mission in pursuit of our national interests. Thus, it is essential that we view all challenges with an eye for corresponding opportunities that provide the best means for addressing those challenges and achieving desired end-states.

Given the trans-regional nature of the current security environment coupled with the competing demands for limited resources and capabilities, it is essential that we find efficiencies and alternative means for accomplishing stated objectives. This includes building and enabling coalitions comprised of willing partners, recognizing that collaboration enhances overall capability while providing a stronger, united front against potential adversaries; the sum of the parts is greater than the whole. The initial building blocks for strong coalitions are relationships. The cornerstone for effective enduring collaboration among coalition members is information-sharing which enables coalition compliant planning, resulting in successful execution of campaign goals and objectives. One quick-yield way to enhance the capability and effectiveness of our partners is by expanding our intelligence sharing with them. To date, we have seen significant return on investment each time we have made such allowances in support of our partners.

Key Focus Areas. While the USCENTCOM Team manages a broad range of difficult challenges on a daily basis, a significant portion of our efforts and resources are necessarily focused in five priority areas. These five areas are: Operation Inherent Resolve (Iraq and Syria), Operation Freedom's Sentinel and Resolute Support Mission (Afghanistan), Iran, Yemen, and Countering Terrorism and Violent Extremism. Below are summaries, highlighting substantial challenges and efforts underway aimed at improving stability and security in each of these critical areas.

Operation Inherent Resolve (Iraq and Syria). The Counter-ISIS (C-ISIS) Campaign has entered its third year and we are on track with the military plan to defeat the terrorist organization in Iraq and Syria. Our "by, with, and through" approach and operational level simultaneity strategy are working, and our partner forces continue to build momentum across the battlespace as we pressure the enemy on multiple fronts and across all domains. Together we are forcing the enemy to deal with multiple simultaneous dilemmas (e.g., ground operations, airstrikes, cyber activities, information operations, and discrete interdictions of resource flows). This is putting increased pressure on their operations and command and control capability while stretching their limited resources.

The strength of the C-ISIS Campaign is the C-ISIS Coalition consisting of all branches of service and our Interagency and international partners, and the many contributions they willingly make to the fight against our common enemy—"The whole is greater than the sum of its parts." Without the support of the Coalition, our "by, with, and through" approach would not be doable.

Our stand-off fires, including Coalition air and artillery, remain another lynchpin of the C-ISIS Campaign. Improved intelligence has enabled the Combined Air Operations Center (CAOC) to increase the number of deliberate strikes conducted in recent months, targeting ISIS's infrastructure, oil revenue sources, etc. Over the past year, the Coalition's precision effects campaign has removed dozens more ISIS senior leaders from the battlefield, attrited large portions of the organization's forces, further disrupted its command and control capability, and greatly degraded its pool of resources and access to replacements and personnel reinforcements. As the campaign progresses, and as ISIS shifts actions and behaves increasingly like a terrorist organization, hiding amongst civilians as a force protection measure, we will continue to make the necessary adjustments to our air operations. We want to target the enemy effectively, while also ensuring that we minimize collateral damage.

International law requires it; and, when America's sons and daughters go to war, they go with our values. Thus, it is imperative that when we conduct operations we do so in such a way that we limit the loss of innocent lives.

Over the past year, ISIS lost a significant amount of capability and large swaths of territory. The Iraqis are now in control of eastern Mosul, although clearing operations continue in several areas. In Syria, operations are ongoing in three key geographic areas—Raqqa, Manbij, and al Bab; it remains a very complex fight given multiple simultaneous activities and the management of partners and battlefield effects. In Iraq, in the coming weeks and months we will continue to support the Iraqi Security Forces as they complete the seizure of western Mosul. After Mosul operations are complete, we expect the Government of Iraq to prioritize military operations to recapture Tal Afar, Sinjar, and Hawija, and to secure the border in order to diminish ISIS' freedom of movement and ability to target major population centers. In Syria, the Syrian Democratic Forces have almost completed the isolation phase of Raqqa operations and will, in the coming months, begin operations to seize Raqqa, dismantling a key node in ISIS' external operations network. Additionally, we would look to continue our security operations along the Jordanian border to prevent re-infiltration of ISIS remnants.

The cumulative effect of operations in Iraq and Syria has cut off key lines of communication for ISIS, while restricting their ability to bring in additional fighters and curbing their flow of financial resources. The terrorist organization is struggling financially and is experiencing low morale in its ranks and steady leadership attrition due to coalition airstrikes. There has also been a nearly 75 percent decline in ISIS's media and propaganda as compared to a year ago.

Our efforts, in conjunction with our interagency and international partners' efforts, to stem the flow of foreign terrorist fighters—both into Syria and Iraq and also those attempting to return to their countries of origin—continue to bear fruit. The U.S. and Coalition member nations are highly concerned about the threat these experienced fighters present to our respective Homelands. We have made considerable progress identifying and targeting fighters and insurgent networks, principally through our Joint and Interagency targeting processes, and this will remain a priority.

These processes will also help to combat the evolving hybrid threat (conventional and irregular warfare). U.S. Special Operations Command has been designated lead for external operations (EXOPs) for the U.S. military efforts and this has contributed greatly to organizing the broader efforts against this threat. Whole of government efforts and collaboration with partners have also played a key role in stemming the flow of foreign terrorist fighters (FTF). Spurred by the adoption of UN Security Council Resolution 2178 in September 2014, more than 60 nations have enacted laws to restrict FTF travel. The U.S. now collaborates through information-sharing agreements with 59 international partners to identify and track travel of suspected terrorists in real time.

While we continue to make great strides towards countering ISIS trans-regionally, we recognize that we are dealing with a highly adaptive enemy. In particular, ISIS' use of chemical weapons and its evolving application of available off-the-shelf technologies that include unmanned aerial systems now used for both observation and to achieve lethal effects, poses a growing threat. For example, ISIS has reportedly used chemicals, including sulfur mustard and toxic industrial chemicals, in attacks more than 50 times in Iraq and Syria since 2014. Although the threat of chemical weapons has not slowed the Counter-ISIS Campaign, ISIS could further develop its chemical weapons capability. We are committed to working with partners to locate, secure, render harmless, eliminate or destroy any chemical and biological weapon materials found during the course of operations in Iraq and Syria, and to effectively remove this threat from our troops and civilian populations.

We will defeat ISIS militarily; however, a lasting defeat of this enemy will not be achieved unless similar progress is made on the political front. Instability all but guarantees a resurgence of ISIS or the emergence of other terrorist groups seeking to exploit conditions to advance their own aims. We remain fully committed to the "whole-of-government" approach and continue to ensure our actions are synchronized with and supportive of the efforts of our partners across the Interagency and the International Community.

This also holds true on the humanitarian front. UN-led efforts to date are having positive impacts and thousands of internally displaced persons (IDPs) have already returned to their homes. However, tough work remains, given the enormity of the humanitarian crises in Iraq and Syria and in neighboring countries. The growing number of displaced persons presents a unique set of challenges that include protection and assistance to civilians caught in the various conflicts, as well as assistance to those seeking asylum in neighboring countries.

Regional actors—There is a significant number of players currently operating in Iraq and Syria with both common and competing interests. While they have been present for many years, several of them have become emboldened and have taken a more active role in addressing regional issues.

In Iraq, we have seen encouraging progress made in the relationship between the leadership of the Government of Iraq (GoI) and the Kurdish Regional Government (KRG). This past year, for the first time since 2013, Prime Minister al-Abadi met with President Barzani in Baghdad to discuss expanded cooperation between the ISF and the Kurdish Peshmerga. We also see increased collaboration between the ISF and elements of the Popular Mobilization Forces (PMF). In November 2016, Iraq's parliament voted to fully legalize elements of the PMF, including but not limited to Shiite militias. While they are achieving some positive effects, their participation does present challenges, particularly post-Mosul offensive, as Iranian-backed elements of the PMF seek to increase their influence in the country through both military and political channels.

Turkey remains an important NATO ally and Counter-ISIS Coalition member that supports the campaign through its operations and by providing access, basing, and overflight permissions. Some Turkish activities and rhetoric, however, have the potential to impact campaign momentum. Turkey's actions in northern Iraq continue to strain relations between the GoI and the KRG, which serves to further complicate the C-ISIS Campaign. Likewise, in Syria, Turkey has helped clear ISIS from its border, but Turkish-backed forces have also clashed with the Syrian Democratic Forces near Manbij and al Bab and we continue efforts to resolve tensions.

Since Russia's entry into the Syrian conflict en masse in 2015, they have negatively impacted the regional balance of power. Russia's primary goal is to maintain Syria as a client state in the future and they have propped up the Assad Regime to support this overarching objective. Also very concerning is the fact that Russia's air operations have targeted civilians and U.S.-supported opposition groups. Without effective de-confliction measures, we see increasing opportunity for miscalculation and potential for unintended, counter-productive engagement between nation states. We are not currently coordinating or cooperating with the Russians; we are simply de-conflicting our air operations. This has become increasingly difficult in the crowded airspace as our operations come into closer proximity. In recent months, the Russians also introduced a number of new surface-to-air systems which can be employed to impact our freedom of maneuver. While our de-confliction efforts have been effective to date, as the fight expands in northern Syria and the battlespace becomes more congested, we should consider enhancing our de-confliction mechanisms with the Russians.

We continue to see Iranian malign influence across Iraq and Syria. While they currently are focused on countering ISIS in Iraq, we remain concerned about Iran's efforts to prop up the Syrian regime against the opposition and its desire to exploit Shiite population centers to increase their malign influence, not just in Syria, but also in Arab states across the region. This supports their long-term aspiration to achieve regional hegemony. Moreover, we are watching closely for indications and warnings of decreasing Iranian concern regarding the threat posed by ISIS, leading to a potential shift to targeting U.S. and coalition personnel and infrastructure in an effort to influence a potential long-term U.S. security presence. Furthermore, we must take care to ensure that our actions do not unintentionally strengthen the Iranian position within the region.

The military campaign plan to defeat ISIS is on track in both Iraq and Syria. The coalition's "by, with and through" approach is proving effective. Recognizing that ISIS will be defeated militarily, we want to ensure that we have an enduring posture in the region to support and enable partners' efforts to preserve security and stability. Iraq remains an anchor in the region and we would be wise to continue to support their efforts going forward. We have a willing partner in Iraq and Prime Minister al-Abadi has clearly articulated a desire for continued United States support post-ISIS. We are working with the GoI to finalize a Five-Year Plan to ensure enhanced cooperation. This presents an opportunity to preserve gains achieved to date, while strengthening key relationships and countering malign influence in the region.

Operation Freedom's Sentinel and Resolute Support Mission (Afghanistan). The Afghan National Defense and Security Forces (ANDSF) are beginning their third year with full responsibility for security with limited United States or coalition support. They continue to take the fight to the Taliban and, despite some territorial losses, have retained control of major population areas and key lines of communication. While the Taliban made gains in 2016, namely in the north and south, in most cases, the ANDSF quickly responded to and reversed some of those gains over the past year. While the balance of power favors the government, neither side is cur-

rently able to achieve its stated objectives. Looking ahead, it is essential that we continue to assist the ANDSF in addressing their capability gaps, particularly in the areas of aviation, casualty evacuation (CASEVAC), personnel management and development, logistics, and sustainment. Our sustained force presence, over 8,400 U.S. military personnel, will allow us to conduct counter-terrorism operations and meet our requirements for staffing the North Atlantic Treaty Organization (NATO)-led Resolute Support (RS) Mission. However, the RS Mission still has a shortfall of a few thousand personnel needed to conduct the complementary mission of training, advising, and assisting the ANDSF.

In 2015, United States Forces-Afghanistan (USFOR-A) worked with the Afghans to develop a Sustainable Security Strategy based upon three key tenets: “Fight, Hold, Disrupt.” The strategy identifies areas the Afghans will hold, areas they will fight to retain, and areas where they will conduct an economy of force effort and disrupt the enemy if they appear, Afghan resources permitting. The ANDSF continues to make progress in implementing this strategy, thereby assuming a more proactive stance in addressing multiple threats while securing the population and denying terrorist safe havens. As General Nicholson, the commander of the RS Mission and USFOR-A stated, “[The Afghans’] ability to deal with simultaneous crises ... is a sign of an army that’s growing in capability, [and] that’s maturing in terms of its ability to handle simultaneity and complexity on the battlefield.”

While the ANDSF continues to make progress, they do face a number of significant challenges. Poor leadership and corruption are two key factors that need further improvement and President Ashraf Ghani has made addressing these issues a top priority for the Government of the Islamic Republic of Afghanistan (GIROA). The GIROA established the Anti-Corruption Justice Center in 2016 with the help of the international community and has already tried, convicted, and sentenced senior Afghan officials for corruption. Below are other challenges and critical capability gaps must be addressed.

ANDSF casualty rates—High ANDSF casualties remain a concern. This can be attributed to several factors, including poor leadership, corruption, tactics, and training. Deficiencies in ANDSF leadership occur primarily because of patronage vice merit-based appointments. The extensive use of static checkpoints and the lack of training on how to defend them, as well as a more aggressive posture—which has resulted in the ANDSF more frequently taking the lead and actively taking the fight to the enemy—have also contributed to an increased number of casualties. The ANDSF also experienced an increase in the number of insurgent attacks on inadequately protected fixed positions, and poor and corrupt leadership also may have contributed to higher casualty rates. The ANDSF lacked an operational readiness cycle (ORC) to ensure forces are well-rested and well-trained before returning to the fight. During the Winter Campaign this year, many ANDSF units successfully established ORCs, and our advisors have fostered an increased focus on company-level training and leadership development.

Afghan Air Force—The Afghan Air Force (AAF) and Special Mission Wing (SMW) continue to build capability. Their ability to provide airlift, casualty evacuation, and aerial fires has steadily improved as the United States provides more aircraft to the AAF and as its pilots and crew gain additional operational experience. The Afghans are proving effective at integrating their AAF aviation assets as evidenced by a number of successful operations conducted over the past year. However, significant capability gaps remain. The current rotary wing fleet consisting primarily of the Russian-made Mi-17 is both undersized and proving to be more expensive and difficult to sustain than originally envisioned and is experiencing a higher than expected attrition rate. Going forward, transitioning from Russian to United States airframes will ensure Afghan forces have a more sustainable fleet that is interoperable with U.S. forces and will enhance the Afghans’ ability to operate independently of coalition forces. The United States Government is considering a critical AAF initiative to replace the unsustainable Russian-manufactured aircraft fleet and make up for combat losses in Afghan transport helicopters by providing U.S. UH-60s. The DOD-request of \$814.5 million for fiscal year 2017 for the first year of our plan to recapitalize the Afghan fleet provides funding to procure 53 UH-60s, with refurbishment and modification of the first 18; 30 additional armed MD-530F helicopters; 6 additional A-29 attack aircraft; and five AC-208s. The requested fiscal year 2017 Afghan Security Forces Fund (ASFF) budget, including the additional funds for the first year of this proposed aviation initiative, went to Congress on 10 November 2016. The fiscal year 2017 proposal is pending approval and we appreciate your support in reaching resolution as soon as possible to mitigate the gaps in Afghan aerial fires and lift capabilities. Transition from Mi-17 to UH-60 airframes will eventually eliminate reliance on Russian sourced parts for maintenance requirements. With

our support, we can expect the AAF will continue to build needed capability over the next few years and into the future.

Influence of external actors—Stability in Afghanistan is further challenged by the malign influence of external actors. The enablement of violent extremist groups operating inside of Afghanistan and along the Afghanistan-Pakistan border region, receiving sanctuary or support from outside governments, is of particular concern. So long as these elements remain, they will threaten our hard-earned gains and regional stability writ large.

Pakistan's shared border with Afghanistan remains a safe haven for terrorist and violent extremist elements. There are 20 United States-designated terrorist organizations present today in Afghanistan and Pakistan. The Taliban serves as a facilitator to some of these groups' operations. The death of Taliban Supreme Leader Mullah Akhtar Mansour in a U.S. strike on 21 May 2016 had a disruptive impact on the Taliban and gave a psychological boost to the Afghans. However, the group still presents a formidable threat to stability in the Afghanistan-Pakistan (Af-Pak) sub-region. The convergence of these groups and, in particular, the convergence of the Afghan Taliban and its component, the Haqqani Network, and Lashkar-e-Tayyiba, is of particular concern given the direct threat posed to United States and Coalition personnel and the Afghan Government. Key to improving the security environment in Afghanistan is eliminating sanctuary of militant groups in Pakistan's territory. The United States maintains consistent diplomatic pressure on Pakistan to take appropriate steps to deny safe haven and work to improve the security of the tumultuous Af-Pak border region.

Illicit narcotics production and trafficking—Illicit narcotics production and trafficking continue to flourish in Afghanistan, particularly in areas where state institutions are weak. The United Nations Office on Drugs and Crime estimated 2016 Afghanistan poppy cultivation to be 201,000 hectares with a net opium yield of 4,800 metric tons and a farm gate value of \$900 million, which is a 57 percent increase in revenue generated from the opium trade. In Afghanistan, a symbiotic relationship exists between the insurgency and narcotics trafficking where traffickers provide weapons, funding, and material support to the insurgency in exchange for protection. Additionally, some insurgent commanders traffic drugs to finance operations. However, trafficking is not limited to insurgent-controlled areas. The narcotics trade undermines governance and rule of law throughout Afghanistan and plays a critical role in underwriting corruption and a loss of confidence by the Afghan people in the GIRoA.

Regionally, USCENTCOM supports law enforcement counterdrug and border security training, equipping of regional partners, construction activities, and information sharing initiatives to build the capacity of our security force partners that aid in the regional response to illicit drugs trafficking. Counterdrug activities are a critical component of USCENTCOM's theater security cooperation strategy; provide for regional engagement and comprise a significant source of security assistance funding in Central Asia. These efforts improve regional illicit drug detection and interdiction and improve overall border security for the detection of other forms of contraband, including weapons and IED materials.

Amidst the challenges confronting Afghanistan today are many opportunities. Most notably, we have willing partners in the GIRoA and ANDSF and our collaboration in support of common objectives continues to pay significant dividends. Following are three areas in particular where potential "game-changing" opportunities exist and merit our sustained commitment.

Government of National Unity—The Government of National Unity (GNU) survived several political crises in 2016. President Ashraf Ghani and Chief Executive Officer Abdullah Abdullah provided the leadership that has enabled progress to be made in a number of areas, as well as the development of the framework for enduring partnerships with NATO and the United States. Nevertheless, significant challenges still exist and must be addressed. While the NUG provides needed structure and a source of stability for Afghanistan, it remains fragile. Although the ANDSF has remained apolitical so far, failure of the NUG could threaten ANDSF cohesion and the progress achieved throughout the country. Our message to the political elites of Afghanistan has been that "we respect your political progress, but please do not allow political tensions to undo the hard fought gains you have made."

The International Community's Demonstrated Commitment to Afghanistan—Thirty-nine NATO allies and partner nations committed more than 13,500 troops to sustain the Resolute Support Mission beyond 2016. Thirty nations have also pledged more than \$800 million annually to sustain Afghan security forces through 2020. Combined with the requested United States commitment of \$3.5 billion for fiscal year 2017 and additional funding from Afghanistan, a total of more than \$4.3 billion has been pledged for the ANDSF for 2017. Additionally, 75 countries and 26 inter-

national organizations confirmed their intention in 2016 at the Brussels Conference on Afghanistan to provide \$15.2 billion for Afghan development during the 2017–2020 period. The International Community’s strong showing, coupled with the continued commitment of United States troops in Afghanistan beyond 2016, has bolstered Afghan confidence and resolve and will surely pay dividends going forward.

Counter-terrorism (CT) Platform—The existence of violent extremist groups in Afghanistan requires a United States presence in the region that can monitor and address threats, even as the United States helps to build the Afghans’ capability to deter terrorist exploitation of Afghan territory. As we adjust the U.S. CT mission, our support to the NATO TAA [Train, Advise, and Assist] mission will also evolve in the coming year. Currently, advisory efforts are at four of the six corps and police zone levels, in addition to the Afghan Special Security Forces (ASSF) and the AAF. In 2017, we will advise all six corps and police zones to provide critical support where needed to capitalize on the success and continued implementation of the sustainable security strategy.

Although we see encouraging progress being made in Afghanistan, it remains a very challenging environment. While the ANDSF confronts difficulties in a number of areas, they are providing for the security of their country, achieving good effects against the Taliban, and building much-needed capacity and momentum while gaining increasing confidence in what is still a tough fight. Additionally, although it does face significant challenges, the GiRoA, under the leadership of President Ashraf Ghani and Chief Executive Abdullah Abdullah, has proven to be a reliable and willing partner. The United States and our coalition partners have invested greatly in Afghanistan over the last 15+ years. The country merits our continued demonstrated commitment given our national security interests in the sub-region, namely protection of the U.S. Homeland. By strengthening our partners and weakening our enemies we will achieve increased stability in that strategically important part of the world.

Iran. Iran poses the most significant threat to the Central Region and to our national interests and the interests of our partners and allies. We have not seen any improvement in Iran’s behavior since the Joint Comprehensive Plan of Action (JCPOA), addressing Iran’s nuclear program, was finalized in July 2015. Iran aspires to be a regional hegemon and its forces and proxies oppose United States interests in Iraq, Yemen, Lebanon, Gaza, and Syria, and seek to hinder achievement of United States objectives in Afghanistan and some Central Asian States. They also are working to subvert the GoI by establishing a long-term presence within Iraq’s security forces. Of note, Iran exerts influence and a degree of control over the majority of the nearly 100,000 Shiite militias within the PMF. Furthermore, Iran has expanded cooperation with Russia in Syria in ways that threaten United States interests in the region.

The JCPOA removed a key threat posed by Iran for at least a number of years. Unfortunately, the agreement has led some to believe that we have largely addressed the Iranian problem set and that is not the case. In addition to its nuclear weapons potential, Iran presents several credible threats. They have a robust theater ballistic missile program, and we remain concerned about their cyber and maritime activities, as well as the activities of Iran’s Islamic Revolutionary Guard Corps—Qods Forces (IRGC–QF) and their network of affiliates.

Iran implements its strategy primarily within the “gray zone,” the space short of conventional conflict where miscalculation can easily occur, leading to escalatory conflict and misunderstanding. Iran fosters instability by funding and promoting a threat network that employs provocation, violence, and covert arms transfers that serve as the stimulants for a range of conflicts across the region. It complements this subversive arm with conventional military provocation and overt threats to close key maritime sea lanes, especially at critical international economic chokepoints, namely the Strait of Hormuz and the BAM Strait, which puts global political stability and economic prosperity at risk.

Recognizing that Iran poses the greatest long-term threat to United States interests in the Central Region, we must seize opportunities to both reassure our allies and shape Iran’s behavior. In order to contain Iranian expansion, roll back its malign influence, and blunt its asymmetric advantages, we must engage them more effectively in the “gray zone” through means that include a strong deterrence posture, targeted counter-messaging activities, and by building partner nations’ capacity. Through both messaging and actions, we must also be clear in our communications and ensure the credibility of U.S. intentions. Iran must believe there will be prohibitive consequences if it chooses to continue its malign activities designed to foment instability in the region. The United States Government should also consider communicating directly with Iran’s leadership to improve transparency and lessen the potential for miscalculation.

To further strengthen deterrence against Iran, we must also take the necessary proactive measures to build the capacity of partners and allies in the region. Ideally we want to improve interoperability, expand communication, and enhance security mechanisms. Stronger, more capable partners, able and willing to assume a greater role in countering Iran, will serve to further enhance deterrence and improve stability in the region.

In addition to ready military actions, we must support the broader USG strategy with regard to Iran which should include new diplomatic initiatives that provide Iran with viable alternatives to its present course. While Iran continues to pose the most significant threat to regional security, we remain optimistic and believe that by taking proactive measures and reinforcing our resolve we can lessen Iran's ability to negatively influence outcomes in the future.

Yemen. Yemen remains a critically unstable state engrossed in a civil war that has produced a significant humanitarian crisis and growing instability ripe for exploitation by VEOs, most notably al Qaeda in the Arabian Peninsula (AQAP) and the ISIS affiliate, IS–Yemen. The lack of a comprehensive peace agreement that leads to a durable resolution of the conflict under a unified Yemeni Government further contributes to continued uncertainty in the country.

The civil war between the Republic of Yemen Government (RoYG) and the alliance of Former President of Yemen Ali Abdullah Saleh- and Huthis has entered its third year with little progress made towards achieving an enduring resolution despite concerted efforts by the United Nations, the broader International Community, and regional stakeholders. While the United States is not directly involved in the civil war, we are providing limited assistance to the Kingdom of Saudi Arabia (KSA)-led coalition in an effort to help protect their territorial integrity and sovereign borders. Huthi forces have seized and attacked military border outposts inside KSA territory and continue to occupy Saudi lands. Ballistic missile attacks launched from Yemen have struck deep into the country causing casualties and potentially threatening the Islamic holy sites in Mecca. We will continue to work to resolve the conflict as an ending to the war through a comprehensive political agreement provides the surest security of Saudi's Arabia's border and territorial integrity, enables us to conduct counter-terrorism operations, allows the population to receive food and medicine, and blocks Iranian malign activities. Until the war is over, we will assist Saudi Arabia in its efforts to defend against these attacks and restore the territorial integrity of their country.

Our primary focus in Yemen remains protecting the United States Homeland from threats posed by VEOs operating within Yemen's ungoverned spaces, while ensuring freedom of navigation and commerce through the southern Red Sea and the Bab al Mandeb (BAM) Strait. Al Qaeda in the Arabian Peninsula has indicated clear desire and ability to conduct attacks on the U.S. Homeland. Ongoing U.S. unilateral counter-terrorism operations and determined efforts by UAE in leading RoYG and Yemeni tribal forces, as demonstrated during the Mukalla offensive in April 2016, have degraded and disrupted AQAP's operational networks and reduced their access to sources of financial support. Despite the complexity of the environment, our efforts aimed at degrading AQAP remain critical to protecting our national security interests in the region and must continue.

In October 2016, the Iranian-supported BAM Maritime Threat Network (BMTN) demonstrated the ability to threaten freedom of navigation by successfully attacking a UAE vessel and a Saudi warship, and attempting to attack U.S. Navy warships in the southern Red Sea. We responded swiftly and decisively, destroying several Huthi coastal defense radar sites. While the origin of these attacks is found in the ROYG–Huthi conflict, the threats posed by the BMTN to the safe passage of vessels, either through deliberate action or unintentional acts, has the potential for significant strategic and economic impacts throughout the region. We continue to closely monitor the BMTN and remain prepared to promptly and decisively respond to any threats.

Going forward, our efforts against violent, non-state actors and support for similar efforts by our regional partners will remain our primary focus in Yemen. At the same time, we continue to do what we can to enable ongoing diplomatic efforts aimed at achieving a resolution to the hostilities that pose an enduring threat to stability in the country and the region writ large.

Countering Terrorism and Violent Extremism. The Central Region remains the global epicenter for terrorism and violent Islamist extremism and the resulting turmoil continues to bleed across geographic combatant command "seams." Terrorism and violent extremism represent trans-regional threats, where malign actors seek to exploit ungoverned and under-governed spaces and vulnerable, disenfranchised populations worldwide.

One aspect of this threat that makes it particularly challenging is the terrorists' and VEOs' ability to operate across multiple domains and in both physical and virtual spaces. Today, the unprecedented global access achieved through the use of the Internet and various social media platforms enables terrorist and violent extremist groups to promulgate their radicalized ideologies while reaching a vast pool of potential recruits, many willing to conduct lone wolf-style attacks on behalf of these groups. Also, as we have seen with ISIS, the ability of violent extremist groups to operate effectively in the virtual battlespace, makes them more challenging to defeat due to the nature of that domain. As we degrade their physical capability, groups often shift focus to the virtual battlespace while their forces consolidate and regroup. We must continue to identify attributable and non-attributable methods and techniques for combatting groups in the virtual domain.

We must also find ways to address the drivers of instability that create the conditions that allow these groups to flourish. The root causes of instability must be dealt with if we hope to achieve a lasting defeat of terrorist and violent extremist groups operating in the USCENTCOM AOR. The people of the region must lead this effort; we cannot do it for them. However, we can and will continue to support and promote their efforts wherever possible.

We cannot allow terrorist groups and violent extremist organizations to operate uncontested, enabling them to grow stronger and expand their global reach. By working together with our Interagency Partners and the International Community, operating from multiple strategic platforms around the globe and across all domains, we will reduce the gaps and "seams" exploited by these groups and better protect our interests against this common threat.

Our Partner Nations in the Central Region. Below are synopses of the current state of affairs, including challenges, opportunities, and status of our military-to-military (mil-to-mil) relationships with partner nations, except Afghanistan, Iraq, Syria, Iran, and Yemen which were addressed in the previous section, "Key Focus Areas" (see pages 13–31).

The Gulf States—The Gulf States are among our best partners in the region. The Gulf Cooperation Council's (GCC) willingness to provide basing and access for U.S. forces is crucial to our ability to operate militarily in the USCENTCOM AOR. The GCC countries provide critical nodes for achieving operational objectives and continued success against ISIS. Their troops and aircraft continue to play a key role in the ongoing fight against this terrorist organization. At leader-level summits in 2014 and 2015, the GCC countries committed to pursue collective defense initiatives, including joint counter-terrorism and ballistic missile defense; however, progress towards those ends has been relatively slow. Nevertheless, the GCC's desire to create a unified military command and more closely coordinated economic policy could create opportunities for greater interoperability between GCC and coalition forces over the medium- to long-term. While individual GCC nations' sometimes divergent foreign policies present an obstacle to achieving a unified defense posture, we remain committed to helping them achieve this desired end state through senior leader engagements, combined exercises, and more standardized equipment and training. As agreed upon at the May 2015 Camp David Summit, we have increased cooperation on maritime security, military preparedness, arms transfers, cybersecurity, counter-terrorism, and logistics interoperability. Our total GCC FMS open case portfolio is valued at over \$150 billion and continues to help our partners defend their sovereignty and economic interests against emerging threats. As Gulf countries look to the United States for military equipment, training, and assistance, it is essential that we reinforce efforts to include them in our joint endeavors to defeat regional threats posed by violent extremism and Iran's malign influence. Through our continued support for and collaboration with our GCC partners we will positively impact stability and security in the strategically important Central Region.

Bahrain is an important partner in the region, hosting USCENTCOM's naval component, United States Navy Central Command (NAVCENT) and U.S. Fifth Fleet Headquarters and Combined Maritime Forces in Manama at the Naval Support Activity Bahrain and Isa Air Base, respectively. The Bahrainis have actively supported coalition operations against ISIS in Syria since the start of the C-ISIS Campaign in September 2014, primarily by allowing us continued use and access to these facilities. They also continue to support Saudi-led operations in Yemen. We are making strides in our collaborative efforts to enhance the Bahraini Coast Guard's capacity, which aim to enable Bahrain to expand its role in countering piracy and violent extremism in the region's maritime domain. Internally, the Bahrainis are dealing with a tough domestic economic hit by low oil prices and a persistent, low-level threat from Iranian-backed militant groups, and we continue to provide appropriate assistance to help them address the security threat. While we have historically enjoyed a strong mil-to-mil relationship with our Bahraini counterparts, the slow

progress on key FMS cases, specifically additional F-16 aircraft and upgrades to Bahrain's existing F-16 fleet, due to concerns of potential human rights abuses in the country, continues to strain our relationship. We continue to urge the Government of Bahrain to reverse steps it has taken over the past year to reduce the space for peaceful political expression in its Shiite population and have encouraged the Bahrainis to implement needed political reforms in the country while reassuring them of our strong commitment to our valued partnership.

The Kingdom of Saudi Arabia (KSA) is undertaking potentially far-reaching economic and related reforms under the banner of Vision 2030 and the National Transformation Plan. The goal of these measures is to diversify the Saudi economy and generate increased economic growth in the wake of low oil prices, as well as expanded opportunities for the nation's burgeoning youth population. The Kingdom is a key regional leader, calling upon partner nations to join them in addressing regional challenges, including Iranian malign influence. Having actively supported the fight against ISIS in the early stages of the campaign, KSA shifted its priority of effort to Yemen in 2015 where it leads the coalition against the Saleh- and Iranian-backed Huthis, who continue to pose a threat to Yemen's internal stability, security in KSA's southern border region, and the flow of commerce through the Bab al Mandeb Strait. The Saudis also are concerned about the threat posed by VEOs operating in Yemen, including the al Qaeda affiliate, AQAP, and the ISIS affiliate, IS-Y. We are principally focused on helping KSA to improve its target development and accountability processes in order to reduce incidence of civilian casualties, while also providing them with focused logistics and intelligence sharing support. Our long-standing partnership with KSA remains critical to maintaining stability in the region given their influence in the GCC and among many Muslim-majority countries. Our mil-to-mil relationship represents the strongest component of that partnership and continues to serve as the foundation for productive collaboration. By continuing to provide opportunities for the Saudis to enhance their defense capabilities, mainly through our substantive training and exercise program and robust FMS valued at \$109 billion in open cases, we aim to improve interoperability while effectively addressing challenges in pursuit of our shared security goals and objectives.

Kuwait continues to be one of our strongest allies in the Central Region. Owing to the generous provisions of the Defense Cooperation Agreement, the Kuwaitis provide one of the most permissive environments in the USCENTCOM AOR with respect to access, basing, and overflight in support of U.S. and coalition presence in theater. Kuwait hosts the forward headquarters of USCENTCOM's army component, U.S. Army Central Command (ARCENT). Kuwait is also the most active combat support logistics hub globally and plays a critical role in support of ongoing operations in Iraq, Syria, and Yemen. Kuwait utilizes its leadership role in the GCC to help mediate internal GCC rifts while promoting a regional response to crises. Kuwait has also led the GCC in helping to address the regional refugee crisis emanating from Syria and been an invaluable partner in supporting the Iraqi Government's C-ISIS efforts. Our mil-to-mil relationship with the Kuwaitis remains strong. Going forward we will look to pursue additional opportunities for joint training and further collaboration in support of common objectives.

The relationship between the United States and Oman remains strong, strengthened by our shared interests in the region and expanding access to Omani bases and ports. Oman is consistently viewed as a source of stability in the Gulf Region, and its neutral stance has enabled it to serve as a key interlocutor, most notably with Yemen and Iran. Of note, in October 2016, Oman's leadership facilitated the release of two United States citizens held by the Huthis in Sanaa, Yemen. Additionally, Oman's strategic location on the Arabian Sea, outside of the Bab el Mandeb Strait and the Strait of Hormuz provides USCENTCOM with access to key logistical, operational, and contingency capabilities that are crucial to maintaining open sea lines of communication. While Oman does face significant challenges, namely a growing threat from VEOs in neighboring Yemen and a declining economy that could potentially impact its youth population, the leadership of the country is taking appropriate steps to address these and other issues. We enjoy a good relationship with the Omani military and will continue to work closely with them in support of shared interests.

Qatar remains a highly valued partner, providing critical access and basing in support of coalition forces and operations being conducted in Iraq, Syria, Afghanistan, and elsewhere in the Central Region. The country hosts more than 10,000 U.S. and Coalition servicemembers at Al-Udeid Air Base, home of USCENTCOM's Forward Headquarters, our air component, U.S. Air Forces Central Command (AFCENT), and its Combined Air Operations Center (CAOC). Qatar's Armed Forces also continue to support external operations in Syria and Yemen. In Syria, given their relationships with a wide range of actors, including more moderate elements,

the Qataris are well-positioned to play an influential role in facilitating a political resolution to the conflict. Like most GCC countries, they continue to demand the removal of Bashar al-Assad as part of any resolution. Qatar has indicated a strong desire to enhance its partnership with the United States, both in terms of training engagements with U.S. forces and procurement of U.S. military equipment. Our continued role in their military modernization and development presents an invaluable opportunity to help expand their capability while strengthening our mil-to-mil relationship with a key and critical partner in the region.

The United Arab Emirates (UAE) is one of our most steadfast and capable partners in the USCENTCOM AOR. The Emirates have clearly demonstrated a willingness and ability to take an active role in shaping outcomes in the Central Region. The country hosts more than 4,000 U.S. servicemembers and provides critical support for U.S. operations, goals, and objectives. The UAE was among the first countries to join the Counter-ISIS Coalition in 2014. While their primary focus has since shifted to support the ongoing KSA-led military campaign in Yemen, UAE continues to provide support to several of the C-ISIS Coalition's key lines of effort, including counter-messaging, counter-financing, and stemming the flow of foreign fighters. In Yemen, the UAE serves as the leading ground element in ongoing operations against the Saleh- and Iranian-backed Huthis. The Emirates are also supporting our efforts to counter the al Qaeda affiliate, AQAP. In April, using local fighters and tribal militias, the Emirates played a critical role in liberating Mukalla, driving AQAP elements out of the port city and thereby denying them a key source of revenue. In conjunction with its military efforts, the UAE is heavily focused on providing humanitarian assistance to ease the crisis facing Yemen's population. We value our strong relationship with the Emirates and seek to build upon our robust mil-to-mil relationship, including by concluding a new Defense Cooperation Agreement that could serve as a foundation for expanded, mutually beneficial defense cooperation. We will work to expand our collaboration, specifically in the areas of security cooperation and foreign military sales. Additionally, we will work with the Emirates to promote their leadership role among partner nations in the region.

The Levant—The Levant represents the epicenter of ethno-sectarian tension and conflict in the USCENTCOM AOR. Partner nations in this sub-region continue to struggle with the impacts of the fight against ISIS, as well as the ongoing civil war in Syria, which is an “engine of instability” in and of itself. The persistent conflict and resulting widespread unrest have caused an expanding humanitarian crisis with ramifications that reach far beyond the USCENTCOM AOR. Stability in the Levant is further complicated by competition for influence therein from outside actors, principally Iran and Russia. Many of the challenges present today in the Levant originate from or affect neighboring countries and thus are trans-regional in nature and require cross-COCOM coordination. We routinely work closely with our colleagues in United States European Command, United States Africa Command, and other USG agencies and organizations to ensure that our various efforts are complementary and well-synchronized.

With its strategic location, control of the Suez Canal, enduring peace treaty with Israel coupled with a religious and cultural Pan-Arab influence, Egypt remains a stalwart partner in pursuit of shared Middle East policy objectives that include counter-terrorism, counter-violent extremism, and improved regional stability. Of particular concern is the threat posed by the ISIS affiliate, IS-Sinai which conducts frequent attacks against the Egyptian Armed Forces (EAF) and security services. While the EAF has managed to contain violence in the Sinai Peninsula without a comprehensive strategy to defeat IS-Sinai, we have a vested interest in helping them to effectively address this threat to ensure that the Sinai does not become a safe haven for extremist elements, including by providing additional bilateral military and security training. Egypt is further challenged by a weak economy and widespread unemployment or under-employment, as well as an aggressive approach to countering internal threats which makes its population highly susceptible to radicalization by extremist elements. Continued United States support to Egypt is crucial to our strategic partnership, and our long-standing, resilient mil-to-mil relationship represents a key pillar of that partnership. Over the past several months, we have expanded our collaboration while taking steps to bolster our force protection measures and rebalance the Multinational Force Observer (MFO) mission in the Sinai. In the coming months, we will continue to work closely with the EAF to further enhance their counter-terrorism capabilities and improve the security of their borders through continued engagement and our robust assistance and security cooperation programs.

The Hashemite Kingdom of Jordan is one of our strongest and most reliable partners in the Levant sub-region. Jordan provides access, basing, and overflight equal to or greater than that provided by any other partner in the USCENTCOM AOR.

The Jordanian Armed Forces (JAF) and the Royal Jordanian Air Force (RJAF) continue to make key contributions in support of the Counter-ISIS Campaign. With United States and coalition assistance, the JAF have fortified Jordan's borders with Iraq and Syria, while enabling the International Community's ongoing efforts to address the burgeoning humanitarian crisis manifesting inside of Jordan (~650,000 refugees) and in two camps located along the border in southern Syria (~55,000–65,000 IDPs). It is imperative that we remain actively engaged with our Jordanian partners. Jordan provides a much-needed moderate Islamic voice in the region and is a trusted intermediary in efforts to advance progress between the Israelis and Palestinians. Our strong mil-to-mil relationship and continued demonstrated support for the Government of Jordan, the JAF, and the RJAF remains critical to ensuring that Jordan is able to effectively manage the broad range of challenges facing the country and the region now and in the future.

Lebanon remains a key partner in our efforts to counter violent extremism in the Central Region, and their ground forces offer one of the greatest returns on investment in the region. They are routinely countering groups that include ISIS and Al Nusra Front, denying them freedom of movement, and strengthening the country's border defenses with our continued support. United States security assistance to Lebanon has enhanced the Lebanese Armed Forces' (LAF) ability to counter malign influences and terrorist elements operating within the country. A strong and capable LAF acts as a counterweight to the militant arm of Lebanese Hezbollah (LH), while diminishing LH's claim as the sole "resistance" in Lebanon. While LH has been preoccupied with its involvement in the fight in Syria in support of the Assad Regime, the LAF has gained increasing credibility among the Lebanese populace as the most respected institution in the country. On 31 October 2016, the Lebanese parliament ended the over two-year presidential vacancy with the appointment of President Michel Aoun, a Maronite Christian and leader of the Free Patriotic Movement Party. While this positive development ended political gridlock and restored government functions, significant challenges remain, exacerbated by the civil war in neighboring Syria. Of particular concern are the approximately 1+ million Syrian refugees in Lebanon. This population presents political, economic, and security challenges to Prime Minister Hariri and his newly formed government. In addition to straining national resources, the Syrian refugee population is mostly Sunni and thus could threaten the fragile sectarian balance of power in the country. The humanitarian burden facing Lebanon will require significant international assistance to bolster limited local resources. Our continued support for this valued partner is both merited and has proven to pay tremendous dividends as the LAF has routinely demonstrated the ability to make best use of U.S. assistance to increase its capability and capacity and bring about positive, measurable results.

Central and South Asia—Our primary interests in the Central and South Asia (CASA) sub-region are to prevent the establishment of terrorist safe havens, assure continued United States access, and support the sovereignty and independence of partner nations. Our engagement strategy is focused on these three interests and strengthening our bilateral relationships with the seven partner nations. We also encourage multi-lateral cooperation amongst these same seven nations, and our annual CASA Chiefs of Defense Conference serves as a mechanism for facilitating expanded dialogue and increased cooperation. This past year, we also held the highly successful inaugural CASA Directors of Military Intelligence Conference. The increased participation and elevated levels of mil-to-mil discussions clearly convey increased appetite for further U.S.-led engagement.

Despite increasing Russian, Chinese, and Iranian pressure designed to limit United States influence in the sub-region, the U.S. maintains its regional position by focusing on security cooperation areas where we have a comparative advantage such as counter-terrorism, border security, defense institution building, and professional development. Several CASA governments support transit of supplies to United States troops in Afghanistan through the Northern Distribution Network. We anticipate a continued need for these access routes. In this regard, our CASA partners have been and continue to be strong partners in our efforts to stabilize Afghanistan. Other areas of shared interest include countering violent extremism and counter-narcotics. Our training and exercise programs in the CASA sub-region clearly demonstrate our strong commitment to addressing these and other common challenges. For example, Exercise Steppe Eagle, traditionally a trilateral exercise with the United States, U.K., and Kazakhstan, has become more regional in scope with Tajikistan and the Kyrgyz Republic also now taking part. Additionally, we are increasing multilateral collaboration with our CASA-wide annual USCENTCOM Exercise Regional Cooperation.

We share two primary concerns with our CASA partners regarding stability and security in the region: 1) persistent worries about the long-term stability and viability

ity of Afghanistan and 2) the threat posed by returning foreign fighters. The United States and NATO's continued commitment to the ongoing Resolute Support Mission in Afghanistan is helping to assuage these concerns, primarily by bolstering the Afghan security forces' ability to defend their security interests. At the same time, we continue to pursue opportunities that would allow for increased information sharing, improved border security, and enhanced training and multi-lateral collaboration to support our shared interests.

While our efforts in Afghanistan and Pakistan continue to require significant investment, elsewhere in the CASA sub-region we have clearly demonstrated the ability to achieve good effects with modest investments in terms of building partner nations' capabilities, improving multi-lateral cooperation, and addressing common security threats. Going forward, we intend to strengthen relationships and build on previous accomplishments while working together with our Interagency Partners to explore and pursue new opportunities in this strategically important part of the world.

The United States-Kazakhstan relationship is our most advanced military relationship in Central Asia. We are making notable progress as the Kazakhstani Ministry of Defense continues to focus on institutional reform of its NCO corps, training management, human resources administration, and professional military education system. This progress continues despite enduring Russian influence and a Kazakhstani economy that is still recovering from the recent downturn in oil and gas prices. Kazakhstan remains the most significant regional contributor to Afghan stability, donating money to the ANA Trust Fund, continuing to provide educational opportunities to Afghans, and offering technical support services. Kazakhstan is also moving closer to a United Nations peace-keeping operations deployment with a unit that has been trained with U.S. assistance. Looking at future opportunities to strengthen our partnership, Kazakhstan has expressed interest in working with the United States to improve its logistical, medical, and engineering military branches. Kazakhstan also partnered with the Arizona National Guard through our State Partnership program, providing us the ability to assist in this effort.

The Kyrgyz Republic, Central Asia's sole democracy, faces a number of challenges including economic and border security issues. The Kyrgyz Republic sees political pressure from its larger, more powerful neighbors, including Russia, hosting a small Russian airbase outside the capital, Bishkek. Despite ongoing challenges in our bilateral and security cooperation, we continue to seek opportunities to improve our mil-to-mil relationship. After a lengthy period of time during which few bilateral activities occurred, the Kyrgyz military may be increasingly receptive to higher level military engagements and expanded cooperation in the areas of border security, counter-narcotics, counter-terrorism, and countering violent extremism. Furthermore, we continue to assist the Kyrgyz in building a deployable peace-keeping (PK) hospital capability that should be ready to support United Nations PK operations in the near future. Looking ahead, we intend to pursue opportunities for increased cooperation while taking steps to strengthen our relationships with the Kyrgyz.

Pakistan remains a critical partner in the counter-terrorism fight. Twenty U.S.-designated terrorist organizations operate in the Afghanistan-Pakistan sub-region; seven of the 20 organizations are in Pakistan. So long as these groups maintain safe haven inside of Pakistan they will threaten long-term stability in Afghanistan. Of particular concern to us is the Haqqani Network (HQN) which poses the greatest threat to coalition forces operating in Afghanistan. To date, the Pakistan military and security services have not taken lasting actions against HQN. We have consistently called upon the Pakistanis to take the necessary actions to deny terrorists safe haven and improve security in the Federally Administered Tribal Areas (FATA) along the Afghanistan-Pakistan border region. We have seen some promising coordination between the Pakistan and Afghanistan militaries aimed at addressing instability in the Afghanistan-Pakistan border region. The Pakistan military in particular continues to conduct counter-terrorism and counter-insurgency operations in the FATA and facilitate, via ground and air lines of communication, the sustainment of coalition operations in Afghanistan.

This past year we became increasingly concerned about the growing threat posed by the ISIS affiliate, Islamic State-Khorasan (IS-K). Although their operational capacity has diminished as a result of United States, Afghanistan, and Pakistan military operations, we remain focused on defeating the group in both countries. Of note, we were encouraged to see the Pakistani military plan and execute a recent named operation in which they set up simultaneous multiple blocking positions along the Afghanistan-Pakistan border in order to reinforce ANDSF efforts to disrupt IS-K activities.

We also continue to see ongoing tensions between Pakistan and neighboring India. India remains concerned about the lack of action against India-focused militants

based in Pakistan and even responded militarily to terrorist attacks in India-held territory earlier this year. We assess that these types of attacks and the potential reactions, increase the likelihood for miscalculation by both countries. Furthermore, India's public policy to "diplomatically isolate" Pakistan hinders any prospects for improved relations. This is especially troubling as a significant conventional conflict between Pakistan and India could escalate into a nuclear exchange, given that both are nuclear powers. Additionally, Pakistan's increased focus on its eastern border detracts from its efforts to secure the western border with Afghanistan from incursion by Taliban and al-Qaida fighters. Security along the western border will nevertheless remain a priority for Islamabad, as the Pakistani military seeks to expand border control and improve paramilitary security.

While there are challenges with respect to the United States-Pakistani relationship, we have endeavored to maintain a substantial level of engagement with our Pakistani military counterparts. We continue to execute a robust joint exercise program. Most recently, the Pakistani Air Force sent airmen and aircraft to participate in Exercise RED FLAG and GREEN FLAG at Nellis Air Force Base in Nevada this past summer. The Pakistani military also continues to support our efforts elsewhere in the region; most notably, the Pakistani Navy is the most consistent and longstanding participant, second only to the United States, in Combined Task Force (CTF)-150 (counter-terrorism operations) and CTF-151 (counter-piracy operations) led by U.S. Naval Forces Central (USNAVCENT). Our relationship with Pakistan remains a very important one. We look forward to continuing our engagement with the Pakistani military leadership, to include the new Chief of the Army Staff, General Qamar Javed Bajwa, in the days ahead as we work together in pursuit of shared interests.

Our mil-to-mil relationship with Tajikistan is deepening despite Moscow's enduring ties and the presence of the 201st Military Base near Tajikistan's capital of Dushanbe, Russia's largest military base outside of its borders. China has also initiated a much stronger military cooperation partnership with Tajikistan, adding further complexity to Tajikistan's multi-faceted approach to security cooperation. Tajikistan's long border with Afghanistan remains the nation's top concern, as the Taliban intermittently fights for control of Afghanistan's Kunduz province, which is less than 160 miles from Dushanbe. These border concerns remain a focus area for U.S. security cooperation as we continue to develop the Tajiks' capacity to address violent extremism, terrorism, and narco-trafficking; enhance border security; and, confront other trans-regional threats.

Turkmenistan's UN-recognized policy of "positive neutrality" presents a challenge with respect to U.S. engagement. Our efforts to date have focused primarily on training, including in the areas of counter-narcotics and medical services. Due to Turkmenistan's shared border with Afghanistan, the Turkmen remain concerned about the continuing instability in Afghanistan and, separately, the potential for the return of foreign fighters. We are encouraged somewhat by Turkmenistan's expressed interest in increased mil-to-mil engagement with the U.S. within the limits of their "positive neutrality" policy.

We are cautiously optimistic about the possibility of *Uzbekistan's* improved relations with its neighbors in the region following the first presidential succession in the nation's 25-year history. This is a promising development given Uzbekistan's central and strategic geographic location, in the heart of Central Asia and bordering Afghanistan. President Mirziyoyev has reaffirmed the country's unwillingness to allow other nations to establish military bases in Uzbekistan, its restriction against aligning with foreign military or political blocs, and its self-imposed restriction against any type of expeditionary military operations. Despite these limitations, our bilateral mil-to-mil efforts are focused on helping the Uzbeks improve border security, enhance their counter-narcotic and counter-terrorism capabilities, and prevent the return of foreign fighters into the country, which are shared U.S. interests in the region. We remain committed to these security assistance efforts. We also are helping the Uzbek military, which is the largest military in Central Asia, to professionalize its forces through advisory support and assistance to its professional military institutions.

Required Programs, Capabilities and Resources. The security environment in the Central Region remains complex and highly volatile. To ensure we are able to effectively achieve our mandate to protect our national interests, we must be properly postured with the necessary capabilities and resources to pursue opportunities in support of our goals and objectives, and to prevail in our various endeavors throughout USCENTCOM's 20-country area of responsibility. Below are the programs, capabilities, and resources most critical to our success.

Building Partner Capacity. Building Partner Capacity (BPC) is essential to achieving our objectives in the Central Region. To improve stability in the

USCENTCOM AOR and mitigate the need for costly U.S. military intervention, we must be forward-leaning and empower our partners to meet internal security challenges and work collectively to counter common threats. BPC is a lower-cost alternative to U.S. boots on the ground, has longer-term sustainability, and is necessary for interoperable, combined coalition operations. As such it represents a high return investment in the future of the Central Region. By building capacity and enabling partners to assume a larger role in providing for the stability and security of their sovereign spaces, we will enhance regional stability while still maintaining our critical access and influence in the region. Other tangible by-products achieved through our BPC efforts include enhanced interoperability, improved security for forward deployed forces and diplomatic sites, continued access and influence, and more professional regional militaries comprised of forces learning the importance of rule of law and compliance with human rights norms. Continued support of key partners engaged in the ongoing military campaign to defeat ISIS in Iraq and Syria is particularly important. As important as long-term regional stability is BPC's focus on the threat environment and shaping the region is critical to better prepare and deter and counter state and non-state aggression. Our key partners' ability to procure U.S. weapons and equipment and increase interoperability with U.S. and coalition forces is critical to our success. Any reduction of U.S. assistance risks undermining our allies and creating a security vacuum for exploitation by state and non-state actors with counter-U.S. or violent intentions.

Foreign Military Financing and Foreign Military Sales. For decades, United States security assistance provided to countries including Saudi Arabia, Jordan, Yemen, Kuwait and Egypt, has helped create lasting partnerships and improve regional stability. Foreign Military Financing (FMF) assistance and the Foreign Military Sales (FMS) program enable countries to meet their defense needs, while also promoting U.S. national security interests by strengthening coalitions and enhancing interoperability between and among U.S. and coalition forces. When we provide defense systems through U.S. security assistance, we are not just providing our partners with capabilities, we are committing to a long-term relationship that includes sustainment of those capabilities. The complex and technical nature of advanced defense systems often require continuous collaboration between countries. This may include training and support in the use of the equipment, maintenance assistance, and, in some cases, continuing help to update and modernize the equipment throughout its life-cycle.

Nevertheless, we must better anticipate our partners' requirements and find ways to improve our FMF and FMS programs' processes to better meet demand in today's high-paced global security environment. Delays in procurement and delivery can, over time, jeopardize relationships with buyer nations and the potential for future FMS and FMF transactions. It is imperative that we make the FMF and FMS processes more responsive to partner needs.

In recent years we have seen an increase in restrictions placed on assistance provided to partner nations, limiting their ability to acquire U.S. equipment based on human rights and/or political oppression of minority groups. While these are significant challenges that must be addressed, the use of FMF and FMS as a mechanism to achieve changes in behavior has questionable effectiveness and can have unintended consequences. We need to carefully balance these concerns against our desired outcomes for U.S. security assistance programs—both DOD and State-funded—to build and shape partner nations' capability, interoperability, and self-reliance in support of broader U.S. foreign policy. We should avoid using the programs as a lever of influence or denial to our own detriment.

USCENTCOM Exercise and Training Program. The USCENTCOM Exercise Engagement Training Transformation (CE2T2) program enhances U.S. capability to support contingency operations while improving readiness and maintaining presence and access to the region. At the same time, the program indirectly increases partner nations' operational capability; demonstrates mutual commitment to regional security; ensures an effective coalition posture; strengthens relationships; and, improves combined command, control, and communications interoperability (C3I). More importantly, in light of the fact that today's conflicts are increasingly trans-regional, all-domain, and multi-functional in nature, bilateral and multilateral exercises support the unity of effort requirement for coalition operations.

The USCENTCOM CE2T2 program continues to grow in complexity and relevance with expanded participation throughout the USCENTCOM AOR during fiscal year 2016 and into fiscal year 2017. Last year, the command conducted 45 USCENTCOM- and/or Component-sponsored bilateral and multilateral exercises with 41 partner nations and spanning seven Geographic and Functional Commands. These exercises shape the perceptions of key audiences in the USCENTCOM AOR to support U.S. strategic goals of reassuring partners and deterring aggressive and

malign behavior. Exercise objectives and outcomes include maintaining key relationships while demonstrating multilateral, as well as unilateral, capabilities. They also enable increased cooperation and interoperability with our partners and help to reinforce a strong military posture in the region. This helps counter any false perception of the U.S. “abandoning” the region.

Continued, robust, and reliable funding is necessary to fully support exercises as planned. For example, insufficient resourcing of component requirements can result in curtailment or even cancellation of efforts like Exercise EAGER LION, an annual multi-lateral training event in Jordan. This sub-optimization of the USCENTCOM exercise and training program ultimately will affect U.S. Joint and Combined Force readiness and create a perceived lack of commitment to our coalition partners. Combined with BPC, FMS, and FMF, the USCENTCOM CE2T2 program also actively promotes and supports regional stability through increased partner action and capability. These engagements not only build interoperability at the highest levels of command, but the benefits derived at the lowest, tactical levels of command and logistics manifest in long-term professional and personal relationships among participating country staffs.

Information Operations. Information Operations (IO) will continue to serve as a key element in shaping the environment to reduce or avoid conflict and as a force multiplier in the information space during and after major combat and counter-insurgency operations. We have an enduring responsibility to employ IO to counter trans-regional threats. By utilizing IO as a comprehensive, long-term capability to degrade VEOs’ effectiveness and counter state-sponsored destabilizing activities across the USCENTCOM AOR, the USG [United States Government] helps to improve regional stability while reducing the requirement for deployed U.S. forces. The Department of Defense (DOD), in concert with other USG agencies, has developed several IO campaigns, leveraging the latest technologies, which operate in the information domain. These campaigns include counter-propaganda messaging in print media, radio, television, short message service, Internet, and social media, and take a proactive approach to coordinating these activities with the country teams and embassies in our AOR. The nature and scope of threats prevalent today in the USCENTCOM AOR necessitates a robust response, and IO is a cost-effective application of DOD resources to deter aggression, counter destabilizing behavior, and decrease the potential for kinetic operations in order to protect USG and partner nation interests in the Central Region.

Cyberspace Operations. USCENTCOM cyberspace operations are built on the foundation of cyber readiness and include both Department of Defense Information Network (DODIN) Operations and command-centric Defensive Cyberspace Operations. Our top cyberspace priority is mission assurance; the goal is to preserve freedom of maneuver in cyberspace to assure access to both U.S. and foreign assets critical to military operations. Efforts include, but are not limited to, helping to set priorities and contributing to the desired end-state of denying adversaries the ability to operate on our networks and impact our missions. We recognize the importance of maintaining a holistic approach to this evolving capability that emphasizes the need for a synchronized effort across the whole-of-government. While the full and proper implementation of all available USG/DOD technical defenses plays a vital role, the human element is the most important factor to protect and defend from malicious cyber activity. Looking ahead, USCENTCOM will continue to adapt our network defenses to detect, deter, and better react to known or anticipated threats.

Anti-Access Area Denial. Potential adversaries are actively investing in competitive responses that include anti-access/area denial (A2AD) systems to minimize U.S. influence and abilities. Adversaries are also pursuing “layered defenses” to directly challenge U.S. diplomacy and presence. An enemy may use combinations of kinetic (e.g., ballistic/cruise missiles, moored/floating mines, small boat swarms, submarines, aircraft, drones, irregular warfare using proxies, terrorism, WMD) and non-kinetic (e.g., GPS jamming, spoofing, cyber hacking, EMP, underground facilities, dispersal/camouflage of weapons/assets, shielding from aerial/satellite surveillance, decoys) capabilities to inhibit projection of force and/or precision strikes.

Intelligence, Surveillance, Reconnaissance Assets. USCENTCOM holds daily requirements for over 2,800 hours of full-motion video, thousands of still images, thousands of hours of signal intelligence, and other key intelligence collection sources. These requirements do not reside only in Afghanistan, Iraq, and Syria, but span the entirety of the USCENTCOM AOR. It is the layering, synchronization, and prioritization of national, theater, and tactical ISR capabilities that enable USCENTCOM force protection of transition, stability, and combat forces. This critical capability also performs several key functions including: battlespace awareness for partner and U.S. operational commanders, as well as indications and warning to guard against strategic threats and miscalculation; identification of fixed ground

networks and facilities; location and tracking of adversary operational elements and units; mapping and development of adversary command and control; interdictions of facilitation entities, suppliers, and supply routes; and, characterization and targeting of funding centers and other support nodes. Our greatest difficulties in this fight remain in the development of enemy networks, groups, cells, and nodes that fight from within the populace. There are critical airborne ISR functions that must be present to map this unconventional threat. In priority order they are: 1) full-motion video, 2) signals intelligence, and 3) geospatial intelligence. USCENTCOM's requirements consistently outpace theater airborne ISR capacity and capability and the demand will continue to grow. We are able to address some of the shortfall through cross-CCMD and partner-nation coordination and capacity development. We also need to explore innovative ways to develop capabilities for persistent ISR through experimentation and technology maturation and demonstration projects. Additionally, we need to address the shortfalls associated with processing, exploitation, and dissemination of collected intelligence. For the foreseeable future, in the absence of additional much-needed ISR assets, maintaining operational awareness on threats, risks, regional stability, and humanitarian crises will require constant attention, creative application of ISR, hard choices on the prioritization of resources, and the determination of acceptable risk to mission and forces.

Precision Munitions. Highly accurate munitions are vital components of our kinetic strike and integrated air and missile defense capabilities, to dominate and counter our adversaries' increasingly sophisticated networks of coastal and air defenses coupled with precision ballistic missiles. Missile interceptors, air- and sea-launched cruise missiles, precision air-to-ground and air-to-air missiles, and long-range precision ground-to-ground missiles work in concert to counter the growing threats we face today. We appreciate Congress' continued support for the procurement/replenishment, development, and forward positioning of precision and specific purpose munitions that are critical to the way we currently fight—in urban areas, with very specific rules of engagement designed to protect civilians and limit damage to infrastructure.

Counter Unmanned Aerial Systems (C-UAS). The enemy Unmanned Aerial Systems (UAS) threat and employment in the USCENTCOM AOR is rapidly evolving. Numerous non-state actors including ISIS, al Qaida, Taliban, Lebanese Hezbollah, and Fatah al-Sham are using both commercial-off-the-shelf and military drones to conduct operations against United States and coalition forces. This threat has evolved from reconnaissance and surveillance missions to weaponized drone attacks resulting in battlefield casualties. State actors continue to increase the sophistication of their UAS with all countries in the USCENTCOM AOR utilizing various classes of UAS for operations. Given the evolving threat, the need for an effective Counter-UAS capability that can defeat all classes of UAS remains a top priority. To address this problem, USCENTCOM is working with various defense agencies and industry through the Joint Urgent Operational Need (JUON) process to develop and acquire an effective system to employ against UAS. The ability to rapidly respond to this emerging threat is critical to mission success and requires increased funding to promote innovative solutions with expedited testing and rapid acquisition.

Joint and Interagency Partners. To ensure success in the pursuit of shared goals and objectives, our Joint and Interagency Partners must also be properly postured with the necessary capabilities and resources. Below are two key partners that play a significant role in support of USCENTCOM's mission and merit continued Congressional backing.

Joint Improvised-Threat Defeat Organization (JIDO)—JIDO, an element of the Defense Threat Reduction Agency, is an invaluable organization that is even more important as we fight by, with and through our partners with fewer resources, but more exposed U.S. personnel and equipment in the fight. Their ability to rapidly respond to emerging threats is essential to enabling our efforts to counter improvised threats (e.g., counter-facilitation, counter-tunneling, counter-UAS) and build partner capacity in support of our deployed warfighters. The expert JIDO personnel embedded within our formations at USCENTCOM's headquarters in Tampa, forward deployed, and across the globe, provide mission-critical analytical, planning, and rapid acquisition support. Having this invaluable joint organization that can expose the broader counter-IED network, identify future disruptive threats, stay in front of technological changes, and integrate our efforts across the Interagency to rapidly implement solutions is essential to our ability to protect our forces, defeat threat networks and build partner national capacity.

*Global Engagement Center—*The best way to defeat an idea is to present a better, more appealing idea to vulnerable and undecided audiences. The State Department's Global Engagement Center (GEC) effectively coordinates, integrates, and

synchronizes messaging to foreign audiences designed to undermine the disinformation espoused by violent extremist groups, including ISIS and al Qaeda, while offering positive alternatives. The Center is focused on empowering and enabling partners, governmental and non-governmental, who are able to speak out against these groups and provide an alternative to ISIS's nihilist vision. To that end, the Center offers services ranging from planning thematic social media campaigns to providing factual information that counters disinformation to building capacity for third parties to effectively utilize social media to research and evaluation.

Required Authorities and Appropriations. Fluid environments require flexible authorities with sustained and timely funding to respond to changes in conditions and maintain momentum of operational forces. We sincerely appreciate Congress' continued support for key authorities and appropriations needed for current and future operations and response to unforeseen contingencies. The required authorities and resources listed below enable USCENTCOM to accomplish its mission and stated objectives in support of U.S. national interests and the interests of our partners in the Central Region.

Iraq Train & Equip Fund (ITEF). Iraq's ability to defeat ISIS requires professionalizing and building the capacity of the Iraqi Security Forces (ISF), including military or other security forces associated with the Government of Iraq, such as Kurdish and tribal security forces or other local forces with a national security mission. Most notably, the ongoing Coalition Military Campaign to defeat ISIS relies on indigenous Iraqi Security Forces to conduct ground operations against the enemy and liberate ISIS controlled territory. They have risen to the task and are making progress in this ongoing endeavor. While the initial training and equipping of the ISF focused heavily on developing Iraqi Army (IA) Brigades to conduct offensive operations, future efforts will shift to sustainment of combat capability and hold forces to ensure that liberated areas remain under the control of the GoI and that these forces are able to counter remaining ISIS pockets and any other VEOs which may emerge and attempt to fill the void created by the defeat of ISIS. These hold forces will be a combination of local tribal fighters and police forces.

Syria Train & Equip Program. Protecting the United States from terrorists operating in Syria and setting the ultimate conditions for a negotiated settlement to end the conflict in that country will require the continued training and equipping of Vetted Syria Opposition (VSO) forces. Additional recruitment, retention, resupply, and support are central to our strategy to defeat ISIS in Syria. Our revised training approach is proving successful, improving the effectiveness and lethality of the force on path to a projected strength of up to 35,000 by the end of fiscal year 2017 and growing to 40,000 in 2018. Procurement and manufacturing lead times for non-standard weapons and ammunition and delivery from various foreign vendors complicates the already complex train and equip mission, so we appreciate as much flexibility as possible in authorizing and appropriating funds for this effort. The SDF and VSOs continues to advance in defeating ISIS and holding and defending liberated areas, while also assisting local authorities in providing humanitarian and security assistance to the populace.

The Afghanistan Security Forces Fund (ASFF). Since 2005, United States provision of funds executed through ASFF has provided training, equipment, infrastructure, sustainment and salaries for a generated force of up to 352,000 Afghan National Defense and Security Forces (ANDSF) and 30,000 Afghan Local Police (ALP). ASFF plays a critical role in enabling the ANDSF to secure Afghanistan with an effective and sustainable force that is central to the United States strategy to prevent a Taliban or al Qaeda resurgence, defeat VEOs, and deny safe haven for external plotting against the United States Homeland and U.S. and partner nation interests in the region.

Afghanistan Aviation Transition Funding—The proposed Afghan Air Force (AAF) and Special Mission Wing (SMW) aviation transition program is critical to addressing capability gaps in Close Air Support (CAS) and lift for the ANDSF. The program is designed to address the shortfall in available aircraft and trained pilots to ensure Afghan forces have the required aviation support and maintenance pipeline to move toward self-sustainment and increased independent operations. DOD plans to achieve these results by transitioning the AAF and SMW to U.S.-manufactured rotary wing platforms. Although the availability of trained pilots remains a particular challenge for the ANDSF, recent successes are producing capable pilots and the recap plan is designed to ease the human capital burden over time. The additional capability that would be gained through the aviation transition program will provide the Afghans needed overmatch against insurgents and terrorists while improving ground forces' effectiveness and reducing ANDSF's casualty rates.

Coalition Support. The authorities and funding that underpin our ability to effectively conduct Coalition operations, including in support of partners whose contribu-

tions are critical, but who lack the resources to participate without our assistance, are key to our continued success. The Coalition Support Fund (CSF) provides the authority to reimburse certain Coalition partners for logistical and military support provided by that nation in connection with Iraq, Syria, and Afghanistan operations. The CSF also funds the Coalition Readiness Support Program (CRSP) which authorizes supplies, the loaning of equipment, and specialized training assistance to coalition forces. The CSF relieves the operational burden on U.S. forces and enhances the visibility of Coalition presence. This authority remains critical to our strategic approach to Coalition operations, including, but not limited to, the ongoing military campaign to defeat the terrorist organization, ISIS in Iraq and Syria, and our transition in Afghanistan. The capability and interoperability that CSF funding facilitates is crucial to our bilateral relations, Coalition operations and training with partner nations, and to the success of our broader strategic and trans-regional objectives. The Global Lift and Sustain and successor authority further complements this approach by enabling us to provide transportation and life support to select Coalition partners.

Commanders' Emergency Response Program (CERP). CERP is authorized for local commanders to respond to urgent humanitarian relief and reconstruction requirements in Afghanistan, and may be used to make condolence payments for the loss of life, injury, or property damage resulting from U.S., coalition, or supporting military operations. The NDAA for fiscal year 2017 provides authority for ex gratia payments in Iraq, Afghanistan, and Syria for damage, personal injury, or death that is incident to United States combat operations. CERP funded projects directly benefit the indigenous civilian populations in Afghanistan and demonstrate the positive effects of our presence, while also providing tangible, quick mitigation when coalition actions result in casualties or property damage to civilians during the course of military operations. CERP is a proven force multiplier and a key enabler in responding to urgent humanitarian needs and promoting security. Going forward, we want to ensure commanders engaged in the Counter-ISIS missions can provide immediate, but limited, small scale humanitarian assistance to ISIS liberated areas, until national and international relief agencies can provide that support. Our responsiveness is critical to quickly stabilizing those areas in order to begin the holding phase of the campaign and to counter ISIS messaging.

Military Construction (MILCON). USCENTCOM stewards constrained resources and maintains an expeditionary approach to posturing capabilities in theater. We leverage existing infrastructure and host nation support and funding where possible, as well as maritime posture and reach back capabilities to meet steady state and surge requirements. In some instances, MILCON is required to establish infrastructure to support forces and equipment in the execution of their missions. Of note, USCENTCOM requires support for development at Muwaffaq-Salti Air Base (MSAB), Jordan and construction of the new Consolidated Squadron Operations Facility at Al Udeid, Qatar. These two projects are essential to our contingency and steady state operations and support the Defense Strategic Guidance. The projects will support executing our priority war plans by providing critical dispersed, resilient and flexible capacity to accept both steady state and enduring joint forces, multiple aircraft types and provide critical air C4I (command, control, communications, computers and intelligence) for current and future contingencies, theater and strategic surge and maritime operations within the USCENTCOM AOR. MILCON development is critical to support the realignment of U.S. forces operating from an expeditionary approach at various contingency bases scattered across the AOR to the required enduring posture approach necessary to protect U.S. interests and to sustain key bilateral relationships.

Prepositioned War Reserve Materiel (PWRM). Service Prepositioned War Reserve Materiel and capability sets remain critical force multipliers required to execute USCENTCOM's most dangerous and critical contingency plans. The Services and Defense Agency prepositioned capacity provides a shock absorber in rapidly emerging contingencies, buys critical decision space for our national leadership, and mitigates the risk associated with the tyranny of distance when we are called upon to rapidly aggregate and reintroduce forces into the region.

The U.S. Central Command Team. The outstanding men and women who comprise the USCENTCOM Team truly are our most important assets. They continue to make tremendous contributions on behalf of our Nation and our partners and allies around the globe. We must ensure they have everything they need to do their jobs effectively, efficiently, and as safely as possible.

We also continue to benefit from the unique capability provided by our Coalition Coordination Center, which consists of more than 200 foreign military officers from nearly 60 partner nations. They, too, are important members of our USCENTCOM

Team and play a critical role in strengthening the partnerships between our nations.

We remain mindful of the fact that success requires that we work together, not just within the command, but also with our teammates from other combatant commands, our Component Commands, established combined/joint task forces, the Central Region's 18 county teams, and various agencies and organizations throughout the USG and the Interagency. Our close collaboration with counterparts at the U.S. State Department, the U.S. Treasury, CIA, FBI, and JIDO, for example, has paid enormous dividends in the pursuit of shared national goals and objectives. We look forward to continuing to work with them and others on behalf of our Nation.

We also are incredibly grateful for the support of our families. They are highly valued members of our USCENTCOM Team and we could not do what we do without them. They make important contributions and tremendous sacrifices each and every day in support of us and on behalf of the command and a grateful Nation.

The upcoming year promises to be a busy and challenging one in the Central Region. You can be assured that the world-class team at U.S. Central Command—which includes more than 80,000 soldiers, sailors, airmen, marines, coastguardsmen, and civilians stationed today throughout the USCENTCOM area of responsibility—is up to the task, and is highly-skilled, motivated, and stands ready to do whatever is necessary to accomplish the mission: defend our Nation and our interests, the interests of partners and allies, and improve stability and security in that strategically important part of the world.

USCENTCOM: Prepare, Pursue, Prevail!

Chairman MCCAIN. Thank you.
General Waldhauser?

**STATEMENT OF GENERAL THOMAS D. WALDHAUSER, USMC,
COMMANDER, UNITED STATES AFRICA COMMAND**

General WALDHAUSER. Thank you, Mr. Chairman. Chairman McCain, Ranking Member Reed, and distinguished members of the committee, thank you for the opportunity to update you on the activities and efforts of United States Africa Command.

I would like to also say it is an honor for me to sit next to my battle buddy here, General Votel.

For the past 9 months, I have been honored to lead the men and women of this geographic combatant command. Africa is an enduring interest for the United States. Small, but wise investments in the capability, legitimacy and accountability of African defense institutions offer disproportionate benefits to America, our allies, the United States, and most importantly, enable African solutions to African problems.

Parts of Africa remain a battleground between ideologies, interests, and values. Equality, prosperity, and peace are often pitted against extremism, oppression, and conflict.

Today trans-regional violent extremist organizations on the continent constitute the most direct security threat to the United States. To address this threat, our military strategy articulates a long-term, regionally focused approach for a safe and stable Africa.

Specifically, the strategy outlines an Africa in which regional organizations and states are willing and capable partners addressing African security challenges all while promoting United States' interests. The Africa Command strategy builds our partners' abilities to direct, manage, and operate capable and sustainable defense institutions. While we have achieved progress in implementing our strategy, threats and challenges still remain.

In East Africa, we support African Union and European Union efforts to neutralize al-Shabaab and other violent extremist organizations operating in Somalia. We also support the eventual transfer

of security responsibilities from the African Union mission in Somalia to the Somali National Security Forces.

In 2016, al-Shabaab regained some previously held Somalia territory, and today the group continues to conduct attacks on AMISOM [African Union Mission in Somalia] forces, the national security forces of Somalia, as well as the federal government of Somalia.

Additionally, we have also seen elements of ISIS begin to make inroads into Somalia, which will further test AMISOM forces and the federal government of Somalia as well.

The instability in Libya in North Africa caused by years of political infighting may be the most significant near-term threat to the U.S.'s and allies' interests on the continent. Stability in Libya is a long-term proposition. We must maintain pressure on the ISIS-Libya network and concurrently support Libya's efforts to reestablish a legitimate and unified government. This is a significant challenge, and we must carefully choose where and with whom we work and support in order to counter ISIS-Libya and not to shift the balance between various factions and risks of sparking greater conflict in Libya.

In West Africa, our primary focus is countering and degrading Boko Haram and ISIS-West Africa. Since 2011, Boko Haram has consistently carried out attacks against civilians and targeted partner regional governments and military forces in the Lake Chad Basin region. With forces from Benin, Cameroon, Chad, Niger, and Nigeria, we are working with the multinational joint task force located in Niger to enable regional cooperation and expand partner capacity to ensure Boko Haram and ISIS-West Africa do not further destabilize the region.

The multinational joint task force has been successful in enabling multinational cooperation and coordinating multinational operations and placed a significant pressure on Boko Haram and ISIS-West Africa.

In Central Africa, through the combined efforts of military forces, civilian agencies, and nongovernmental organizations, we work to build the capacity of our partners to address regional threats, such as maritime security, illicit trafficking of goods and persons, the Lord's Resistance Army, and other criminal networks and enterprises.

Africa-wide we support the efforts to enable African partners to respond to humanitarian crises, mass atrocities, disaster contingencies, and to support peace operations. Through the United States National Guard's State Partnership Program, along with their African partners, we have improved disaster management competency and readiness to assist civilian-led efforts. We continue to see great value in the National Guard's persistent engagement and fully support the State Partnership Program's efforts.

Africa's security environment is dynamic and complex requiring innovative solutions. Even with limited resources or capabilities, Africa Command aggressively works with partners and allies to execute our missions and mitigate risk. Moving forward, we continue to focus our decisive effort on building African partner capacity and will continue to work closely with the international and interagency partners to make small, wise investments which pay

huge dividends in building stable and effective governments, the foundation for long-term security in Africa.

I am confident with your support Africa Command will protect and promote United States' interests and keep the United States safe from threats emanating from the African continent.

Finally, on behalf of the United States Africa Command, I want to thank you for the opportunity to be with you this morning, and I also look forward to your questions. Thank you.

[The prepared statement of General Waldhauser follows:]

PREPARED STATEMENT BY GENERAL THOMAS D. WALDHAUSER

Chairman, ranking member, distinguished members of the committee, thank you for the opportunity to update you on the activities and efforts of United States Africa Command to protect and promote United States national security interests in Africa. Since I last spoke with the Senate, I have had 9 months to examine the opportunities and challenges the United States and our partners face in Africa. As expected in an area of responsibility covering 53 countries, issues are complex and varied. I am confident we have the right strategic approach to meet these challenges, and our efforts, in coordination with the efforts of our allies and partners, will have a lasting impact on the security and stability of the African continent. It is an honor to lead the efforts of the men and women of United States Africa Command in this dynamic and rapidly changing strategic environment.

Africa remains an enduring interest for the United States, and the 53 nations in the Africa Command Area of Responsibility look to the United States for assistance but, more importantly, for leadership—leadership that advantages our partners as they turn challenges into opportunities. We can meet our military objectives and advance American interests with a combination of strategic patience, targeted investments, and strong partnership to achieve shared security objectives and maintain our long-term approach which contribute to the conditions for development and good governance to take root. If we focus on working with our African partners on developing local solutions to radicalization, destabilization, and persistent conflict, we will remain the security partner of choice for the next decade, all while upholding our American values. Africa, our allies, the United States, and, indeed, the world will benefit from our actions to promote stable and effective nation states and defense institutions in Africa.

In order to accomplish this goal, the United States must remain engaged on the continent, investing in the capability, legitimacy, and accountability of African defense institutions. We must continue to enable African solutions by building partner capacity, instilling professionalism within defense forces, and increasing their respect for the rule of law. When necessary, we must be ready to conduct military operations to protect U.S. interests, counter violent extremist organizations, and enable our partners' efforts to provide security. To protect and promote United States national security interests in Africa, diplomacy and development are key efforts, and our partnership with the Department of State and the U.S. Agency for International Development (USAID) is key to achieve enduring success. Together, we work to address the root causes of violent extremism, lack of accountable government systems, poor education opportunities, and social and economic deficiencies to achieve long-term, sustainable impact in Africa. More specifically, I want to thank Congress for the authority to support other USG agencies under the 2017 National Defense Authorization Act. We now have the flexibility to facilitate a whole-of-government approach, which is the best opportunity to assist Africa in creating sustainable African solutions. This approach benefits Africans and Americans and mitigates the considerable security risks we currently face.

STRATEGIC ENVIRONMENT

Africa's sustained economic growth, improved social development, and growing entrepreneur class are unlocking the continent's potential for international investment and trade, raising its geostrategic importance to the U.S while also attracting international competition for access, influence, and trade. Africa's continued commitment to democracy, evidenced by the January 2017 actions of the Economic Community of West Africa (ECOWAS) to uphold the election results in The Gambia, reinforces the strong foundation of shared values and commitment to good governance the United States has with its African partners. As the United States pursues opportunities for greater partnership with Africa, we must be cognizant of the negative

external and internal forces seeking to counter our shared goals and not be constrained by them.

Africa links directly to United States strategic interests as the continent strives for inclusion in the rules-based international order. Just as the United States pursues strategic interests in Africa, international competitors, including China and Russia, are doing the same. Whether with trade, natural resource exploitation, or weapons sales, we continue to see international competitors engage with African partners in a manner contrary to the international norms of transparency and good governance. These competitors weaken our African partners' ability to govern and will ultimately hinder Africa's long-term stability and economic growth, and they will also undermine and diminish United States influence—a message we must continue to share with our partners.

Parts of Africa remain a battleground between ideologies, interests, and values: equality, prosperity, and peace are often pitted against extremism, oppression, and conflict. The strategic environment includes instability that allows violent extremist organizations to grow and recruit from disenfranchised populations. Currently, the greatest threat to United States interests emanating from Africa is violent extremist organizations (VEOs). Furthermore, these VEOs are competing for primacy over other extremist movements in Africa and aspire to incorporate large portions of the continent into their respective ideologies. They build partnerships with regional VEOs; exploit the vulnerability of Africa's youth population; and take advantage of ungoverned and under-governed spaces to target our partners, our allies, and the United States. Africa's population faces large scale unemployment and disenfranchisement from corrupt governments and abusive security forces, making them prime targets for exploitation by criminal and terrorist organizations across the continent.

In addition to the transregional threats of terrorism, Africa is vulnerable to conflict and instability from political, social, economic, and environmental challenges. These forces are driving the current migrant crisis. The migrant flow between Africa and Europe greatly concerns our European allies. Europe views the migrant crisis as its preeminent security and economic issue. The International Monetary Fund estimates the initial cost of direct support to refugee inflow into the EU [European Union] will average approximately \$16–32 billion annually. When the secondary costs of migrant integration, border policing, and regional support are added, the cost increases to an additional \$150 billion annually for the EU. Unfortunately, this crisis will most likely continue in the near future, as many African countries are not able to stem the flow at home.

Globally, 15 of the top 25 most fragile countries of the world are in Africa, according to the 2016 Fund for Peace "Fragile State Index." At the root of this fragility is weak governance. While governance is not a core mission of the Department of Defense, we recognize that building professional, legitimate defense institutions is critical to enabling a population-centric approach to governance that prioritizes the security of the population over the security of the regime. Because of this, our work continues to support the efforts of the Department of State and USAID to develop legitimate, rights-respecting security forces and address the root causes of instability.

COMMAND APPROACH

Theater Strategy (5–20 Years)

In order to address the challenges and secure United States interests in the Africa, our strategy articulates a long-term, regionally-focused approach for a safe and stable Africa. Specifically, the strategy outlines an Africa in which regional organizations and states are willing and capable partners addressing security challenges, the security of the African population, and United States interests in Africa. Although our strategy is regionally focused, many programs and activities are executed bilaterally further stressing the importance of willing and capable partners. Transregional VEOs not only constitute the most direct security threat to the United States emanating from Africa but are also the most dangerous threat to stability in East, North, and West Africa. The 2015 National Security Strategy calls on us to work with Congress to train and equip partners in the fight against VEOs, and the United States Africa Command Area of Responsibility one theater in that broader fight. However, training and equipping African partners for the tactical fight is insufficient to achieve long-term stability. United States and international assistance must build our African partners' ability to direct, manage, sustain, and operate their own defense sectors over time. Capable and sustainable defense institutions are critical in providing a secure environment for the deepening of democ-

racy and broad-based development, which together can diminish some of the factors that attract vulnerable persons into violent extremism and criminality.

Our approach assumes the continuation of limited available resources, both financial and personnel, to accomplish U.S. objectives. Thus, Africa Command will continue to operate with security force assistance as the decisive effort of our strategy. However, any reduction to our already optimized (but limited) resources would impact Africa Command's ability to support the National Security Strategy and National Military Strategy objectives.

Theater Posture

Our command approach is driven by a light, adaptable footprint enabling joint operations, protection of U.S. personnel and facilities, crisis response, and security cooperation. We continue to maintain one forward operating site on the continent, Camp Lemonnier, Djibouti, home of Combined Joint Task Force Horn of Africa, Africa Command's lead for East Africa efforts. This base is essential to United States efforts in East Africa and the Arabian Peninsula. Camp Lemonnier serves as a hub for multiple operations and security cooperation activities, assuring access in the region, freedom of movement through the Gulf of Aden, and protecting U.S. interests. The importance of our forward operating site was evident during the execution, the past summer, of Operation Oaken Steel, the reinforcement of the United States Embassy in Juba, South Sudan, to ensure the protection of embassy personnel during the conflict between rival factions. For this operation, United States Forces based out of Camp Lemonnier, as well as Moron, Spain, deployed to our cooperative security location in Entebbe, Uganda, which provided an effective staging location for rapid crisis response.

As part of the 2017 Theater Posture Plan, Africa Command closed five contingency locations and designated seven new contingency locations on the continent due to shifting requirements and identified gaps in our ability to counter threats and support ongoing operations. These contingency locations strive to provide the necessary access in crucial areas aligned with the Theater Campaign Plan.

Theater Campaign Plan (2–5 Years)

Africa Command's Theater Campaign Plan seeks to disrupt and neutralize transnational threats by building African partner defense capability and capacity, as directed in the 2015 National Security Strategy, in order to promote regional security, stability, and prosperity, while always protecting U.S. personnel and facilities and the United States' access on the continent. This approach balances efforts to strengthen defense institutions and conduct counterterrorism operations with African partners and international allies, such as France and the UK, in order to disrupt, degrade, and eventually defeat extremists. Additionally, Africa Command conducts assessments to measure the effectiveness of our security cooperation activities to ensure our Theater Campaign Plan is achieving the desired results.

Africa Command is currently operating along five Lines of Efforts (LOE) 1) Neutralize al-Shabaab and transition the security responsibilities of the African Union Mission in Somalia (AMISOM) to the Federal Government of Somalia (FGS); 2) Degrade violent extremist organizations in the Sahel Maghreb and contain instability in Libya; 3) Contain and degrade Boko Haram; 4) Interdict illicit activity in the Gulf of Guinea and Central Africa with willing and capable African partners; and 5) Build peacekeeping, humanitarian assistance, and disaster response capacity of African partners.

LOE 1: Neutralize al-Shabaab and Transition AMISOM to the FGS

In 2015, AMISOM recaptured significant territory from al-Shabaab, al-Qaeda's pre-eminent affiliate in East Africa. In 2016 after Ethiopian forces, operating independently from AMISOM, withdrew from Somalia, al-Shabaab regained some territory, and, today, the group continues to conduct attacks on AMISOM forces, the FGS, and the Somali National Security Forces (SNSF). We have also seen followers of ISIS begin to make in-roads into Somalia, which will further test AMISOM forces and the FGS. Sustained conflict and prolonged food insecurity have driven approximately one million refugees out of Somalia and into neighboring countries, like Kenya, who struggle with overflowing refugee settlements. Current and anticipated drought conditions have led to poor harvests and increased food insecurity throughout East Africa that has increased the risk of famine in Somalia. Large scale refugee migrations can destabilize regions already stressed to meet the basic needs of its own populations.

Ten years of operations in Somalia have left AMISOM troop contributing countries fatigued. Somalia is dependent on AMISOM forces to provide security and conduct counter-terror operations. AMISOM is scheduled to begin withdrawing in 2018, and if this departure begins prior to Somalia having capable security forces, large

portions of Somalia are at risk of returning to al-Shabaab control or potentially allowing ISIS to gain a stronger foothold in the country.

Africa Command supports our partners' efforts to neutralize al-Shabaab and other violent extremist organizations operating in Somalia and supports the transfer of security responsibilities from AMISOM to the SNSF once conditions allow. Africa Command and the Department of State, working with a substantial international security assistance effort well-coordinated by the UN Special Representative to the Secretary General, operates through the venue of the Security Six (UN, European Union, United States, UK, Turkey, and the United Arab Emirates). This international effort aims to demonstrate sufficient progress in building the SNSF in 2017 to justify an extension of AMISOM beyond 2019. Central to the United States approach in Somalia is our partnership with the FGS. Working with the Department of State, we are encouraging the FGS to come to an inclusive agreement on its security architecture in order to build a sustainable SNSF that accounts for regional dynamics and continue to reach out to the regional and local governments of Somalia.

Africa Command continues to support the counter-terrorism efforts, assist AMISOM troop contributing countries, assist in equipping and training the SNSF, enable international partners in their training efforts, and protect United States personnel in Somalia and the region. Our advise, assist, and accompany efforts, paired with our deliberate targeting of top-level al-Shabaab leadership, have had a significant impact in degrading al-Shabaab's effectiveness in East Africa, but those two efforts are not enduring solutions to Somalia's problems.

With the inauguration of President Mohamed Abdullahi "Farmajo" Mohamed in February 2017, Somalia has seen its first-ever peaceful transition of power and first non-transitional government since 2006. President Farmajo's platform promotes good governance and anti-corruption, and he has indicated further opening the door for increased coordination with the United States and the international community. His widespread popularity within Somalia suggests he has a personal interest in helping push the country towards one-person one-vote elections in 2020.

While we continue to work with the Security Six partners to coordinate our efforts in support of the SNSF, our support to AMISOM troop contributing countries is constrained by the use of security cooperation funding and associated processes designed to train and equip forces over the long term rather than to support current operations. The new Chapter 16 authorities in the 2017 National Defense Authorization Act provide the needed funding flexibility—multi-year monies and up to five years sustainment monies—to further the progress of degrading and ultimately defeating al-Shabaab while protecting United States interests in East Africa. Africa Command is working with OSD and Congress to accelerate the notification and approval timelines to better tailor our training and equipping efforts with our AMISOM and Somalia partners.

LOE 2: Degrade Violent Extremist Organizations in the Sahel Maghreb and Contain Instability in Libya

The instability in Libya and North Africa may be the most significant, near-term threat to United States and allies' interests on the continent. The multiple militias and fractured relationship between factions in east and west Libya exacerbate the security situation, spilling into Tunisia and Egypt and the broader Maghreb, allowing the movement of foreign fighters, enabling the flow of migrants out of Libya to Europe and elsewhere. Africa Command is working to ensure United States interests are protected and to enable our African partners to contain instability originating in Libya, counter violent extremist organizations in the Sahel-Maghreb, and develop the requisite defense institutions to maintain security in the region.

Stability in Libya is a long-term proposition requiring strategic patience as the Libyan Government of National Accord (GNA) forms and develops. We must maintain pressure on the ISIS-Libya network concurrently with Libya's efforts to progress with political reconciliation. This is a significant challenge given Libya's absorption capacity for international support remains limited, as is our ability to influence political reconciliation between competing factions, particularly between the GNA and the House of Representatives. We must carefully choose where and with whom we work with to counter ISIS-Libya in order not to shift the balance between factions and risk sparking greater conflict in Libya.

Degrade ISIS-Libya Network

Our operations in Libya support the global coalition's efforts to defeat ISIS-Libya. Operation Odyssey Lightning (OOL) enabled GNA-aligned forces to successfully liberate the city of Sirte from ISIS control. However, even with the success of Sirte, ISIS-Libya remains a regional threat with intent to target United States persons and interests. We will continue to support Libyan partners and an international coa-

lition to defeat ISIS-Libya and build the capacity of the region while limiting civilian casualties. OOL can serve as a model for future U.S. operations in the region by improving the battlefield capabilities and ethics of a partnered force, working on the partner's timeline without following planning-mandated timelines, remaining flexible to keep an international force together and most importantly, limiting civilian casualties.

Support the Government of National Accord (GNA)

Despite its success in Sirte, the GNA continues to struggle with controlling Tripoli, providing basic services, and exercising authority over security forces. The political situation in Libya remains extremely dynamic, and the GNA faces a host of political, economic, and security challenges. We continue to support the diplomatic, stabilization, and development activities of the U.S. Interagency. We must also continue to promote development of responsive and effective governance and ensure the rights of all Libyans are respected. These are foundational to long-term regional security. Additionally, the House of Representatives (HoR)—and their military arm, the Libyan National Army (LNA)—must play a constructive role in the development of a unified, functioning Libyan Government. While we recognize Libya's struggle for a unified government remains uncertain and may not materialize within the foreseeable future, a national security structure solution accommodating the HoR and LNA provides a path forward.

In an effort to counter regional instability, Africa Command supports partners like Tunisia, a major non-NATO Ally. Africa Command is assisting the Tunisian military to develop and sustain Special Forces, border security capabilities and Tunisia's intelligence capability. Working with the intelligence community and our component commands, Africa Command is training Tunisian intelligence organizations through train, advise, and assist mentors. Our efforts include helping Tunisia to establish an intelligence school, an intelligence fusion center, and the development of a professional intelligence career field within the Ministry of Defense. This model demonstrates an effective means of building initial counterterrorism intelligence capacity, and then transitioning to sustainable intelligence capacity building within a partner's intelligence organizations, all focused on unit vice individual development. We also work with Tunisia to develop and enhance its rotary wing capabilities. Through foreign military sales and excess defense articles programs, Tunisia has procured eight UH-60M Blackhawks and 24 OH-58D Kiowa Warrior helicopters. Tunisia expects the Blackhawks to function as a multirole aircraft providing casualty evacuation, troop transport, and air assault capabilities, and the Kiowas to provide much needed reconnaissance, precision strike, and close air support capabilities. With the assistance of ongoing U.S.-provided air-to-ground integration training, these helicopters, added to the Tunisian operational inventory, sustained in part by the Department of State's Foreign Military Financing will provide better speed and response time during crises and a major boost to the modernization and capabilities of the Tunisian Armed Forces to conduct counterterrorism and border security operations in Tunisia.

Al Qaeda in the Lands of the Islamic Maghreb (AQIM)

Along with the threat posed by ISIS, AQIM remains a significant threat to United States interests and the security of our African partners. AQIM in Mali continues to exploit ethnic resentments in central Mali and spread their influence rendering large areas of the country ungovernable. With Operation BARKHANE, France continues to lead the fight to counter violent extremists throughout the Sahel region. However, Mali's path toward greater stability and security remains unclear. The government, ex-rebel armed groups, and pro-government militias have demonstrated little political will to implement the peace accord signed in June 2015 and continue to commit human rights violations against civilians. The framework of political reforms and security measures, though imperfect, are the only existing solution for Mali to emerge, without further bloodshed, from the crisis that began in 2012.

We continue to support France's counterterrorism operations in Mali against al-Qaeda affiliate groups and seek to increase our synchronization and coordination with their efforts. Continued airlift and logistical support is essential to France's efforts, and we must continue to provide this support if progress is to happen in this volatile region. Additionally, with the Department of State, we continue to support the troop contributing countries to the UN Multidimensional Integrated Stabilization Mission in Mali, which currently provides some measure of security in northern Mali. We continue to look for opportunities to take a more active role in defeating AQIM and supporting the accountable, inclusive governance that is key to durability and protecting our interests throughout the regions.

LOE 3: Contain and Degrade Boko Haram and ISIS-West Africa

A primary focus for Africa Command in West Africa is containing and degrading Boko Haram and its offshoot since last year, ISIS-West Africa. Since 2010, Boko Haram has carried out attacks against civilians and directly targeted partner regional governments and military forces in the Lake Chad Basin (Nigeria, Niger, Cameroon, and Chad). Africa Command works with our Lake Chad Basin partners to expand partner capacity and capabilities to support regional cooperation and expand our African partner capacity and capabilities to ensure Boko Haram and ISIS-West Africa does not threaten partner, allied, or United States interests and do not destabilize the region.

The Multinational Joint Task Force (MNJTF), an African-inspired and African-led initiative that includes Benin, Cameroon, Chad, Niger, and Nigeria, provides a critically important venue for planning and coordinating security operations and for linking intelligence to these operations. As a result, the MNJTF and its member states have considerable successes in enabling multinational cooperation and coordinating multinational operations, and have placed significant pressure on Boko Haram and ISIS-West Africa. Thanks to this pressure, Boko Haram and ISIS-West Africa are less able to inflict mass casualties than in the past, and they control only a fraction of the territory they occupied in 2014 and early 2015. Nonetheless, through the continuing threat of asymmetric attacks, Boko Haram and ISIS-West Africa sustain a reign of terror across much of Northeastern Nigeria and the border areas of the neighboring Lake Chad Basin countries, thus preventing millions of displaced persons from returning to their homes.

The advent of ISIS-West Africa adds a new dimension to the insecurity of the Lake Chad Basin. This group, with official ties to ISIS, operates in a more disciplined fashion than Boko Haram; by avoiding attacks against Sunni Muslims and by forging relations with the local population, ISIS-West Africa could take deeper root in the Lake Chad Basin region, thus making it a greater threat to our partners. Although determined to defeat Boko Haram and ISIS-West Africa and return stability to the region, the MNJTF faces significant challenges in maintaining pressure on Boko Haram and ISIS-West Africa while simultaneously addressing competing individual security requirements in the face of individual financial constraints.

Africa Command, while not engaged in direct military operations, supports the efforts of our Lake Chad Basin partners to counter Boko Haram and ISIS-West Africa by providing advisors, intelligence, training and equipment to complement other United States-provided equipment and logistical support. The P3 (France, U.K., United States) Cellule de Coordination et de Liaison (Coordination and Liaison Cell-CCL) coordinates international support to the MNJTF and its member states to ensure that such support is complementary and effective. This past December, the U.S. assumed 6-month rotational leadership of the CCL for the first time, and we are taking full advantage of this opportunity to strengthen P3 support for the MNJTF and its member states.

Africa Command provides security force assistance directly to regional military partners in order to enable operations and build institutional capacity over the long term. For example, in 2016, we provided Niger two ISR-equipped Cessnas to enhance Niger's capacity to collect ISR to support its efforts to fight terrorism. This added capacity has had an important impact in bolstering Niger's ability to fight the terrorists. In 2017 we intend to provide Chad and Cameroon each with two ISR-capable Cessnas. Additionally, in Chad, we are working to strengthen border reconnaissance forces with training and equipment to bolster its intelligence, surveillance, and reconnaissance (ISR) capabilities. Cameroon likewise is a major recipient of United States security assistance via train and equip programs. In fiscal year 2016 and fiscal year 2017, the United States invested over \$123 million to expand Cameroonian ISR, command and control, and counter-terrorism force and logistics capabilities.

While regional partners have assisted in slowing the progress of Boko Haram and ISIS-West Africa, long-term success requires Nigeria to address development, governance, and economic deficiencies exacerbated by the humanitarian emergency, which serve as drivers of violent extremism in northeastern Nigeria and throughout the Lake Chad Basin region. Under the current Government of Nigeria's leadership, Nigeria is making progress but must still overcome systemic corruption and build the trust of civilian populations, including by protecting human rights abuses and holding accountable those who are responsible for abuses. Nigeria's success in addressing these governance and development issues is key to an enduring solution in the Lake Chad Basin.

Despite gains made against Boko Haram and ISIS-West Africa, nearly two million people remain displaced from their homes in Nigeria, and over 400,000 others are displaced in Niger, Chad, and Cameroon. Moreover, the international humanitarian

community has identified famine conditions throughout the areas of hostility in northeast Nigeria, and continued violence in these areas prevents responders from delivering life-saving assistance, prolonging a man-made food crisis. Refugees and internally displaced persons mostly reside informally in makeshift camps or mixed in with host communities, which are themselves under great stress to meet basic needs and are vulnerable to exploitation. The large numbers flowing into receiving communities—some already stressed to meet basic food and security needs—may have a destabilizing effect on these communities. Africa Command continues to coordinate with the Department of State and USAID, who work closely with the United Nations and non-governmental organizations to alleviate suffering, implement reintegration programs, and promote stability in the region.

LOE 4: Interdict Illicit Activity in the Gulf of Guinea and Central Africa with Willing and Capable African Partners

Africa Command also supports our African partners, international partners, and Interagency partners to interdict and counter illicit actors and their activities in Central Africa and the Gulf of Guinea. Our priority effort is to build the institutional capacity of our African partners to address the many forms of illicit activity that threaten their security and regional stability. This mission requires a whole-of-government approach, and we work closely with the Department of State, Department of Treasury/FBI, and components of the Department of Homeland Security to synchronize our approach and complement each other's efforts. These efforts are enhanced by having the Interagency embedded within Africa Command, a benefit to our mission.

Countering the Lord's Resistance Army

In Central Africa, led by the efforts of Special Operations Command-Africa, we have focused on working with the African Union Regional Task Force (AU-RTF) to counter the Lord's Resistance Army (LRA), one of the many illicit actors operating in the region. Uganda, the Democratic Republic of the Congo, the Central African Republic, and South Sudan have contributed forces to the AU-RTF, which has led military efforts to reduce the LRA's safe havens, capture key leaders, and promote defections. With advice and assistance from U.S. forces, the AU-RTF has been largely successful.

Through the combined efforts of military forces, civilian agencies, and non-governmental organizations, the LRA is not a threat to central governments and populations centers, but reduced to areas of ungoverned spaces. Today, although the group's leader, Joseph Kony, remains at large, we estimate fewer than 150 Lord's Resistance Army fighters remain, and communities are better prepared to protect themselves.

Maritime Security in the Gulf of Guinea

Despite decreased United States reliance on African oil imports over the past three years, the resource-rich Gulf of Guinea region remains a strategic interest to the United States due to its role in the global oil market, its strategic location close to a major maritime trade route, the more than 74,000 American citizens in the area, and its exploitation as a transit point for illicit trafficking from the Americas to Europe. In the Gulf of Guinea, maritime security sector assistance consists of long-term efforts to build the capacity of African partners to achieve combined maritime law enforcement operations between the partners. Africa Command strongly supports the implementation of the 2013 Yaoundé Code of Conduct through regional strategic zone agreements. The agreements promote shared law enforcement responsibility against piracy and armed robbery at sea; trafficking of drugs, arms, and persons; and illegal, underreported, and unregulated fishing. Cross-water boundary tracking and interdiction missions have been widely successful, and we look forward to working with our partners in the region to expand the capability in the coming years.

In 2017, the Gulf of Guinea Commission will meet to finalize the Code of Conduct, converting the document into a binding agreement providing a valuable mechanism to build accountable governance, strengthen port and vessel security, and improve transparency. Furthering the building of maritime capacity, Belgium, France, Germany, and the UK regularly participate in regional maritime exercises and operations. Africa Command's efforts, led by United States Naval Forces Africa, target assistance and capacity building through the African Partnership Station, Exercise Obangame Express, and the Africa Maritime Law Enforcement Partnership Program.

LOE 5: Build Peacekeeping, Humanitarian Assistance, and Disaster Response Capacity of African Partners

Africa Command supports United States Governmental efforts that enable African partners across the African continent to support disaster response and peace operations within their region or throughout Africa. Through the Defense Threat Reduction Agency (DTRA), our implementing partner, we build our partner's capacity to secure pathogens of security concern and improve partners' capabilities to respond to the deliberate or accidental release of materials of concern and to support civilian-led responses to infectious diseases. The Africa Partner Outbreak Response promotes effective military-civilian partnerships in the health and security communities and leverages best practices among African partners. Africa Command's support to this initiative maintains health security and mitigates the risks of another epidemic emanating from the continent.

Another important implementing partner to Africa Command's crisis and disaster response efforts is the National Guard's State Partnership Program (SPP). The SPP and their African partners have improved disaster management competency and readiness to support civilian-led efforts. Currently, SPP has established partnerships with thirteen African nations to advance Africa Command and partner objectives. Africa Command continues to see the value of the National Guard's continuous engagement and fully support SPP's efforts.

Additional programs building the capacity of our African partners are the Global Peace Operations Initiative (GPOI), the African Peacekeeping Rapid Response Partnership (APRRP) and the Women, Peace, and Security (WPS) programs. In partnership with the Department of State, GPOI is working to strengthen international capacity and capabilities to execute UN and regional peacekeeping operations. Though it is a global program, the preponderance of GPOI work is on the African continent, with 22 active African partner countries. Through GPOI, we aim to build sustainable, self-sufficient peace operations proficiencies in almost half of the countries in Africa to deploy and operate in UN and regional peace operations. We are also working collaboratively with U.S. and international stakeholders to improve the operational effectiveness of these missions. APRRP supplements the work we do through GPOI, enabling a deeper investment in six of the most capable African peacekeeping contributing countries to build their capacity to rapidly respond to emerging crises on the continent. Through APRRP, we are developing key enabling capabilities such as aviation; medical; engineering; logistics; command, control, communications, and information systems; and formed police units. GPOI and APRRP do not only help us to build the peacekeeping capabilities of partners in Africa (both for long-term sustainment or expansion of current contributions and for rapid response to emerging crises), but they also help to professionalize militaries through our training and equipping support, enhance defense institutions through their capacity building approach, and deepen our mil-mil partnerships.

Africa Command recognizes for capacity building efforts to be effective, they need to align with Women, Peace, and Security (WPS) objectives. We do this by integrating a gender perspective into our military activities through two main efforts: 1) staff training and awareness, and 2) integration into the Theater Campaign Plan. For training and awareness, Africa Command hosts the Gender in Military Operations program, which solicits perspectives from African partners on gender issues within their military and during operations. For campaign planning, we integrate WPS concepts into peacekeeping capacity building, mil-to-mil engagements; training on human rights, rule of law, gender-based violence; and peacekeeping exercises. WPS works to professionalize our partners' militaries and build their effectiveness to meet security challenges.

Africa Command's primary engagement with Southern Africa is also through this line of effort. Along with being the most stable region in Africa, the region fields some of the most professional and capable military forces on the continent. For example, at the August 2016 Southern Africa Regional Leaders Seminar, topics such as climate change, environmental issues, uncontrolled migration, and health and disease capacity building were discussed, which speaks to Southern Africa's capacity to address advanced, global security issues. In the past year, South Africa, Zambia, and Malawi have contributed to United Nations peacekeeping operations in Sudan, South Sudan, the Central African Republic and the Democratic Republic of the Congo. Furthermore, Malawi will host the upcoming Africa Land Forces Summit and Exercise Africa Endeavor, and South Africa is hosting Exercise Shared Accord to further develop its capacity to support peacekeeping operations. We are complementing Department of State efforts to train and deploy peacekeepers with development of the defense institutions necessary to promote sustained regional stability over time. Africa Command will also continue to develop the capacity of Southern

African troop contributors to the UN Missions in the Central African Republic, the Democratic Republic of the Congo, and South Sudan.

Our efforts, and those of the Department of State to build sustainable and self-sufficient peace operations capacity, to include rapid response capabilities, sustainable force generation and training institutions, and modest improvements to strategic mobility, enable our partners across East, North, West, Central, and Southern Africa to lead the response to the threats, man-made or natural, facing their regions.

IMPLEMENTING OUR APPROACH

Synchronization with Partners

Africa Command relies on our strong international, interagency, and multinational relationships to achieve our objectives. Africa Command works with international partners to synchronize operations and security force assistance on the continent. Fourteen of our international partners are represented at Africa Command, co-located in our Multi-National Coordination Cell (MNCC). One particularly powerful enabler is the Regionally Aligned Forces (RAF) concept (managed via United States Army Africa), which allows for relatively easy access to unassigned forces. The RAF executes a significant share of the Theater Security Cooperation activities in Africa, contributing meaningfully to mission success. Additionally, the United States leads and participates in multilateral planning groups for East Africa, North Africa, the Sahel Maghreb, and Naval Forces Africa recently concluded flag-level staff talks with its French service component counterpart to synchronize our combined strategic approach in the Gulf of Guinea. In East Africa, we are synchronizing security force assistance to AMISOM troop contributing countries and the SNSF. In North Africa, international partners are positioned to support international planning in support of stabilization efforts in Libya as conditions allow. In the Sahel Maghreb, we have begun to coordinate activities and do multilateral planning in support to the MNJTF in the Lake Chad Basin and operations in Mali.

Also important to Africa Command's efforts are the diplomatic and development efforts of our Interagency partners, Department of State and USAID. Over the past three years, we have established an annual Africa Strategic Dialogue and Africa Strategic Integration Conference to coordinate and integrate our activities with the Department of State and USAID, working hand in hand to build the capacity of our partners and strengthen African defense institutions. In partnership with the Department of State, the Security Governance Initiative (SGI) builds the capacity of civilian and defense institutions who provide oversight to the security sector. With the six SGI partners (Ghana, Kenya, Mali, Niger, Nigeria, Tunisia), we support efforts to strengthen governance across the security sector. These long-term SGI efforts will improve the effectiveness and sustainability of U.S. security assistance investments and activities.

Also essential to our mission is our relationship with other combatant commands. We coordinate with European Command for shared response forces. We rely heavily on our European allies such as Spain, Italy, and Greece for force projection out of southern Europe. Without these relationships, we could not execute our missions on the continent. We also coordinate with Central Command for shared response forces as well as Egypt and Arabian Peninsula equities. Lastly, we coordinate with Special Operations Command (through Special Operations Command-Africa) for counter-terrorism strategy and operations. An example of our cooperation with other combatant commands, both Operation Odyssey Lightning and Operation Oaken Steel required assets outside of Africa Command's assigned forces for extended periods of time, and this close cooperation helped achieve mission success in an efficient manner.

Security Force Assistance Resources

Our recent success in building the capacity and defense institutions of our African partners was only possible with funding provided by Congress through the Counter-Terrorism Partnership Fund (CTPF) and other programs. This funding, and the authorities provided to build the capacity of foreign security forces, has been essential to our success in enabling African partners and enhancing their capability to counter extremist organization within their borders and in support of collective regional efforts. Africa Command appreciates the flexibility provided by Congress with the new section 333 authority. We will continue to prioritize crucial airlift, ISR, command and control systems, sustainment, and force structure development of our African partners. We will ensure our investments in African defense institutions continue to directly support United States national interests.

Programs such as the before-mentioned Security Governance Initiative and Counter-Terrorism Partnership Fund provide us the ability to work with our part-

ners to strengthen their institutions. Institutions fashioned in accordance with the rule of law, protecting African citizens, and providing inclusive opportunities. Sustaining our efforts at current if not increased level of priority will ultimately determine if building partner capacity succeeds and if our African partners can improve security environments and progress toward good governance.

Capability Constraints

Africa's security environment is dynamic and complex requiring innovative solutions. Even with limited resources or capabilities, Africa Command leans forward, working with partners and allies, to execute its mission and mitigate risk. While the command has been able to succeed in multiple efforts, our mission is impacted by inconsistent resourcing of key requirements and capabilities. These constraints risk our soldiers, sailors, airmen, marines, coast guardsmen, and civilians executing activities on the African continent. For example, only approximately 20–30 percent of Africa Command's ISR requirements are met. This limits situational understanding, support to operations, and fails to offer threat indications and warnings. For personnel recovery, Africa Command relies heavily on contract Search and Rescue assets due to lack of dedicated assets to support operations. Furthermore, African partners lack the capability and capacity to assist with personnel recovery missions. Integrating personnel recovery and surgical stabilization/medical sustainment capabilities are a moral obligation and essential for the proper care of U.S. servicemembers who risk their lives to protect our nation. Africa lacks a theater distribution network to support our forces. This issue manifests itself most significantly in West Africa where we have approximately 1,000 personnel conducting 12 named operations across a nine nation region. This capability gap forces our personnel to revert to costly and ineffective ad hoc solutions. An effective hub and spoke distribution system would consolidate cargo, replace multiple commercial contracts, and eliminate the use of heavy military cargo planes and deliver an efficient low volume/low frequency sustainment solution. In Operation Odyssey Lightning (OOL), the United States military effort to support the Libyan Government against the ISIS, incorporating Afloat Forward Staging Base and amphibious ship capability into operational planning added to the successful execution of the mission. Currently, Africa Command has an unfilled requirement to maintain this capability, which would serve to fill critical personnel recovery and casualty evacuation shortfalls. Additionally, this amphibious capability, during OOL, supported maritime-based ISR operations, and Africa Command could further exploit this capability to support additional operations against regional threats.

Our capability constraints are most profound in our support to the Department of State-led mission to protect U.S. personnel and facilities. Flexible posture through our cooperative security locations and contingency locations, complemented by the highly-valued Special Purpose Marine Air Ground Task Force-Crisis Response at Moron Air Base, Spain the United States Special Operations Force-led Crisis Response Force in Baumholder, Germany and the East Africa Response Force in Djibouti, provide response options during crises. However, the tyranny of distance posed by the continent challenges that responsiveness, and we knowingly accept risk for operations. To mitigate this risk, finalizing the development of key cooperative security locations through Defense Cooperation Agreements with host nations, coupled with accurate indications and warnings from increased ISR and the ability to recover and evacuate our personnel, will ensure swift crisis response to all our embassy locations in Africa.

Looking Toward the Future

Moving forward, United States Africa Command continues execute its mission on the African continent. We continue to focus our decisive effort on building African partner capacity—and supporting African solutions to African problems. We continue to work closely with international and Interagency partners to make small, wise investments which pay huge dividends in building stable and effective governments—the foundation for long-term security in Africa. I am confident that with your support, Africa Command will protect and promote United States interests and keep the United States safe from threats emanating from Africa. Thank you for your continued support to our mission and to the soldiers, sailors, airmen, marines, coast guardsmen, civilians, contractors, and families of the United States Africa Command.

Chairman MCCAIN. Thank you, General.

General Votel, do you agree that we are in a stalemate in Afghanistan after 15 years?

General VOTEL. Mr. Chairman, I do.

Chairman MCCAIN. In some measurements, maybe you could argue that when we go from control of 72 percent of the country to 52 percent, that is worse than a stalemate.

Would you agree that one of the most disturbing things about the attack on the hospital yesterday—that attack was carried out by ISIS, not by the Taliban, which shows at least to this person that we are seeing an increase in influence of ISIS, as well as Russia providing weapons and the Iranians playing a greater role than in the past.

I guess my question is, are we developing a strategy to break the stalemate, and is it going to require additional U.S. troops?

General VOTEL. Mr. Chairman, the answer to your question is yes, we are developing a strategy, and we are in discussions with the Secretary and the Department right now. Both General Nicholson and I are forming our best advice and recommendations to the Secretary, and we look forward to moving forward with that.

I do believe it will involve additional forces to ensure that we can make the advise and assist mission more effective.

Chairman MCCAIN. Already you have received a capability on rules of engagement which enhance your abilities to combat the enemy. Is that correct?

General VOTEL. That is correct.

Chairman MCCAIN. We have got a very interesting and challenging situation in Syria, and that is the whole issue of the Kurds, our relationship with them, Erdogan's relationship with them, the importance of the use of Insurlik, the importance of our relationship with Turkey. I met with President Erdogan in Ankara recently. He is passionately opposed to Kurdish involvement and our support of the Kurds that I understand are going to be a very vital element in expediting the retaking of Raqqa.

This is a complex situation, and it would take all my time, as you know, to go through all this. But I think there is a possibility of an impending conflict between Turkey and the Kurds as opposed to us all working together to try to defeat ISIS and remove them from Raqqa. Do you see that as a scenario that we should be concerned about?

General VOTEL. I do, Mr. Chairman, and to that end, we are trying to take actions to prevent that from occurring.

Chairman MCCAIN. Well, we find ourselves in kind of a strange situation that we and the Russians are allied against the Turks, as far as the Kurds are concerned. Is that a correct assessment?

General VOTEL. I would not necessarily say that we are aligned against the Turks. We certainly understand what their interests are and we understand their concerns about the partners that we are working with. Turkey is a vital partner in this effort here. We could not do what we are doing without them. Our efforts are to try to work through this tension through dialogue, through information, and through identifying alternatives that give us a way to move forward against ISIS without damaging the long-term relationship with a NATO partner.

Chairman MCCAIN. Well, as you know, we are working with the Kurds and arming and training them, and they are a very effective fighting force, the same Kurds that Erdogan has labeled as a ter-

rorist organization and, in the view of some, a greater threat to Turkey than ISIS is.

Who is going to sort all this out?

General VOTEL. Well, I think there certainly has to be an effort, Mr. Chairman, at the military level, and there has to be an effort at the political level to address this.

Chairman MCCAIN. I am not sure there is an understanding of how seriously Erdogan views this issue, and I am not sure we appreciate the importance of the role that Turkey plays in our effort to retake Raqqa particularly in the use of Insurlik and other activities that require Turkish cooperation. Unless something changes, I foresee a train wreck here, and I am not sure that the administration recognizes how seriously particularly President Erdogan views the threat that he views that the Kurds oppose.

Finally, General Waldhauser, let us talk about Libya a second. Who is the most powerful influence in Libya today? Briefly, what is the answer to this chaos?

General WALDHAUSER. Thank you, Senator.

It is difficult to say who is the most powerful partner right now inside Libya. If you took polls, you would see that the Libyan National Army has got great support in the east and the GNA [Government of National Accord] has support in the west. There needs to be accommodation of those two organizations in order to get to a political solution there.

Chairman MCCAIN. Does it bother you that Haftar has been visiting with the Russians and went out to a Russian carrier? Obviously, now the Russians may be assuming a role in Libya that they never had before.

General WALDHAUSER. It is very concerning, Senator. Haftar has visited, as you said, on the carrier with the Russians. He has also visited in the country of Russia. Also this week, as reported in the open press, Siraj from the Government of National Accord has also visited Russia.

Chairman MCCAIN. As is the case with Afghanistan that I mentioned, I hope we will be developing a strategy as regards to Libya as the volatility of that situation can clearly lead to the rise of ISIS and other extremist organizations, as I know you are well aware, General.

Senator Reed?

Senator REED. Thank you very much, Mr. Chairman.

General Votel, you are now in the process of evaluating the mission and the strategy. For many years, the mission seemed to be very clear with respect to Syria and to Iraq of degrade and defeat ISIS. Now there are activities particularly around Manbij where you are in the process of trying to separate forces. The issue here really is not only define the mission, but preventing mission creep in terms of starting to find ourselves committed not just to destroying ISIS but to somehow refereeing a very complicated situation with Russians, Assad forces, anti-Assad forces, Turkish forces, Kurdish forces, and an array of other forces that you can allude to.

How are you going to prevent that mission creep, or is there that possibility?

General VOTEL. Well, thank you, Senator. Yes, I do agree. If we are not careful, we could find ourselves in a different situation. The

presence of our forces in Manbij is not new to just the current situation. They have actually been on the ground since Manbij was secured here six or 7 months ago. They are principally there to ensure that ISIS is not able to reestablish itself in the area. We have undertaken a number of operations in that particular regard.

As the situation is currently played out, that is the principal focus of our elements there. They do have the benefit by virtue of being there to also provide overwatch and, I would add, a measure of assurance not just for our local partners on the ground there, but I would also suggest for our Turkish partners. We understand what their concerns are about undue Kurdish influence in this particular area. The best way that we can keep an eye on that I think is through our well trained SOF [Special Operations Forces] forces on the ground.

Senator REED. One of the areas I touched upon in my comments was the interagency. General Waldhauser, can you accomplish your mission in AFRICOM if you do not have rather robust support by the State Department and other agencies, including our European allies?

General WALDHAUSER. The short answer, Senator, is no, we cannot. We work very closely with various agencies, USAID, the State Department, and the like. I could give numerous examples if you would like of how we partner with them and how they contribute to development, which is so important in our mission.

Senator REED. Thank you.

General VOTEL, likewise?

General VOTEL. I absolutely agree.

Senator REED. As we go forward in terms of the new strategy that the President is asking for, one point he made was requesting a recommendation to change any U.S. rules of engagement and other U.S. policy restrictions that exceed the requirements of an international war. My sense is that the requirements and the authorities that the military has asked for is, one, they can do the job, but two, they also do things like minimize civilian casualties, provide for an appropriate relationship with the local populations, which helps you rather than hurts you. Is that still the sensitivity that you have? I mean, adherence to the minimum international law might not be the smartest military approach.

General VOTEL. Well, we conduct all of our operations, of course, in accordance with the Law of Armed Conflict, and we bring our values to the fight wherever we are.

I do not think those are particular limitations on us at this particular point. My advice here moving forward has been to ensure that our forces have the operational agility to maintain pressure and sustain our approach of presenting ISIS with multiple dilemmas and really pursuing a military strategy of simultaneous operations to really overwhelm them quickly. The preponderance of our discussions and our recommendations really fell within that area.

Senator REED. But again, the rules that we have adopted have been based on best military policy, not just adherence to arbitrary rules. We minimize casualties because it has an effect on the population that will hurt our operations. Is that correct?

General VOTEL. Senator, that is absolutely correct. Seven hundred fifty thousand people in the west portion of Mosul. We cer-

tainly have to conduct our operations with the full knowledge that that is the situation.

Senator REED. Again, gentlemen, thank you for your service, and I look forward to continuing these discussions. Thank you.

Chairman MCCAIN. Senator Inhofe?

Senator INHOFE. Thank you, Mr. Chairman.

General Waldhauser, as you and I discussed in my office, Senator Rounds and I just returned from several areas in your command. You know, when you stop and look at it, it seems like it has been shorter than that, but it has been ten years since we started AFRICOM. The continent used to be divided in three different commands. Now, since that time, we have had a lot of successes.

General Rodriguez, one of your predecessors said, "Africa is an enduring interest to the United States and its importance will continue to increase as African economies, population, and influence grow." Do you agree with that statement?

General WALDHAUSER. Senator, I do.

Senator INHOFE. It was not long ago when Chuck Wald had the job that you have right now. He talked about the significance of Phase Zero. He actually wrote an article about the Phase Zero campaign, why is Phase Zero important, and how does it apply to AFRICOM. Could you make any comments about that?

General WALDHAUSER. Senator, thank you. What I would say to that question is that the ability to engage with the population and have such exercises and engagements with agencies, as was previously described, things like education, health care, jobs for the significant youth bulge that is in Africa is very, very important. We have got to get at these drivers that make these individuals, young men especially, want to join groups like al-Shabaab. In order to get at that part of the problem, we need to be engaged with education, health care, jobs, and the like.

Senator INHOFE. To preclude something from happening, head it off at the pass. I would agree with that.

We were also in Afghanistan, General Votel, and we met with our servicemembers and, of course, the new President. General Nicholson and I—I think maybe we might be in my opinion—and I might be influenced by the fact that I knew the new president's predecessor, and there is no comparison. Summing up kind of what General Nicholson said—I will read this—a need for a long-term coalition commitment to Afghanistan, a need for increased coalition forces for training and assisting the Afghan military, the strength and the commitment of the Afghan people who want to take their country back from the insurgents, shifting the focus to winning versus not losing, the high casualty rate among the Afghan forces, the increase in territory controlled by the Taliban, the importance of cutting the Taliban's access to financing their operations.

Do you pretty much agree with his assessment with what the situation is there?

General VOTEL. I do, Senator.

Senator INHOFE. Do you think that maybe, when we get some of these less than optimistic reports in these committee hearings that we have, that you get a little bit different idea when you are actually there? One of the things that I think we are not factoring in enough would be President Ghani. I would like to have your idea

as to what a difference that can make because I can remember sitting there with his predecessor and then evaluating the situation, what his commitment is right now and what he really believes his people are going to be able to do.

General VOTEL. Senator, I absolutely agree with you. I do think we cannot overestimate the strategic advantage of having a leader like President Ghani in place. His willingness to partner, his visionary ideas about this, and his general approach to bringing the coalition on board I think have been very good, and I think they provide us a very good opportunity to build upon.

Senator INHOFE. With him and with your experience from the last fighting season that we had, since we are coming up now to the next fighting season, do you have any projection as to differences we might see with that leadership and where we are right now?

General VOTEL. I think that we will continue to see very steady leadership from President Ghani and his government through the next fighting season. I think the challenge that we will have will be sustaining the Afghan forces as they move forward. As you have noted, as others have noted, they have absorbed a lot of casualties, and yet they have been resilient through that. But there is a need to ensure that they get into a normal operational cycle that allows them to recover, to rebuild themselves, to reset themselves, and then get back into the fight. I think that as we move forward, that will be the challenge that General Nicholson and I will have to manage.

Senator INHOFE. I would agree with that. I think that there is an effect that the new president has on the fighting troops over there, on theirs, that will yield a better performance.

Thank you, Mr. Chairman.

Chairman MCCAIN. The fighting season has begun earlier than ever in Afghanistan. True, General?

General VOTEL. I think the fighting season does not end. I agree with you, Senator.

Chairman MCCAIN. Senator Peters?

Senator PETERS. Thank you, Mr. Chairman.

Thank you to both of you today for testifying. I appreciate all that you do. You have a very difficult job and both of you do it with honor. Thank you so much for your service to our country.

I represent in Michigan probably the largest Arab American, Muslim American community here in the United States and had an opportunity just recently to meet with a number of community members at the Islamic Center and heard some great concern from the Yemeni American community as to what they are seeing in Yemen in terms of Saudi Arabia and the operations, what seems to be indiscriminate bombing, the killing of large numbers of civilians. I think, according to some estimates, close to 4,000 civilians have been killed in Yemen by a Saudi Arabian-led air campaign, which appears to them as indiscriminate and, according to them, does great damage to the United States. People see those Saudi attacks as related to the United States. There has been increasing recruitment for folks who want to do harm to the United States because of the actions that are being undertaken by the Saudi Arabians.

So if you could comment, General Votel, a little bit about what is happening there to us, and what do you assess the cause of the large number of civilian casualties that we are seeing in Yemen and what can we do to reduce that?

General VOTEL. Thank you for the question, Senator.

I attribute those types of situations more to the competence of the forces that are operating there and their ability to properly target. As you are aware, we do not provide intelligence for those things. We do not make decisions for them.

But yet, we have a relationship with Saudi Arabia. At my level and at levels below me, my air commander, a variety of subordinate commanders, we have engaged with our partner leaders in Saudi Arabia to talk to them about the effects of this and to provide opportunities for them to learn from our experience in terms of this and improve their capabilities in this particular regard. I think they have done that.

In addition, I personally have reached out and talked to my counterpart about the importance of reaching out to international organizations like the ICRC [International Committee of the Red Cross], Doctors Without Borders, who also operate in these areas, and ask that they establish relationships and begin a discussion between the Saudi Arabian Government and Ministry of Defense and these particular organizations so we can better understand what is happening on the ground and we can begin to work through this. I am very happy to tell you that that is taking place now.

Senator PETERS. So you would characterize this as a training issue as opposed to some other factor that is causing—

General VOTEL. I do not attribute it to deliberate decisions to target civilians. I attribute it to a growing need to develop a better and more precise targeting process for their operations.

Senator PETERS. Are we able to assist them in that?

General VOTEL. We do not assist them directly with targeting on the ground, but we are able to, through our experience and through our people, engage them and help with their professionalism and give them the benefit of our experience and tactics, techniques, procedures, processes that we use to try to absolutely minimize those types of events. We are doing that.

Senator PETERS. Well, it is good to hear. Thank you.

General Votel, to move to Syria now, you were recently quoted in The New York Times about saying that we want to bring the right capabilities forward, not all of those necessarily resident in the special operations community. If we need additional artillery or things like that, I want to bring those forward to augment our operations. I note today in the news there was an artillery unit that I believe is being positioned in Syria now.

In your estimate, what is the right mix of conventional and special operations forces that are going to be required to succeed in Syria?

General VOTEL. Senator, I am not sure I can give you an exact percentage-wise mix of this. But what I can tell you is that the way that we operate today with our special operations forces and unique capabilities they bring, through our experience of the last

15 or 16 years, we have become very comfortable and capable of operating together.

What I have pledged to our commanders and what I expect from them is for them to ask for the capabilities that we need and then for us to ensure that we have the right command and control, the right force protection, the right resources in place to ensure that it can function properly together. That to me is much more important than a particular mix of whatever the capabilities are. I think as we move more towards the latter part of these operations into more of the stability and other aspects of the operations, we will see more conventional forces requirements perhaps.

Senator PETERS. Thank you, General.

Chairman MCCAIN. Senator Wicker?

Senator WICKER. Let us get back to Afghanistan, General Votel. Do the Afghan people support the presence of the United States there?

General VOTEL. I believe that they do, Senator.

Senator WICKER. How do you measure that?

General VOTEL. I think we measure that by favorability ratings that we see of them for the Government of Afghanistan and the activities that they are pursuing. I think we measure that through our direct contact with them with teams that we have out there on the ground and others that interact with the Afghan people on a regular basis.

Senator WICKER. As a matter of fact, several years ago, there was a loya jirga convened of most Afghan leaders, and they overwhelmingly were in support of the United States presence there to protect them against what had happened before.

Has there been another loya jirga, or do we simply assume that the elected leadership of the government represents them?

General VOTEL. There has not been another loya jirga I think of the same scope that you referenced, Senator. But we do pay attention to the polling. I would note in some recent polls that I have seen, the favorability ratings for the Taliban are very low in the 6 to 7 percent range as opposed to much, much higher for the Government of Afghanistan.

Senator WICKER. You had strong praise for President Ghani. How is the relationship there between the president and Mr. Abdullah who is his nearest competitor?

General VOTEL. It has improved significantly. I contribute that directly to the engagement of our ambassadors on the ground who have personally invested in that and worked that relationship, and it has had a positive impact on our operations.

Senator WICKER. Well, that is good to hear.

Now, the information we have—and the chairman alluded to this—the Afghan Government controls 57 percent of the country's districts. A year and a half ago, that figure was 72 percent. What happened?

General VOTEL. Senator, I would tell you that there are other numbers out there. We have some slightly different ones, but they are in the general ballpark of what you are saying.

Senator WICKER. Generally, those numbers are correct.

General VOTEL. In general.

Senator WICKER. There has been a significant drop, as the chairman said, in a year and a half.

General VOTEL. There have been areas that we would put into the contested space area here that have increased over the last year.

Senator WICKER. Your testimony would be that this has not happened because the support among the Afghan people of our efforts has diminished.

General VOTEL. I do not think so.

Senator WICKER. Something we did?

General VOTEL. I think this is the effect of the fighting that is taking place and of the efforts by the Taliban to be more resurgent in specific areas in Afghanistan.

Senator WICKER. Well, okay. General Nicholson said in talking about the stalemate that what will break the stalemate are offensive capabilities such as special forces and allowing the air force to overmatch the Taliban. Also he said we have a shortfall of a few thousand troops in Afghanistan for the train, advise, and assist mission. Would you talk about those two aspects, and would you support a few thousand more American troops to get the job done in this mission?

General VOTEL. Senator, with respect to the last part of your question, that is certainly a discussion we are having with the Secretary right now. I will not pre-stage a decision here. That is certainly his regard. But certainly I agree with what General Nicholson's approach is. I do agree that one of our efforts to improve the capabilities and equipment of the Afghan Air Force is a big part of this, as is improving and expanding their special operations capability.

Senator WICKER. Thank you.

General Waldhauser, the Wasp amphibious expedition did over 100 consecutive days of strikes. It is considered to be an impressive success. What lessons have we learned from that deployment, and are we sending you what you need to get the job done in that respect?

General WALDHAUSER. The Wasp and Marine aviation that was on board that ship was a significant contributor to the GNA forces and ridding Sirte of ISIS.

Lessons learned at the tactical level have to do with coordination on the ground and special forces who were there on the ground, but I think it is important to point out that from 1 August until middle of December there were nearly 500 strikes. Most of them came from ISR platforms, but a lot of them, as you said, came from the ship. I think the ability to have zero civilian casualties in a very, very dense urban environment underscores the training and the professionalism of those who were conducting that operation.

In sum, that was a huge asset for us. We actually borrowed it from CENTCOM in order to make it happen, but that is how we have to do business these days. AFRICOM and CENTCOM coordinate on various trans-regional asset changes, and that was an example where it worked very well.

Senator WICKER. Thank you, sir.

Chairman MCCAIN. Senator Shaheen?

Senator SHAHEEN. Thank you, Mr. Chairman.

General Votel and General Waldhauser, thank you both for your testimony and for your service.

General Votel, there has already been reference to the marines who have arrived in Syria. The Washington Post story this morning reports that the battalion landing team, 1st Battalion, 4th Marines, will man the guns and deliver fire support for U.S.-backed local forces who are preparing an assault on the city.

First of all, is that accurate, and should we take that to mean an assault is imminent in Raqqa?

General VOTEL. Well, certainly we will not talk about any timings of any of our particular operations. But our intention here with this—and this fell within the authorities that are provided to me right now was to ensure that we had redundant capable fire support on the ground to support our partners and ensure that we could take advantage of opportunities and ensure the continued progress that we have been seeing.

Senator SHAHEEN. Are you comfortable that that gives us that progress and support that we need?

General VOTEL. In conjunction with our excellent coalition air forces, yes, I am very confident that that will help us.

Senator SHAHEEN. Thank you.

Yesterday in our meeting—and we heard similar comments from General Nicholson when he was here talking about Russian influence in Afghanistan. They are trying to legitimize the Taliban and undermine our mission and NATO's mission there. Can you talk about what alternatives we have to respond to Russian activities there?

General VOTEL. I think the best alternative that we have is to ensure that we demonstrate our commitment to the mission that we have in place here with the Government of Afghanistan. Certainly with our twofold mission, we focused on counterterrorism and then, of course, the train, advise, and assist mission. The most important thing we can do is send a very clear message that we are going to see this mission through and support the Government of Afghanistan in the way that they require with military capabilities and other things to ensure that they can be successful.

Senator SHAHEEN. To what extent does our effort in Eastern Europe with NATO affect Russia's ability to undermine what we are doing in Afghanistan? How much do they need to be focused on what is happening in Eastern Europe?

General VOTEL. From my perspective, I would like them totally focused on Eastern Europe and not on Afghanistan. I am being a little facetious here. I am not sure that I can comment that there is necessarily a direct relationship between that, Senator. Certainly I think if their attention can be drawn to other challenges, other problems that they are focused on, that helps us.

Senator SHAHEEN. General Waldhauser, in your statement, you point out that long-term success in slowing the progress of Boko Haram and ISIS in West Africa requires Nigeria to address development, governance, and economic deficiencies, which are drivers of terrorism in that region. As we look at the future where one in four Africans are Nigerian, what happens in Nigeria has a huge impact on what happens throughout the rest of Africa. Do you agree with that?

General WALDHAUSER. I most definitely do. With 182 million people in that country—it is the seventh largest country in the world—what happens there has a significant impact not only on the continent, but it could be in Europe and the United States as well.

Senator SHAHEEN. To what extent do we feel like they are addressing the threat from Boko Haram and also addressing those deficiencies that have existed there?

General WALDHAUSER. Senator, two weeks ago, I was in Abuja and talked with the acting vice president, and he is very, very aware of the fact that there is still much work that needs to be done in northeastern Nigeria both with Boko Haram and ISIS-West Africa. I came away from that visit in a positive way because there have been some human rights issues with the Nigerians, but they are taking that on. I mean, they are making some progress there. But I think the acting vice president or acting president understands there is still a threat. Boko Haram has weakened a bit, but they are still a threat. ISIS-West Africa is still there and they are still a threat. But this Lake Chad Basin region task force has been doing fairly well with at least trying to keep the problem inside the Nigerian borders.

Senator SHAHEEN. Are they working to address the historic divisions between the Christian southern part of the country and the Muslim north? Are there any initiatives underway that help to resolve some of those historic conflicts?

General WALDHAUSER. Senator, I am not aware of any per se. I would just say that in my discussions with senior leadership there two weeks ago, they have a fairly wide-ranging and overarching strategy of where they want to go which ultimately will turn over northeastern Nigeria to the police forces.

Senator SHAHEEN. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Fischer?

Senator FISCHER. Thank you, Mr. Chairman.

General Votel, since the nuclear deal with Iran was announced, Iran's behavior in the region, its support for terrorism, and its domestic repression—it appears to have gotten worse. Iran wields significant power in Syria, Lebanon, Iraq, and Yemen, and it seeks to destabilize our key allies. What do you see as Iran's goal in the region?

General VOTEL. Senator, I believe Iran seeks to be the regional hegemon, to be the most influential country in the region.

Senator FISCHER. How would you characterize Iran's regional behavior since the nuclear agreement? Has it improved or has it worsened?

General VOTEL. I would describe it as destabilizing to the region. It has not been helpful to anything that I can see going on across the region.

Senator FISCHER. How would you characterize Iran's relationship with Russia in the region?

General VOTEL. Again, not having firsthand knowledge on that, I guess I would characterize it as they find areas of cooperation. I am particularly concerned how both Iran and Russia have cooperated to prop up the Assad regime and make them stronger. That is certainly of some concern. I do see that level of cooperation being

very unhelpful to the things that we are doing across the region. I do not know what the long-term views of each of these countries might be and how that might play out, but it certainly looks like they are taking the opportunity of convenience to join efforts in some regard.

Senator FISCHER. I wanted to ask you your long-term view with regards to the United States and our position in the region, first of all, just with Iran's destabilizing activities but also with their relationship with Russia. Can you give us in your best opinion how that affects the United States and our involvement?

General VOTEL. I can, Senator, and I will offer you my observation. It is based on my travels throughout the region over the last year and meeting with our partners across many of the countries. My consistent takeaway here is that the partners in the region would strongly prefer to have a relationship with the United States over any other nation that might be external to the Middle East. I think that is an opportunity for us to move forward on. We have long-term historical relationships with many of these countries, and we should capitalize on that as we move forward. I think that offers us the best opportunity.

Senator FISCHER. As we look over the last year, we have seen Iran has escalated its harassment of our vessels, our personnel in the Persian Gulf. Just last week, multiple fast attack vessels from the IRGC came close to a U.S. Navy ship in the Strait of Hormuz, and they forced it to change direction.

What is CENTCOM doing to address that harassment that we are seeing by Iran?

General VOTEL. First off, we are ensuring that our maritime forces have all the right rules of engagement and capabilities and training and techniques to deal with that, and I do believe they are effectively doing that. One of the first things I did after coming into command was get on a ship and go through the Straits of Hormuz so I could see it with my own eyes, and I was extraordinarily impressed with the maturity of our sailors and the judgment of our leaders as we went through that.

More broadly, I think we have to hold Iran accountable for their actions. No other nation operates the way they do in the Arabian Gulf. Nobody does that in the Arabian Gulf. They need to be held accountable for that and they need to be exposed for those types of unprofessional, unsafe, and abnormal activities.

Senator FISCHER. It sounds like you are very concerned with Iran's growing asymmetrical capabilities, and that includes its acquisition of advanced cruise missiles, I would assume.

General VOTEL. It does, Senator.

Senator FISCHER. What about naval mines, ballistic missiles, and UAVs [Unmanned Aerial Vehicles]? I guess when we are looking at our interests in the Persian Gulf and our allies' interests in the Persian Gulf, how do those growing threats affect that?

General VOTEL. The way they affect us is they provide Iran with a layered capability where they can use their fast boats, they can use cruise missiles, they can use radars, they can use UAVs to potentially dominate specific areas. So this is a concern, and it is something that certainly we look at in our capabilities and it is something that we have engaged our partners in the region on on

how we work together to mitigate the effects of that layered approach that Iran pursues in these critical chokepoints.

Senator FISCHER. Thank you, sir.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Warren?

Senator WARREN. Thank you, Mr. Chairman.

Thank you for being here.

I would like to return to an issue raised by Senator Reed. There is a big debate going on right now, as you know, about military spending, and of course, we need a strong military. But the military is not the only element of our national security strategy. Spending on security outside the military budget is very small. Diplomacy and development combined is about 1 percent of our annual budget, but it includes programs that promote democracy, human rights, the rule of law that boost economic growth, that improve access to education, that fight hunger, that treat infectious diseases, and it provides disaster relief around the world.

General Votel and General Waldhauser, you command our armed forces in some of the most active and dangerous parts of the world. Do you think the activities of the State Department and other civilian partners are a waste of time and taxpayer money?

General VOTEL. I do not, Senator.

Senator WARREN. Thank you.

General WALDHAUSER. Senator, nor do I. They are a big part of what we do.

Senator WARREN. Thank you. I agree. But the Trump administration's blueprint budget would increase defense spending in some areas by massively slashing through other programs that are critical for our national security. Not every international problem is the same and the right tool is not always a military response. Recapping our State Department by cutting an already small foreign aid budget makes America less safe, and that is just not smart.

I would like to turn to another issue, and that is the ongoing fight against ISIS in Iraq and in Syria. General Votel, you contributed to the Pentagon's plan to accelerate the fight against ISIS which Secretary Mattis delivered to the White House last week. I have every confidence that the U.S. military can defeat ISIS on the battlefield and help retake strategically important cities.

But what I want to ask you is about what comes next. You are going to be mediating between armed opposition forces that dislike each other intensely in cities where existing infrastructure has been completely destroyed with a population that has been traumatized and displaced. What will it take to create conditions for normal life to resume in Mosul and Raqqa?

General VOTEL. I think it starts certainly following up our military operations with good local governance and addressing humanitarian aid, addressing issues like demining, of restoring basic services to the people, of trying to bring additional aid in there so small businesses and other things can get going, and then the bigger aspects of governance can begin to take place. As we look at our military operations, particularly as we look at places like Raqqa or Mosul, what we have tried to do is ensure that our military planning is very closely linked to the political planning, what comes next so that we do not just finish a military operation and then

just leave. It is important that we have local hold forces. It is important that we predetermine local governance that is going to come in and begin to take this over. I think that is an extraordinarily important point. The transition from military operations to the stability operations and things that come next I think is a significant lesson learned for us—relearned for us many times, and it is something that we have specifically focused on in this campaign.

Senator WARREN. Thank you. I am very glad to hear that, General. Planning for peace is hard. We did not do it after we toppled Saddam Hussein, and we are still paying a price for that blindness today. I do not want to see us turn around and make that same mistake again. I think we need to be very careful that we do not create an environment that breeds the next generation of extremists, and I am grateful for your work in this area. I am grateful to both of you for all that you are doing. Thank you.

Thank you, Mr. Chairman.

Senator REED [presiding]. On behalf of Chairman McCain, let me recognize Senator Cotton.

Senator COTTON. Thank you.

Gentlemen, welcome back to the committee.

General Waldhauser, you were speaking with Senator Shaheen about Nigeria and the role that it plays not just in the African continent but around the world. Could you speak a little bit about what President Buhari's absence from the country means and what the status is right now of Nigerian politics for the committee?

General WALDHAUSER. Senator, I would just have to say that open source reporting indicates that he is still in London receiving medical help. That was a topic that was not discussed with officials when I was there.

But what I did observe was acting President Osinbajo has done extremely well. He is very competent. He has a, I would say, very wide view of the problems and issues, and he seems to want to get after them. He was definitely genuinely interested in making things happen, and I thought we had some very frank discussions with him on the way ahead with regard to our support for the defeat of ISIL-West Africa and Boko Haram.

Senator COTTON. What is the level of political consensus and stability between the north and the south in that country right now?

General WALDHAUSER. I really could not give you a fair assessment of that. It was not part of the discussion. We did not have that topic.

Senator COTTON. I understand.

Looking to the east, would you please discuss the strategic implications of China's new base in Djibouti and what it means for our presence there and throughout the Horn of Africa?

General WALDHAUSER. The Chinese base is right outside Camp Lemonnier, about 4 miles or so from our base. The intention for that location was to provide a port for their ships to have in the area. They have about 2,200 peacekeepers on the continent. This is the first time for them that they have kind of journeyed in that direction. So right now, it is due to be completed later this summer.

I would just say the concern that I have from an operational perspective is the operational security when we operate so close to a Chinese base. The Camp Lemonnier-Djibouti area is not only

AFRICOM, but CENTCOM uses it, SOCOM uses it, TRANSCOM, EUCOM, and the like. It is a very strategic location, and visiting Djiboutian officials twice, I have talked with their president and expressed our concerns about some of the things that are important to us about what the Chinese can or cannot do at that location.

Senator COTTON. Thank you.

General Votel, you have already spoken with several Senators this morning about the stalemate in Afghanistan. For many years now, we on this committee and many leaders in the executive branch have been lamenting the existence of sanctuaries for the Taliban and other terrorist groups in Pakistan. As you think about the strategy to break this stalemate, what is the role of eliminating those sanctuaries inside of Pakistan? How do you plan to get after this longstanding problem?

General VOTEL. Thank you, Senator.

Pakistan, of course, remains a key partner in this fight here. I have been encouraged by my meetings with the new Chief of Army Staff, General Bajwan, and his commitment to help address this. They have done some things that have been helpful to us. Most recently they have supported General Nicholson in some operations along the border, making sure that they were well coordinated and doing the activities on their side of the border. That is a very positive sign and a move in the right direction. They have done things against the principal concerns that we have, the Haqqani Network and Taliban. But what we do need is we need that to be more persistent and continue to focus in that particular area. We will continue to engage with Pakistan throughout this.

I think it is key to ensure that Pakistan and Afghanistan have a very good relationship. There certainly are tensions along the common border between those countries. I think a key role that we can play is in helping move that relationship forward.

Senator COTTON. Let me ask you about a seam on the map between you and Harry Harris, but it is an important seam because it involves Pakistan and Afghanistan and India and PACOM [United States Pacific Command]. To what extent do you think Pakistan's Afghan policy is driven in part by its India policy and, in particular, whether an independent Afghanistan conducting its own foreign policy might be adverse to Pakistani interests?

General VOTEL. Senator, I think Pakistan's view of the region I think as they look at their interests, it plays very largely in how they look at both sides of their country.

Senator COTTON. One final question. Since the 1970s, Russia's influence throughout the Middle East has been minimal, thanks in large part to the diplomacy of Henry Kissinger and Presidents Nixon and Ford. How would you assess the level of Russia's influence in the region today?

General VOTEL. Russia is attempting to increase their influence throughout the Middle East, as we have seen in Syria. We have seen them do things certainly with our longstanding partner Egypt and others across the region. It is my view that they are trying to increase their influence in this critical part of the globe.

Senator COTTON. Do you think they have been successful in any of those attempts thus far?

General VOTEL. Well, they certainly have been successful in supporting the Assad regime, and so that is certainly an example of that. I am hopeful that we will be able to reassert our own relationships as well.

Senator COTTON. Thank you, gentlemen.

Senator REED. On behalf of Chairman McCain, let me recognize Senator King.

Senator KING. Thank you, Senator Reed.

General Votel, let us talk about four areas where we are engaged in conflict: Iraq, Syria, Yemen, and Afghanistan.

By the way, I want to compliment you on your written statement. It is a primer on the region that I think should be required reading for everyone in this body. It is very well done, very thoughtful, and comprehensive.

Who are our allies in Iraq? Who are we fighting next to? The ISF [Iraqi Security Forces]. Right?

General VOTEL. That is correct, Senator.

Senator KING. And the Kurds.

General VOTEL. The Peshmerga in the northern part of Iraq.

Senator KING. What religion are the members of the ISF and the Kurds?

General VOTEL. They are Muslims.

Senator KING. In Syria we have got the Syrian Democratic Forces and also the Kurds?

General VOTEL. We have Syrian Kurds and we are working with local Syrian Arabs, Turkmen and in some cases local Christian forces.

Senator KING. But the vast majority of those forces are Muslim. Is that correct?

General VOTEL. That is correct.

Senator KING. In Yemen, UAE [United Arab Emirates], Saudi Arabia, those forces are Muslim?

General VOTEL. Absolutely.

Senator KING. In Afghanistan, the ANSF, the Afghan National Security Forces, also Muslim?

General VOTEL. They are Muslim.

Senator KING. One of the statements you made in your opening comments was that our strategy rests upon, quote, a heavy reliance on indigenous forces. Is that correct?

General VOTEL. That is correct, Senator.

Senator KING. It is fair to say that the vast majority of those indigenous forces are Muslim.

General VOTEL. That is the case today.

Senator KING. So it would be a mistake as a matter of national policy, rhetoric, or discussion if we attempted to alienate or marginalize Muslim citizens of anywhere in the world because these are our allies in all of the fights that we are engaged in in your area. Is that not correct?

General VOTEL. I believe it is correct, Senator.

Senator KING. You talked about restoring trust with our partners in the region. Our partners in the region are all based upon Muslim societies. Is that not correct?

General VOTEL. They largely are. It is largely a Muslim area.

Senator KING. The second area—and this has been discussed to some extent but again it is in your report on page 3 and 5 of your statement. The goals that you define cannot be accomplished solely through military means, you say. The military can help create the necessary conditions. There must be concomitant progress in other complementary areas, reconstruction, humanitarian aid, stabilization, political reconciliation. On page 5, you say, however, solely a military response is not sufficient. This must be accomplished through a combination of capabilities if we are going to achieve and sustain our strongest deterrence posture.

Again, just to put a fine point on what has been discussed previously, to solely rely on military strength in solving these very complex and difficult problems would be a serious mistake. Would you agree?

General VOTEL. I would agree, Senator. I think we have to have a combination of all of our elements of power, hard power and soft power.

Senator KING. Thank you.

Next question. This is a slightly different subject. You work with a lot of these allies. You work with these countries, with Iraq and other countries in the region. How would it be received in the Arab world if the United States relocates its embassy from Tel Aviv to Jerusalem without a settlement of the Palestinian-Israeli conflict?

General VOTEL. I think from my personal discussions with some in the region, I think that it would create some challenges for some of those countries.

Senator KING. Some challenges? Can you expand? Serious challenges?

General VOTEL. It could potentially be very serious.

Senator KING. Does that include our staunch ally Jordan?

General VOTEL. I believe, yes, sir, it does, Senator.

Senator KING. Thank you.

Final question to both of you. Foreign military sales and foreign military financing programs—are they appropriately calibrated to meet your needs in the region? My sense is that that is an area where we could use some work.

General VOTEL. From my perspective, Senator, the importance of the foreign military sales and foreign military funding programs is to help build capability for our partners that is interoperable with us. They generally want to buy U.S. equipment because it comes along with training. It comes along with sustainment, and it makes them more interoperable with us. I think we have to take a long-term view in terms of this, and I think it is in our interests for our partners in the region to use capabilities that are interoperable with ours.

Senator KING. General Waldhauser, in just a few seconds I have left, a quick update on the status of ISIS in Libya.

General WALDHAUSER. The status of ISIS in Libya is they right now are regrouping. They are in small numbers, small groups. We tried to develop the intelligence, but after they left Sirte, we developed intelligence. We bombed them on January 18th and they were in the southern part of Libya. They have scattered again now. They are in small groups trying to regroup.

Senator KING. No longer control Sirte.

General WALDHAUSER. Correct. No longer control Sirte. They were out of Sirte in the middle of December.

Senator KING. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN [presiding]. By the way, General Votel, just to complicate things further, Barzani, the leader of the Iraqi Kurds, does not support the KRG, the Syrian Kurds. Right?

General VOTEL. That is correct, Chairman.

Senator KING. Senator Ernst?

Senator ERNST. Thank you, Mr. Chair.

Thank you, gentlemen, for being here today and your time and attention to all of our questions.

General Votel, we had an interesting conversation the other day, and as the chair of the Emerging Threats and Capabilities Subcommittee, you mentioned something to me that I thought was very interesting and something that I am concerned about. That is the increasing threat that is posed by ISIS's ability to use drones. We had a great conversation about that. What they are using you say was kind of a modified commercial, off-the-shelf drone. Can you tell us about that emerging threat and maybe describe for those on the committee exactly what they are using and what those capabilities are?

General VOTEL. Thank you, Senator.

What we are seeing I think are commercially acquired drones. They are generally quadcopters that are available I think very easily by anybody online or at other places, hobbyist locations. What they are able to do is, obviously, operate them for purposes of their own surveillance, and as we have seen in the news, in some cases they have been able to rig grenades and other things to them. They have been able to achieve some effects with that.

It is concerning to our partners. It is certainly concerning to us. I think it is a reminder of just how savvy and challenging of an enemy that we are dealing with here, and I think it requires us to make sure that we are equally savvy in our approach to this, making sure we have the right tools to defend against these types of threats.

Senator ERNST. Absolutely. Thank you. It reminds me of the early part of the Iraq war when the forces were using remote controlled cars with explosives as a first form of IEDs [Improvised Explosive Device]. Of course, through the years, they grew technologically advanced. I see something so simple as this that could become much more complicated over time.

Do the Iraqi forces have the capabilities to defeat those drones?

General VOTEL. We are working on providing them the capabilities. Right now, they enjoy protection against these threats in a number of areas largely because we have capabilities with our forces that are accompanying them and are located in their locations.

Senator ERNST. Very good. Thank you.

We also spoke about troop numbers yesterday and how random some of those numbers tend to be when you have that artificial boundary of a country line between Iraq and Syria. If you could, please share with the committee what is our role in that. Should that role of troop numbers and where those troops are located be

left up to our on-the-ground combatant commanders? If you could just share a little bit of that conversation.

General VOTEL. Senator, I think the more we can provide agility for our commanders on the ground to make decisions about where they need forces and when they need it, I think that is the most appropriate thing that can be done. I think we are most successful when we enable our very good and well qualified leaders and people on the ground to make decisions in the situations in which they see it. I am for making sure that we try to provide them the agility and the process around that. We certainly understand why it is important to look at things like numbers and stuff like that. It certainly drives our resources and budgeting and other aspects of that. That certainly has to be taken into consideration. But I look at this more from a flexibility and agility standpoint for our commanders on the ground.

Senator ERNST. Thank you very much.

General Waldhauser, thank you as well.

As you know, Tunisia has sent more foreign fighters than any other country to join the ranks of ISIS abroad. In addition to supplying the foreign fighters, Tunisia struggles with containing the terrorist activity on their own soil, so much that they have had a physical wall built along the border with Libya in an attempt to deter terrorists from entering their country.

Is AFRICOM currently equipped to address the potential influx of ISIS fighters returning home to Tunisia as we strike them elsewhere, whether it is in the Middle East or other places?

General WALDHAUSER. Senator, I would have to characterize Tunisia as one of the bright spots on the continent. They are in the process of transforming their military to be more capable of dealing with terrorist threats. They have purchased equipment from the United States, which we are helping them with right now, helicopters and the like. We have people on the ground who are training, advising, and assisting their special operations forces. I believe the wall that you refer to is technical equipment provided by DTRA [Defense Threat Reduction Agency], as well as Germany, to help them contain the foreign fighter flow back and forth between especially Libya and Tunisia.

But the bottom line is they are a bright spot. I visited them twice, and they are headed in the right direction. They are struggling with what to do with foreign fighters who return, but again, I think that is not a negative against them.

Senator ERNST. Very good. Well, I appreciate it. Gentlemen, thank you very much for your input.

Senator REED [presiding]. Thank you.

On behalf of Chairman McCain, let me recognize Senator Blumenthal.

Senator BLUMENTHAL. Thank you, Mr. Chairman.

I want to thank both of you for your service and, as you did in your testimony, General Votel, the outstanding men and women under both your commands who make us proud and who are doing such great work under your command. I want to join Senator King in thanking you for your testimony, which is a very, very enlightening for me, elucidating outline of the challenges and I would note for my colleagues particularly in your description of the next gen-

eration of cyber warriors or the use of cyber warfare by our adversaries going from the rather rudimentary weapons of the roadside bombs to the much more sophisticated use of cyber and, as my colleague has pointed out, drones and other challenges that face us there.

I want to focus on Iran. In response to Senator Fischer's question about whether Iranian aggression has increased since the nuclear treaty, you pointed out that their conduct there has been destabilizing—the word you used was “destabilizing”—and abnormal. Of course, we know Iran has tested an anti-ship ballistic missile there, a new Russian made S-300 missile air defense system, as well as harassing a Navy ship, the USS *Invincible*, in the Strait of Hormuz by sending an Iranian frigate within, I think, 150 yards, smaller boats within 600 yards. Last month, the Iranians fired a medium-range ballistic missile in violation of the U.S. Security Council resolution resulting in United States sanctions enforcement against 25 individuals and entities. That action was in violation of the U.N. resolution. But none of these other activities are in violation of the nuclear agreement. Are they?

General VOTEL. My understanding, Senator, is the nuclear agreement did not address any of those other aspects of the Iranian threat.

Senator BLUMENTHAL. But would you agree with me that they do demand a response from the United States?

General VOTEL. I would absolutely agree, Senator.

Senator BLUMENTHAL. Much more aggressive not only sanctions but warnings and actions against their partners in this effort, most prominently the Russians.

General VOTEL. I would agree. I think we should use a combination of both diplomatic and other security-related tools here, economic tools to address this concern.

Senator BLUMENTHAL. Would you agree with me that the Russians through the Iranians, in effect, are testing us in that area because they are, in effect, aiding and abetting the Iranians in this increasing destabilizing activity?

General VOTEL. Well, I would, Senator, and I would certainly point to a place like Syria where these two countries have essentially propped up a regime here and made them more capable, more powerful, and kept them from collapsing.

Senator BLUMENTHAL. But when we complain about the Iranians—and all of us probably in this room would agree with you that they are the major destabilizing influence in that area—we are talking as much about the Russians as we are about the Iranians.

General VOTEL. Senator, in my comments here I was specifically talking about the Iranian threat. That is the one that we confront with. Certainly, as I mentioned also in my opening statement here, we are concerned about external actors and what their interests are in the region as well, and those can contribute to more destabilizing aspects as well. I think they have to be addressed—they both have to be addressed.

Senator BLUMENTHAL. How would you suggest that we should address the Iranian destabilizing influence of this regime?

General VOTEL. I think there are a variety of things. I think the most important thing is to work with our regional partners here to ensure that we have a common approach to this. I think in some cases we should look at ways that we can disrupt their activities through a variety of means, not just military means. We have to expose them for the things they are doing. They should be held accountable for those things. I think we have to contest their revolutionary ideology, and it is not just the United States, but it has to be those in the region. Iran has a role in the region. They have been around for a long period of time. Nobody is trying to make Iran go away, but we are concerned about the destabilizing behavior that they pursue on a regular basis.

Senator BLUMENTHAL. My time has expired, but this topic is one that I think is profoundly important. I will have some more questions that I hope you and your staff perhaps can answer and maybe in a different setting as well.

Thank you, Mr. Chairman.

Senator REED. Thank you.

On behalf of Chairman McCain, let me recognize Senator Perdue.

Senator PERDUE. Thank you, Mr. Chairman.

It is an honor to be here before you two gentlemen. Thank you for your great careers and what you are doing for our country today. I hope you will take this message back to your troops, that everything they do over there is not missed on us.

I have a question about ISIS. General Votel, first of all, I think one of the first things that the President has done is ask for a 30-day review of the current strategy and so forth. Where are we in that process? What types of things can we expect to see in terms of our strategy there? I would like you also to address what is our end game, and can you talk about that today or should we wait until we see the 30-day review?

General VOTEL. Senator, I think it is most appropriate for the Secretary who I believe has presented his findings to the new administration, and I think he is probably the person who is most appropriate to talk about the decisions and end states that will come out of that.

Senator PERDUE. Fair enough.

With regard to ISIS in the Sinai, right now Egypt—there are daily efforts there I think. Can you give us an update on what is being done and what other countries are involved in the fight with ISIS? Give us an order of magnitude of the size of that action in the Sinai.

General VOTEL. The Egyptians several months ago have deployed forces into the Sinai and specifically around the area where the multinational force is. That has been helpful. That has helped address a threat that was emerging there, and they are engaged on a regular basis in fighting ISIS in that particular area.

Egypt is addressing this. We are helping them in some areas, particularly with some of our expertise in improvised explosive devices. They have asked for that, and so we have been key to help them with that in this particular area.

Senator PERDUE. Do we have any troops on the ground in the Sinai?

General VOTEL. We do not have any troops on the ground that are fighting ISIS. We do have troops on the ground in the Sinai that are associated with the multinational force mission.

Senator PERDUE. Thank you.

General Waldhauser, I want to go back to a question that was earlier asked of you about China's presence in Africa and particularly the base at Djibouti. Given what Russia has done with Crimea and now at Latakia and at Tartus, are you concerned that we will see other activity of base building in Africa? Have you had any other indications of either Russia or China developing permanent positions or presence in that theater?

General WALDHAUSER. Senator, in 2013, the Chinese laid out a strategic plan of One Belt, One Road where they will have commerce that starts in China, goes down to Indonesia, the Malacca Straits, across over to Djibouti, up into Europe and back. That is roughly 60 countries and 40 percent of the global GDP [Gross Domestic Product] that goes on in that area. It is all about trade. This is their first endeavor in an overseas base, and it will not be their last.

Senator PERDUE. Thank you, sir.

I want to ask one more question real quick. I am about out of time. But in Somalia and Sudan, there is a growing threat that there is a real serious famine that is about to happen if it has not already started there. What will that do to the military situation in that area?

General WALDHAUSER. Well, first of all, in Somalia, Senator, this right now is the most pressing issue to the brand new president who was just elected this last month. Right now, there are over 6.2 million individuals who have been affected by it, and it has not been, to my knowledge, actually declared a famine yet. But in terms of combating al-Shabaab and the like, movement of people in those large masses has an impact on military operations.

But the bottom line in Somalia is right now—and we have counterterrorism operations. We are trying to build up the national security forces. But that famine for the brand new president and this fledgling national government is the biggest thing on their plate. They have to do well in this because if they cannot provide for this famine, then Somalia, who has been without a national government for over 20 years, is going to question what the purpose and what contributions they will make.

Senator PERDUE. Thank you, sir.

One last real quick question. In Moron, Spain, I was fortunate enough to meet and visit with some of your great marines there. They have got a very strong mission. Unfortunately, late last year, they had to move about half of their air assets back to the U.S. for training. Can you talk about readiness with regard to their mission in Africa?

General WALDHAUSER. Senator, the impact right now is really capacity for us. We have had to kind of center their activity mostly on western Africa. Some of the missions we have in eastern Africa that they would have been able to deploy to in the past, we would have to coordinate with CENTCOM, and we have actually used marines from the Oregon MEU [Marine Expeditionary Unit] in CENTCOM on the ground in Djibouti to take care of crisis response

activities, specifically South Sudan, that we had at that time. The readiness of the airplanes has gotten better, but when you go from 12 to 6, the capacity is cut in half. The impact is we have got to do a better job coordinating and sharing assets because the Africa continent is extremely large.

Senator PERDUE. Yes, sir. Thank you. Thank you both.

Chairman MCCAIN [presiding]. Senator Donnelly?

Senator DONNELLY. Thank you, Mr. Chairman.

Thank you both for your service. We are so grateful for your hard work.

General Votel, as we move forward in Mosul and some of the ISIS fighters head out, what efforts do we have in place to try to capture them before they head to Raqqa or to other areas, or where are they heading out to?

General VOTEL. Well, Senator, thank you for the question.

Our intention, of course, is to prevent them from getting out. The first part of all of our operations is to isolate the areas where we are, where our attacks are taking place by our partners, and where we are bringing our enabling capabilities so that we do not let anybody get out or get in. Being a desert, this is obviously a very porous area, so there probably are some that get out. I think they are generally moving into the middle Euphrates River valley, which is a location that is equidistant between Mosul and Raqqa.

Senator DONNELLY. A while ago, we were just outside Hadditha in Anbar Province meeting with the Iraqi leaders there. I just wanted to follow up. At that time, they were close to starvation, for a lot of their citizens. It was extremely difficult for all of their families. Where are we now in terms of solidifying Hadditha, Fallujah, Ramadi, those areas, and are they working with us and with the central government?

General VOTEL. Senator, they are and we are making progress with the humanitarian aid and the needs of the people out in all of those areas. This I think is an area that we have to pay particular attention to as we move forward, particularly in the large urban areas. Our military operations—planning for those has to be done in conjunction with the humanitarian aid planning and providing for the needs of the people that will be left behind. I think this is a key aspect for us.

Senator DONNELLY. As we head toward Raqqa, we have seen that marines have come in. Are you getting everything that you need in terms of equipment, manpower, all of those things to take Raqqa back?

General VOTEL. We are, Senator, and I am certainly in discussions with the Secretary about what we might need going forward.

Senator DONNELLY. Because I think our feeling is we do not want to not get this done as soon as possible because we did not provide you with the necessary equipment, necessary personnel.

As we look at Raqqa and moving forward, obviously there is a lot of complication with the Turks and with others. How are all those pieces coming together for you?

General VOTEL. Well, as you know, Senator, this is an extraordinarily complex area here. We are trying to work with an indigenous force that has tensions with a NATO ally. That is not an easy situation to move through. But I think the way we are addressing

it is in the right way. We are being as transparent as we can. We are providing information. We are looking for options on a day-to-day basis to ensure we can mitigate and minimize the tension that exists in this area. I will not try to tell you that there is an easy way through all this complexity. There is not. It is going to take a lot of hard work. It is going to take military work. It is going to take diplomatic work as we move forward. I do believe that is the approach that we are taking and I think that ultimately it will work for us.

Senator DONNELLY. I was going to follow up—you were kind enough to come by my office—to follow up and say I think your idea of complete transparency, here is what we are doing, here is what we are working on, here is how we plan to do it and to try to cooperate as much as we can with other countries, but to tell them this is the plan and this is where we are going seems to make a lot of sense to me.

As you look at what has gone on in the Arabian Gulf, we just saw another incident with our ships recently. As we move forward, the distances seem to be less. They get closer. They get closer. Do we have a plan ready to go where at some point we say, you know, you have crossed the red line, and if they continue, that we take appropriate action?

General VOTEL. Senator, I am very confident in our ship captains and in our crews for them to deal with the situation. I do believe they have the right rules of engagement. They have the right tools to prevent things, and in the case that prevention does not work or deterrence does not work, then they have the capabilities to defend themselves and take action. I am very confident in our people.

Senator DONNELLY. My guess is that there will become an X crosses Y point, and I just want to make sure that our captains and all of them are ready. I have the same confidence.

General Waldhauser, as you look at your area of command, what do you see as our biggest challenge right now that you are dealing with?

General WALDHAUSER. Senator, I think the biggest challenge perhaps is the development piece for the demographics of a very youthful population. 41 percent of the continent is under the age of 15. We have got to find a way to get at education, health care, hopelessness, livelihood, and the like in order to give those individuals a future because we could knock off all the ISIL and Boko Haram this afternoon, but by the end of the week, so to speak, those ranks would be filled. We know from those who have kind of come out of the forest and given themselves up, so to speak, that the reason they joined was they needed a job, they needed a livelihood. It is not, for the most part, in those regions about ideology. That is not the driver. It is those factors I just talked about that drive them into that line of work because there is nothing else for them to do. I think the youth bulge and the demographics and providing development and a way ahead for those youth are very, very important.

Senator DONNELLY. We cannot fight our way out of it. What we have to do is to try to give them hope and dignity and purpose I guess.

General WALDHAUSER. Exactly. I am not the first. Many people, especially those in uniform, have said we cannot kill our way to victory here. This is about the long-term investment in capacity building because at the end of the day, that is what is going to try to help solve the problem especially on the African continent.

Senator DONNELLY. Thank you. Thank you both for your service.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Tillis?

Senator TILLIS. Thank you, Mr. Chairman.

General Votel, thank you for spending the time with me in my office this week. General Waldhauser, welcome to the committee. Thank you both for your service.

I will ask this of both of you. One area that I would like to get your feedback on is foreign military financing, foreign military sales and to what extent do we need to focus on that with some of our partner nations that you believe is helpful to you completing your missions in each of your commands. General Votel, we will start with you.

General VOTEL. Thank you, Senator.

I think foreign military funding, foreign military sales are extraordinarily important.

Senator TILLIS. Can you get more into specifics about certain areas where we need to really look at on a more immediate basis?

General VOTEL. Yes, I do. I think certainly looking at ballistic missile capabilities for some of our Gulf partners is an important area. Certainly some of the aircraft programs out there—there is a great desire to have U.S. programs in many of these countries, and those are certainly areas where we have to pay strong attention.

Senator TILLIS. What sort of capabilities in Egypt? Senator Perdue asked you questions about the Sinai and increasing threat in that region because of the consolidation of ISIS and other entities. What kinds of things would be helpful in particular to Egypt in that area?

General VOTEL. Well, certainly the suite of counter-improvised explosive device equipment we have out there, running from jammers to protected vehicles and a variety of things in between, I think would be extraordinarily helpful to them.

Senator TILLIS. Do you have any specifics? General Waldhauser, I want to go to you with the same line of questioning. But any specific things that you can provide us, any specific areas where we need to take a look at and maybe get back to where we are helping build that partnership with Egypt?

General VOTEL. Senator, we do, and with your permission, we will look for an opportunity to come and talk with you specifically about that so we can get into some detail about what we think would be most useful for Egypt and in fact for other partners across the region.

Senator TILLIS. Thank you.

General Waldhauser, same line of questions.

General WALDHAUSER. Thank you, Senator.

Interestingly, in Africa, the foreign military sales is a very interesting choice. Many of the countries that we deal with are not financially in good shape, and consequently the ability to pay and

the ability to fund for long-term parts blocks behind that is a difficult task. I am not suggesting that we should alter the rules or change the rules, but I think we need to be very flexible when we deal with some of these poor countries and make sure we understand their absorptive capability so that what we are selling them they not only can use them in the first few years, but there will be a parts block behind that, if you will. There will be an institution, a logistical infrastructure behind that, that will allow them to keep these pieces of equipment, whether they be vehicles or maybe C-130 airplanes, keep them in good shape for years ahead and years to come.

Senator TILLIS. Thank you.

On another subject—and it relates to foreign military aid. General Votel, when you were in my office, we were talking about Afghanistan. When I was there the year before last, at the time there was a concern that there was going to be a drop-off in foreign investment and the tools that Afghanistan needed for its economic development, which is a key part of stabilizing the country—what is the current situation there?

General VOTEL. I think the situation looks good, both from a NATO [North Atlantic Treaty Organization] standpoint and from a much broader international standpoint. The donation conferences and other things that have been convened here over the last year—

Senator TILLIS. Are we building a reliable stream, or is there another cliff that we have to be concerned with?

General VOTEL. I think we are building a reliable stream out to the 2020 time frame and in some cases beyond that. I think the international community has stepped up to the plate in this particular area.

Senator TILLIS. Thank you.

General Waldhauser, when General Votel and the people that we have assisting countries in CENTCOM are successful in Mosul and Raqqa, it seems to me the good news is maybe we are getting some level of success there. But I have got to believe that that is going to potentially cause some additional challenges for you. Can you talk about the ones that you are specifically concerned with?

General WALDHAUSER. Senator, anytime you put pressure on the network and disrupt or dislodge ISIL from a certain area, movement will occur. That means the border countries toward that took place are very concerned about foreign fighters moving back and forth. That is one of the big concerns that we have. One of the issues that we have to deal with when we conduct operations, it is important that the neighbors of those countries know what we are trying to do and understand why we are trying to do that so we can help them with the foreign fighter flow if movement should occur.

Senator TILLIS. Thank you, Mr. Chair.

Chairman MCCAIN. Senator Kaine?

Senator KAINE. Thank you, Mr. Chair.

Thanks to the witnesses.

The Marine Corps doctrinal publication entitled “Strategy” has this phrase in it. What matters ultimately in war is strategic success, attainment of our political aims, and the protection of our na-

tional interests. History shows that national leaders, both political and military, have failed to understand this relationship, sow the seeds for ultimate failure, even when their armed forces achieve initial battlefield success. Battlefield brilliance seldom rescues a bad strategy.

I have been heartened by the American military's performance on the battlefield. Very heartened with our partners against ISIL in Iraq and now Syria. Although we would not want to predict anything about timing, I think that we are going to continue to have battlefield success.

What is our political strategy, say, following the fall of Raqqa that would lead us to have a belief that there is going to be a better next chapter to follow in Syria especially?

General VOTEL. Senator, I am not sure I can comment on what the political strategy is. I do believe this is a key aspect of what Secretary Mattis and the administration are discussing right now with respect to what this looks like long-term.

Senator KAINE. General Votel, I think that is a good answer. You are not commenting because the political strategy is really for the political leadership not the military leadership. The administration and Congress. You understand that Congress has a role in this as well, not just the administration.

General VOTEL. I do, Senator.

Senator KAINE. We are pursuing a war now based on an authorization that was passed in September of 2001. It is now nearly 16 years old. Do you think it would be helpful in terms of articulating a political strategy that would put the military mission into a context and to find an end result and a potential desired future state if Congress were to grapple with the question of the authorities and this desired end political strategy?

General VOTEL. Senator, I think the current AUMF [Authorization for Use of Military Force] has provided what we needed, but I do believe an updated authorization certainly would send a stronger commitment to uniformed military of our commitment and desire to support them.

Senator KAINE. In the CENTCOM space, if the military mission succeeds and Raqqa were to fall, do you still believe that the American mission against ISIL and al Qaeda will take a long time?

General VOTEL. I do. This is a very savvy enemy, and they are adapting. Like we are adapting on the battlefield, they are adapting on the battlefield.

Senator KAINE. Just like the ISIL attack——

General VOTEL. Right.

Senator KAINE.—in Afghanistan dressed as doctors attacking the hospital. This is a threat that is not going to go away just because Raqqa were to fall. Correct?

General VOTEL. That is right. They will begin to adopt other forms, and we will need to be persistent against that and we will need to work with our partners to address that in both Iraq and Syria.

Senator KAINE. Well, my colleagues know because I have said it a lot and others view it the same way, that this question of authorities—I do think it is past time for Congress to address it. Whether you think the 9–14–01 AUMF legally covers the battle

against ISIL or not, I think there are prudent reasons at a minimum and I think legal reasons as well that we should tackle it.

On the question of legal authorities, traditionally you need two kinds of legal authorities to be engaged in a military mission. You need a domestic legal authority and you need an international legal justification as well. The most common international legal justification for military action in somebody else's territory is that they invited you. We are conducting military actions in Iraq with the request and support of the Iraqi Government. We are conducting military operations in Afghanistan with the support and request of the Afghan Government. We just conducted a DOD ground operation for the first time in Yemen with the request and support of the Yemeni Government.

Are we deploying marines in Syria at the request or with the permission of the Syrian Government?

General VOTEL. We are not, Senator.

Senator KAINE. What is the international legal justification for the U.S. taking military action in another country without the request of that country? We have criticized nations such as Russia, for example, for undertaking military actions in the Ukraine or Crimea without the request of the government.

General VOTEL. Thank you, Senator. I think we certainly make a judgment about the ability of the government to make a decision. In that case I think what we are doing in Syria, we are looking at that as an extension of the authority to operate from Iraq.

Senator KAINE. Iraq has had us in and we are cooperating with Iraq. We are there in Iraq at their request. But I guess the bottom line is there is no such request from Syria. We do not judge that government capable of making such a request, and we do not really recognize the legitimacy of Bashar al Assad's government. But you are saying that the international legal justification for American military action in a country that has not asked us is the fact that we are engaged in a military action in a country next door that has asked us?

General VOTEL. I believe we are being extended that authority by our leadership to conduct those operations principally because we are operating against an enemy that operates on both sides of that border.

Senator KAINE. If I might, one last question with respect to Yemen. We have had hearings in this committee about the ground operation in Yemen, which to my knowledge was the first ground operation by DOD forces in Yemen. There were a number of questions raised by that. I do not want to go into the classified briefing we had, but questions about was the mission compromised in some way in the advance. What intel was gained? There was some after-the-fact justification of the mission using video that actually had been taken in another mission. Is the DOD conducting an ongoing investigation of that mission to determine all lessons learned, what worked, what did not, and what we can do better?

General VOTEL. Senator, thank you, and let me answer this a little more comprehensively.

First and foremost, I am responsible for this mission. I am the CENTCOM Commander and I am responsible for what is done in my region and what is not done in my region. I accept the responsi-

bility for this. We lost a lot on this operation. We lost a valued operator. We had people wounded. We caused civilian casualties. We lost an expensive aircraft.

We did gain some valuable information that will be helpful for us. Our intention here was to improve our knowledge against this threat, a threat that poses a direct threat to us here in the Homeland. That was what we were focused on.

There have been a number of investigations that have been initiated. Most of these are regulatory or statutory in terms of things that we normally do.

When we lose an aircraft, there is both a safety investigation to ensure that we disseminate lessons learned for the broader fleet, and there is also a collateral investigation that tries to determine the specific reason why that happened and establishes accountability over that.

We have done an investigation into the civilian casualties. That has been completed. The helicopter investigations are ongoing. The civilian casualty aspect has been completed, and we have made a determination based on our best information available that we did cause casualties, somewhere between 4 and 12 casualties that we accept—I accept responsibility for.

We have done a line of duty investigation, again a statutory investigation, on the death of Senior Chief Owens that determined that he was in the line of investigation.

The key mechanism that I have, Senator, is the after-action review, and this is something we do with every operation we do. The intention here is to review the operation in great detail to understand exactly what happened. It is done with the chain of command in place. We have done that and I have presided over that. Based on my experience, nearly 37 years of service, I have certainly appointed a lot of investigations and I have been through a lot of these after-action reviews. When I go through these things, there are some specific things that I am looking for. I am looking for information gaps where we cannot explain what happened in a particular situation or we have conflicting information between members of the organization. I am looking for indicators of incompetence or poor decision-making or bad judgment throughout all of this.

What I can tell you is that we did an exhaustive after-action review on this. I presided over that. It went down to a level that included people who were on the specific objective. As a result of that, I was satisfied that none of those indicators that I identified to you were present. I think we had a good understanding of exactly what happened on this objective, and we have been able to pull lessons learned out of that that we will apply in future operations. As a result, I made the determination that there was no need for an additional investigation into this particular operation.

Senator KAINE. The only investigation that continues is the investigation—or the loss of the helicopters is still not complete.

General VOTEL. That is correct, Senator.

Senator KAINE. Thank you.

Thank you, Mr. Chair.

Chairman MCCAIN. Just to follow up, General, there has been a lot of conversation about this particular mission and the point that

some of us are trying to make that the heroism and sacrifice of those who served has nothing to do with the mission itself. In other words, we honor their sacrifice no matter what happened in the mission.

When you have women and children killed, as you pointed out, the loss of a \$70 million aircraft, you did not capture anyone as was part of the mission, that mission is not a success. But that happens in war. There is a thing called the fog of war. They did the best they could under very difficult circumstances. I hope in the process of your investigation, when heavy fire was encountered why the decision was made to continue the mission—I still do not think this committee has an answer to that question. But it does not question the loyalty and sacrifice and bravery when we question the mission.

Unless we tell the American people the truth, the absolute truth, then we are going to revisit another war a long time ago where we did tell the American people the truth and we paid a very heavy price for it. There are 55,000 names engraved in black granite not far from here, and the American people were not told the truth about whether we were succeeding or failing in that war. Then because of that, it all collapsed. I hope that we will not forget that lesson, and in no way does it detract from the heroism and professionalism and sacrifice of the brave men and women who serve under your command.

Senator McCaskill?

Senator MCCASKILL. Thank you, Mr. Chairman. I just want to underline the comments you just made, and I do think it is important that we get answers to the questions about what happened at that moment in very difficult circumstances, admittedly, that heavy fire occurred and the decision was made to continue. I am also anxious to have the questions answered about the real value of the intelligence that was gathered. I think there have been some mixed signals about the value of the intelligence that was gathered.

I want to talk to you today. I have spent an awful lot of time working on contracting in contingencies. I remember my very first trip to Iraq included a stop in Kuwait to look at contracting. I had an encounter with a general there that I will never forget. I will always admire him for being so honest with me because I was pointing out all of these massive problems with contracting, especially Log Cap 1, Log Cap 2 and all of those associated contracts. He looked at me and he said, Senator, I wanted three kinds of ice cream in the mess yesterday, and I do not care how much it costs.

Now, while I admired him for his honesty, it kind of underscored for me that contracting oversight was not a core capability many times within commands within contingencies. If it were, we would not have this long trail of mistakes made going all the way back to Kosovo on contracting.

I was upset yesterday when I saw the DOD IG [Inspector General] report coming out of Kuwait where they said that ineffective monitoring of contractor performance for the Kuwait base operations—a particular concern that the contracting officer representatives, which we have worked very hard—I mean, at the point in time I was over there, it was the worst guy in the unit got handed the clipboard, had no idea what he was supposed to do in terms

of contracting oversight and did not do much. We have done a lot of work on this, training, and making sure people understand and with the standing up the Contracting Command.

The fact that there is no consistent surveillance of these contracts in Kuwait, no assurance that the contract requirements have been met, and the entire \$13 million performance bonus was paid even though it is not clear that it was earned, and maybe most worrisome, this environmental and health hazard that has been allowed to languish. It is fairly clear from reading this report that a stagnant wastewater lagoon went unresolved, that it was probably never constructed correctly, and it is really impacting the health and safety of some of our men and women that are stationed there.

I need you to reassure me that we have not taken our eye off the importance of contracting oversight. This is not just you. This is also the ACC [Army Contracting Command] and the 408th Contracting Support Brigade.

General VOTEL. Thank you, Senator.

I absolutely agree with you, and I recognize my responsibility as the CENTCOM Commander and as a senior leader in the Department of Defense to ensure that the expenditure of our national treasure and our resources is done in an effective and efficient manner. I look forward to an opportunity to talk with you specifically about this situation in Kuwait.

Senator MCCASKILL. I would like that very much, and we will look forward to hearing from you directly. The thing that was the most frustrating about the contracting through much of the Iraq conflict before we did the contracting reforms that the Wartime Contracting Commission set out—and we codified all of those, most of them in this committee—the amount of money that was wasted was astounding. We just cannot afford it. We just cannot afford it.

Let me briefly, in the time I have remaining—I know that they have covered Russia as it relates to what has been going on in Afghanistan. I am not sure that it has been touched on, what is going on in Nigeria, and would love you to speak to that, General Waldhauser, about the fact that we refused to sell them the Cobra attack helicopters because of the history of human rights problems. Undeterred by that history, of course, Russia stepped up and now sold them attack helicopters. They are now training the Nigerian military, including the special forces, instead of the United States.

Could you give us any assessment of the impact of that, that Russia has stepped in where our better judgment said it was not a good idea and is now taking on that primary role with the Nigerian special forces?

General WALDHAUSER. Senator, not only Nigeria but other countries on the continent. If there are easier ways to get to military sales, if countries come in, China, Russia, North Korea, for example—if they come in and do not have a lot of strings attached, then sometimes it is easier for those countries to purchase weapon systems from others than the U.S.

We try to accommodate certain financial situations. I know the DSCA people that work for OSD try hard to accommodate that. When you look closely at the absorption capabilities of these countries—but again in many occasions, human rights is not an issue

when it comes to weapon sales from countries other than the United States.

Senator McCASKILL. Well, I think it is something we need to worry about because it is, obviously, a powerful way to spread the influence and power of Russia. I think we all, no matter what our party is, have figured out in the last 6 months that this is a real threat to our country and to our national security.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Graham?

Senator GRAHAM. Thank you, Mr. Chairman.

I think you have been asked about soft power and the need for it. Both of you said it is an important tool in the toolbox to win the war. Is that correct?

General VOTEL. That is correct, Senator.

General WALDHAUSER. Yes, Senator. Yes.

Senator GRAHAM. You are warfighters extraordinaire. I appreciate you putting a plug in for soft power. Let me dig in with it. Can you win the war without it?

General WALDHAUSER. I do not believe you can, Senator. Everything comes from security. Once you have a secure environment, development needs to take place, and that is where soft power kicks in.

General VOTEL. I agree with, General Waldhauser.

Senator GRAHAM. Really, this war is about a glorious death being offered by the terrorists and a hopeful life by the rest of the world. Is that a pretty good description of what we are trying to do is offer a hopeful life to compete with a glorious death?

General VOTEL. I think in very general terms, I think it is about that. It is about offering alternatives to people to the situations that they find themselves in.

Senator GRAHAM. The good news is that most people over there do not want what ISIL is selling. There is not a big demand for that product. Is that a fair statement?

General WALDHAUSER. Certainly on the African continent that is true, very true.

General VOTEL. I would agree with that, Senator.

Senator GRAHAM. Very few fathers and mothers want to turn their daughters over to ISIL if they do not have to. Is that a fair statement?

General VOTEL. It is, Senator.

General WALDHAUSER. Yes, Senator, it is fair.

Senator GRAHAM. Is it a fair statement we are not going to win this war without partners in the faith? The only way you can win this war is to have fellow Muslims fighting with us against ISIL.

General VOTEL. It is my view that we have to have local forces engaged in this.

General WALDHAUSER. That is what by, with, and through is all about, Senator.

Senator GRAHAM. Is it fair to say that most people in the faith reject this hateful ideology?

General VOTEL. That is true, Senator.

General WALDHAUSER. I agree.

Senator GRAHAM. I want the committee to understand that any budget we pass that guts the State Department's budget, you will never win this war. As a matter of fact, ISIL will be celebrating.

What is Russia trying to do in Libya, General Waldhauser?

General WALDHAUSER. Senator, Russia is trying to exert influence on the ultimate decision of who becomes and what entity becomes in charge of the government inside Libya. They are working to influence that decision.

Senator GRAHAM. They are trying to do in Libya what they have been doing in Syria?

General WALDHAUSER. Yes. That is a good way to characterize it.

Senator GRAHAM. It is not in our national interest to let that happen. Is it?

General WALDHAUSER. It is not.

Senator GRAHAM. The political situation in Libya is pretty fractured?

General WALDHAUSER. It is very fractured, Senator.

Senator GRAHAM. The commander of their military is at odds with the political leader supported by the U.N. Is that fair?

General WALDHAUSER. That is fair, yes.

Senator GRAHAM. If we do not fix that, it is going to be tough moving forward?

General WALDHAUSER. We have got to get the entities, specifically Haftar and the government of national accord, together to make an accommodation in order to get any government moving forward.

Senator GRAHAM. Would you say that Secretary Tillerson is very important in this regard?

General WALDHAUSER. Very important, Senator.

Senator GRAHAM. We need to put that on his radar screen.

General WALDHAUSER. Yes, we do.

Senator GRAHAM. Syria. The Kurds that we are training, General Votel, are they mostly in line with the YPG [Popular Protection Units]? Are they YPG Kurds?

General VOTEL. They are, Senator.

Senator GRAHAM. Is it fair to say that in the eyes of the Turks, the YPG Kurds are not much better, if any better, than the PKK [Kurdistan Workers' Party]?

General VOTEL. Senator, that is the view of the Turks.

Senator GRAHAM. Is it fair to say that the YPG Kurds have sort of a communist/Marxist view of governing? That is what their manifesto says anyway.

General VOTEL. Senator, I think it is fair to say that there is some affinity back towards that.

Senator GRAHAM. Is it fair to say that we have got to be careful about over-utilizing the YPG Kurds? Not only will it create problems for Turkey, other Kurds in the region do not buy into their agenda also.

General VOTEL. I think it is important. That is why as we look to a place like Raqqa, we are attempting to do that with majority Arab forces.

Senator GRAHAM. Is it fair to say that how we take Raqqa can determine the outcome of Geneva in terms of a political settlement?

General VOTEL. It is certainly a key operation. We will support that.

Senator GRAHAM. Is it fair to say that the balance of power on the ground in terms of Assad's regime that he is in a good spot?

General VOTEL. He is in a better position than he was a year ago.

Senator GRAHAM. That the opposition has basically melted away because Russia, Iran, and Assad have gone after them full throated.

General VOTEL. The support that has been provided by Russia and Iran has certainly enabled the regime.

Senator GRAHAM. Is it fair to say that most Syrians want two things: to get rid of ISIL but also to get rid of Assad because he slaughtered their families?

General VOTEL. The Syrians that I have talked to I think would agree with that.

Senator GRAHAM. Is it fair to say it is in our national security interests for Damascus not to be handed over to Assad, a proxy for Iran, in any final settlement, that you cannot have Iran dominating Damascus?

General VOTEL. Senator, I think that is certainly a decision for our political leadership to make, but I think there is a strong consensus.

Senator GRAHAM. Final thought. How we take Raqqa will determine if we can get a political settlement in Geneva if we do not change the balance of military power on the ground, go outside of this Kurdish construct, reassure the Arabs that we are a better partner than we have been in the past, we are going to give Damascus to the Iranians, if we help those Syrian Arabs who want to fight and take their country back from Assad and his brutal dictatorship, I think we can change the balance of power on the ground and get a better deal in Geneva. If the Trump administration is listening, how you take Raqqa will determine how successful we are in neutralizing Iranian influence and Russian influence.

Mr. Chairman, you have been terrific on this issue. I want to thank you for your leadership.

Chairman MCCAIN. I thank you.

I thank you, Generals, for your appearance here this morning. It has been very helpful to the committee and to

the United States Senate. I know it is not your favorite pastime, but I think it is very important that we hear directly from you. Thank you for your leadership, and we do want you to be assured that we will do everything we can to support you as we go through what is a very complicated and difficult challenge.

Senator REED?

Senator REED. I simply want to thank you, gentlemen, for your service and for your testimony today. Please relay our thanks to the men and women who serve so well with you. Thank you very much.

Chairman MCCAIN. This hearing is adjourned.

[Whereupon, at 11:40 a.m., the committee adjourned.]

QUESTIONS SUBMITTED BY SENATOR DAVID PERDUE

AVOIDING PAST MISTAKES IN IRAQ

1. Senator PERDUE. General Votel, I am concerned that we have not been setting conditions to make sure our grand gains against ISIS will hold and prevent al Qaeda in Iraq and Syria (AQAP) or other jihadists from backilling after the campaigns for Mosul and Raqqa are completed. How do we prevent this scenario going forward to ensure we do not repeat the mistakes of our force withdrawal from Iraq?

General VOTEL. Our Coalition forces are employing the military instrument of power to defeat ISIS militarily in Iraq and Syria. It is important to note that the successful defeat of ISIS in Raqqa and Mosul does not mark the military defeat of ISIS; there remains more work to be done in Iraq and Syria to militarily defeat ISIS. That said, it is important to recall that the Coalition Military Campaign Plan to defeat ISIS is one part of the broader “whole-of-government” effort that is required to achieve a sustained defeat of the enemy. An inter-agency and inter-ministerial approach is required to address political, diplomatic and other underlying issues that Iraq and Syria will continue to face after the military defeat of ISIS. By defeating ISIS militarily, we set the conditions that will allow other agencies and ministries to take the necessary actions to achieve improved social, governance, and economic advancements in both countries.

2. Senator PERDUE. General Votel, in the counter-ISIS fight in Iraq and Syria, how should our plans take into account the political end-state for Iraq and Syria?

General VOTEL. As we seek to defeat ISIS in Iraq and Syria, it is vital that we coordinate closely with our Interagency partners and particularly the Department of State, as well as with our Coalition partners to ensure that our military efforts to defeat ISIS contribute toward the achievement of broader political endstates in Iraq and Syria and enduring improved stability and security in the region. Our military actions help set the conditions for broader political and diplomatic efforts. In Iraq, for example, we actively work with our Embassy to ensure the mix of Iraqi forces engaged in the counter-ISIS fight will not complicate post-Defeat governance issues. In Syria, our forces have worked with both our Syrian Democratic Forces partners and our NATO ally Turkey to mitigate tensions and set the stage for locally-rooted governance structures in the aftermath of liberating territory previously seized by ISIS. In Iraq, we are also actively discussing our longer-term security engagement with the Government of Iraq, which can help ensure the lasting security Iraq needs to establish greater political and economic stability. Longer-term political objectives in Syria are more complicated, but we will ensure close alignment of our military and diplomatic efforts as we move ahead in the counter-ISIS campaign.

CAMPAIGN AGAINST ISIS AND ITS IMPACT ON SYRIA

3. Senator PERDUE. General Votel, I understand that your efforts are directed at defeating ISIS in Iraq and Syria. If ISIS is defeated how does that affect the Assad Regime, and what will be the impact on the civil war in Syria?

General VOTEL. The military defeat of ISIS will not, in and of itself, resolve the civil war in Syria. Our mission is the defeat of ISIS because it poses the greatest threat to U.S. national interests. The defeat of ISIS will serve to remove one threat from what is a crowded battlespace in Syria where a number of different elements are fighting one another. While we cannot presume that all of the same players will shift their focus and continue to fight in some capacity after ISIS is defeated, the removal of this threat may serve to increase pressure on the Assad Regime.

4. Senator PERDUE. General Votel, a post-conflict Syria with the murderous Assad regime at the helm will only serve to fuel extremism and instability in the region. What is the desired end-state in Iraq and Syria and how do we achieve that?

General VOTEL. CENTCOM has been directed to militarily defeat ISIS in Iraq and Syria. We continue to work by, with and through our partners on the ground to ensure a lasting defeat of this enemy. Ultimately, we would like to see increased stability and security in both countries, borders that are respected by all parties, and inclusive governance in place that is characterized by the rule of law. To achieve this will require a “whole-of-government” effort led by the people in the region. We cannot do it for them.

INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE (ISR) NEEDS FOR CENTCOM AND AFRICOM

5. Senator PERDUE. General Votel and General Waldhauser, last year, I wrote both your commands to inquire about the importance of the Joint Surveillance Tar-

get Attack Radar System (JSTARS) platform to operations in your areas of responsibility. You both indicated that JSTARS was important to accomplishing your mission objectives. In your estimation, what percentage of ISR requirements are being met in your areas of responsibility with the current resources at your disposal, including the JSTARS fleet?

General VOTEL. [Deleted.]

General WALDHAUSER. USAFRICOM currently receives approximately 1 percent of its fiscal year 2017 Ground Moving Target Indicator (GMTI) requirement. When JSTARS deployed in support of Operation ODYSSEY LIGHTNING, the additive collection sourced an additional 6 percent of AFRICOM's GMTI requirement. More importantly, JSTARS provided key refinement of collection areas, allowed new target discovery, and enabled multiple, simultaneous cross-cue events with other collection platforms, directly supporting the liberation of Surt, Libya from Islamic State in Iraq and al-Shams in Libya (ISIS-L).

6. Senator PERDUE. General Votel and General Waldhauser, despite your responses on the importance of JSTARS to your ISR capabilities, the JSTARS fleet is in need of recapitalization, and that recap is already behind schedule. As currently planned, there will be at least one year without any JSTARS online and a decade of decreased fleet size and readiness. What would a potential gap in the availability of the JSTARS fleet mean for you and your combatant commands' ISR requirements?

General VOTEL. [Deleted.]

General WALDHAUSER. AFRICOM's current ISR allocation is limited in number, and is an economy of force fleet, where each new crisis requires trading priority of effort against ongoing counter-VEO activities. Adding in the tyranny of distance inherent to the continent of Africa, any additional allocated asset that can synchronize capabilities, economize time and resources, and maximize operational flexibility of AFRICOM's current ISR footprint is an exponential enabler. JSTARS is that type of platform, providing that capacity. With the wide area search capability and vast sensor array of JSTARS, it enables AFRICOM to maximize our other ISR platform capabilities that have inherently smaller collection area footprints, reduces required collection times for other already overtasked assets, and increases correlation and accuracy of actionable intelligence.

ROOT CAUSES OF INSTABILITY

7. Senator PERDUE. General Votel, in your written testimony you state that, "While we must take the necessary actions to counter immediate threats, such as ISIS in Iraq and Syria, we also need to find ways to address these and other root causes of instability if we hope to achieve lasting positive effects in that part of the world. This cannot be accomplished solely through military means." Can you expand upon that, and discuss what non-military means you have in mind for complementing our military efforts to address threats emerging from your area of responsibility?

General VOTEL. Our non-military means must fully integrate our interagency capabilities. To address the root causes of the instability, our primary goal must be to promote good governance and stability. Our interagency efforts could include: disrupting terrorist finances by working to enhance our partner nations' finance and money laundering laws; encouraging our allies to establish strict border security initiatives and synchronizing foreign fighter and facilitator lists; deny terrorist freedom of movement by standardizing visa security programs and initiatives for better maritime container security; and enhance and reinforce the rule of law through expanded international law enforcement cooperation including the introduction of biometric equipment/training, expanded cooperation on drug enforcement, and expanded extradition authorities.

8. Senator PERDUE. General Waldhauser, what do you see as the role of non-military means to combat root causes of instability in Africa?

General WALDHAUSER. Non-military solutions are necessary, if not always sufficient, to combat the root causes of instability in Africa. Instability can be caused by numerous factors, including demographic, social, economic, and environmental challenges that are further exacerbated by poor governance. Crises, including insecurity caused by violent extremism, further complicates already volatile circumstances. The extent to which African governments are able to meet the expectations of their citizens is key to enhancing stability. At United States Africa Command, we recognize that the development of institutions, both military and civilian, capable of responding to near-term crises while concurrently overcoming long-term

challenges, is a key starting point to building stability. This is fundamentally a non-military task for which the Department of State, the U.S. Agency for International Development, and other civilian agencies, have the lead. As our Theater Campaign Plan says, United States Africa Command operations are intended to create the time and space for institution-building to occur. Our decisive efforts are building African partner capacity and strengthening partnerships. While these efforts are directed to building military capacity, we understand that this can only be effective if civilian institutions are improving at the same time. We therefore seek to work with colleagues from the Department of State and U.S. Agency for International Development to ensure that our efforts are well coordinated and working towards similar end states. More directly, United States Africa Command relies on Embassies to provide administrative support for housing, transportation, and assistance in visa issuance. These activities ensure host nation political actors understand and support United States Africa Command efforts, and they fulfill congressional requirements, including Leahy vetting.

9. Senator PERDUE. General Votel, can you talk about how the “gray zone” of warfare that you described (where adversaries employ unconventional methods that include cyber warfare, propaganda, and support to proxy elements in an effort to achieve their objectives while minimizing the scope and scale of actual fighting) necessitates a whole-of-government approach?

General VOTEL. The “gray zone” of military confrontation represents the range of activities short of conventional conflict; a dangerous space in which miscalculation can easily occur, leading to escalatory conflict and misunderstanding. In the “gray zone” adversaries employ unconventional methods that include cyber warfare, propaganda, and support to proxy elements in an effort to achieve their objectives while minimizing the scope and scale of actual fighting. At the same time, these unconventional methods increase tensions between partners emphasizing competing priorities that detract from support for our common objectives. To be successful in this ambiguous environment, we must find alternate ways to compete against our adversaries short of conflict, while collaborating with our partners to achieve our desired end-states. This requires synchronized diplomatic, economic, intelligence, information, and law enforcement engagement at the national level to maximize the effects of a limited military engagement and to reduce the strategic risk.

SYRIA SAFE ZONES

10. Senator PERDUE. General Votel, earlier this year, President Trump said that he would, “absolutely do safe zones in Syria” to stem the flow of refugees into other countries. What impact would the establishment of safe zones in Syria have on the counter-ISIS fight and the destabilizing refugee crisis?

General VOTEL. Safe zones require enforcement; if we are going to implement a safe zone, we will need to clearly determine what it is we are trying to accomplish with the establishment of the safe zone and dedicate sufficient resources to enforce the zone. If the U.S. military is the enforcement mechanism, it would expand our current mission from defeating ISIS to countering any actor(s) that poses a threat to protected elements within the safe zone. Given the complexity of the current security environment in Syria, that may include other extremist organizations, Syrian Regime elements, Russian forces, or other Syrian opposition elements. Effective protection of a safe zone requires significant air and ground assets as well as the requisite command and control. The need for additional capabilities would necessitate pulling resources away from the counter-ISIS fight and other operations and thus would potentially negatively impact the C-ISIS Campaign.

VIRTUAL CALIPHATE

11. Senator PERDUE. General Votel, in your written remarks, you stated concern over the “virtual caliphate” that is emerging from terror groups’ ready access to internet platforms to spread their messages of terrorism and hate. You also stated that, “Countering this virtual caliphate will require a concerted ‘whole-of-government’ effort led by the people of the region.” Can you describe what you think this approach would or should look like?

General VOTEL. Ready access to the Internet, social media, and other messaging platforms has enabled a new generation of radicalized Islamists to spread their extremist views, incite widespread violence, and recruit new followers to their cause. Countering this “virtual caliphate” will require a concerted ‘whole-of-government’ effort led by the people of the region. We can support our partners’ activities, but their voices and influence will be required to achieve enduring positive results. By promoting the voices of moderates in the region and helping our regional partners

to increase opportunities available to their citizens, particularly young, educated and unemployed or under-employed individuals, we will help to provide an alternative to counter violent extremists. The U.S. should also assist and encourage efforts such as the Islamic Coalition, a group of 34 predominately Muslim nations formed to fight the “disease” of Islamic extremism. Partnerships such as this are invaluable to developing effective means to protect young people from radicalization and to spread positive alternative narratives to ISIS’s malevolent story.

12. Senator PERDUE. General Votel, what can we do to support this endeavor?

General VOTEL. Across the U.S. Government, we have made significant progress to counter social media messaging due in part to Congressional support for programs such as WebOps. Continued Congressional authorities and resourcing are imperative to enhance interagency efforts; specifically, the Combatant Command Information Operations and the Department of State Global Engagement Center capabilities.

IRANIAN INFLUENCE IN AFRICA

13. Senator PERDUE. General Waldhauser, I’ve seen concerning open source reports regarding growing Iranian influence and popularity among Nigeria’s Muslim population. Our allies, the Saudis, are reportedly alarmed regarding the development of Iran’s growing foothold in Africa. Could you comment on Iran’s influence in Africa?

General WALDHAUSER. Overall, Iran’s efforts on the continent are minimal. Iran maintains embassies and cultural centers throughout Africa, and has been reaching out predominantly to the Shiite Muslim populations in Africa. Further, they claim Sunni Arabs treat Sunni Africans poorly and cite this as a reason for their continent-wide Islamic education effort. Some of their engagements appear to be aimed at improving Iran’s image within Africa, and they leverage Joint Comprehensive Plan of Action (JCPOA) to promote more open political and economic engagement and, possibly, to reduce Tehran’s reputation as a foreign sponsor of terrorism.

14. Senator PERDUE. General Waldhauser, is Iran’s growing influence in Africa of concern to you?

General WALDHAUSER. Iran’s efforts on the continent have trended more toward diplomatic and economic engagements. Saudi- and UAE-led financial contributions in African countries have targeted these engagements, and this to some degree is part of the Iran-Saudi (Shia-Sunni) rivalry. After the Shiite cleric execution in Saudi Arabia, a diplomatic row ensued and several African countries severed ties with Iran, opting for increased ties with Sunni states.

15. Senator PERDUE. General Waldhauser, do you think Iran has any intention of being a force for good in Nigeria?

General WALDHAUSER. At this time, Iran probably wants to continue to provide ideological support and diplomatic protection to Nigeria-borne Shiite. Iran has rejected some Nigerian elite’s labeling of the Islamic Movement of Nigeria (IMN)—the predominant Shiite group in Nigeria—as a violent extremist organization and has expressed concern over IMN’s treatment. Iran will likely continue to support Shia communities in Africa.

MAGTF/MARINES IN MORON, SPAIN

16. Senator PERDUE. General Waldhauser, last April I had the pleasure of visiting with the Special MAGTF that is based in Moron, Spain. These Marines are truly at the tip of the spear, especially as it relates to crisis operations and embassy emergency response in Africa. However, Marines are truly at the tip of the spear, especially as it relates to crisis operations and embassy emergency response in Africa. Can you speak to how this reduction impacts your ability to fulfill the mission?

General WALDHAUSER. The January 2017 reduction of the SPMAGTF aviation assets by 50 percent has the potential to impact AFRICOM’s ability to respond to multiple crisis events. The reduction included reducing twelve MV-22s to six, and four KC-130s to three. Further, the SPMAGTF must still fulfill two simultaneous roles: Operation New Normal response, and Personnel Recovery and CASEVAC response. This is not ideal, as combined alert and flight times will be over two-times greater than our current response time from notification to being overhead Misrata, Libya, from Moron, Spain. This makes EUCOM basing in Sicily and Souda Bay absolutely crucial as a way to reduce these response times.

17. Senator PERDUE. General Waldhauser, how has the reduction in aircraft impacted your ability to conduct training and exercises to do capacity building with African forces?

General WALDHAUSER. The 50 percent reduction in the SPMAGTF aviation element limits AFRICOM's ability to incorporate this force into joint exercises that are designed to sustain readiness of our rotational forces and build African partner capability. A full complement of aircraft would permit their participation in additional exercises to improve partner capacity while also providing enough force structure to respond to a crisis.

18. Senator PERDUE. General Waldhauser, what are some of the top successes of this MAGTF that you'd like to highlight?

General WALDHAUSER. Before their 50 percent reduction direct support aviation assets in January 17, the SPMAGTF had the capacity to operate from two separate and independent locations for an extended period in support of three named operations for AFRICOM. While forward deployed to Camp Lemonnier, Djibouti during the unrest in Juba, South Sudan they were postured to provide faster response if tasked to increase protection of the United States Embassy. In addition to crisis response, SPMAGTF-CR-AF conducted 18 theater security cooperation missions in Uganda, Gabon, Cameroon, Ghana, Senegal, Togo, Benin, and Tunisia. The SPMAGTF also participated in 11 exercises and bilateral engagements with partner nations in the USAFRICOM and USEUCOM area of responsibility. They conducted six site surveys to support our embassies with validation, planning, and assessment of their Emergency Action Plans, thereby providing Department of State with an awareness on how DOD can support in operation New Normal reinforcement or evacuation.

19. Senator PERDUE. General Waldhauser, can you speak more broadly to the resourcing issue for AFRICOM—are you getting the resources you need to meet your requirements?

General WALDHAUSER. The vast distances associated with the African continent combined with the remote distribution of our forces and diplomatic outposts makes resourcing for crisis response and Personnel Recovery a challenge. While resources across the continent are limited, the safety of our forces are a primary concern, and Personnel Recovery will continue as AFRICOM's top priority. We have agreements in place for mutual support with several partner nations, and the AFRICOM component forces are well integrated to support our requirements as best as possible to include those of interagency and international partners. In East Africa, we are currently sourced at 50 percent for Personnel Recovery Task Forces (PRTFs). A second PRTF is validated by the SECDEF as a requirement but is unsourced. With a second PRTF, AFRICOM could adequately cover the personnel who are operating outside the directed 6-hour response requirement. Risk is mitigated in North Africa by relying on the SPMAGTF as a multi-purpose solution; however, the aviation element of the SPMAGTF was reduced by half for fiscal year 2017, limiting its response to a single crisis or operation such as either supporting New Normal crisis response or Personnel Recovery for Libya. In West Africa, where we have no prepositioned Response Forces, AFRICOM mitigates risk through commercial Search and Rescue and casualty evacuation (CASEVAC) contract assets. As operations continue to expand, AFRICOM will likely require additional contracts at approximately \$45 million per year.

KENYA, SOMALIA, AND COUNTER-AL-SHABAAB EFFORTS

20. Senator PERDUE. General Waldhauser, last week, the *Military Times* reported that the DOD sent recommendations to the White House to increase assistance to the Somali National Army in their fight against al-Shabaab militants. Reports indicate that this would include giving U.S. special operations forces greater ability to accompany local troops on military operations against al-Shabaab and easing restrictions on when the U.S. can conduct airstrikes against the group. Could you discuss the current support we are giving to the Somali National Army and African Union forces?

General WALDHAUSER. Currently in Somalia, our efforts center on enhancing the Somalia National Army and supporting the African Union Mission in Somalia (AMISOM). We are providing Advise/Assist/Accompany teams to facilitate the development of the Somalia National Army, as well as providing security force assistance, by way of equipment and training, with a focus on logistics, sustainment operations, medical capabilities, and institution building. Additionally, Somalia is receiving training and equipment from the United Kingdom, United Arab Emirates, Turkey,

United Nations, and European Union, of which AFRICOM is linked. The role of the United Nations Special Representative of the Secretary General for Somalia and the emergence of the Security Six (S6) group of international donors (U.S., UK, Turkey, UAE, EU, and UN) has led to a more cohesive international support structure. With regards to African Union forces, or AMISOM, we are enhancing their capabilities in Somalia with training in preparation for their deployment, non-lethal equipment for the mission, maintenance training on that equipment, as well as mission-specific equipment and training that address medical needs, counter improvised explosive devices, force protection, and information gathering. USAFRICOM efforts focus on facilitating AMISOM's mission success while not duplicating efforts of the other contributing entities.

21. Senator PERDUE. General Waldhauser, where does this fall in your priority list for the continent?

General WALDHAUSER. Enabling the Somali National Security Forces to neutralize al-Shabaab and assume responsibility for securing Somalia is one of my top priorities. Additional authorities that allow AFRICOM, AMISOM, and the SNA to put pressure on al-Shabaab are important. Simultaneously, improving Somali governance is equally important.

22. Senator PERDUE. General Waldhauser, what results are you seeing from the Partnership for Regional East Africa Counterterrorism program?

General WALDHAUSER. The Partnership for Regional East Africa Counterterrorism (PRACT) is a State Department program, which began in 2009, and is funded at \$10 million providing multi-year authority to build sustainable partnership capacity and enhance the long-term resilience of governments and communities in East Africa to contain, degrade, and ultimately defeat the threat posed by al-Shabaab and affiliated violent extremist groups. Twelve countries are eligible for PRACT funding: Djibouti, Ethiopia, Kenya, Uganda, Somalia, Tanzania, Rwanda, Seychelles, Sudan, South Sudan, Comoros, and Burundi. PRACT is a critical element of AFRICOM's counterterrorism resourcing strategy by providing additional resources to current DOD-funded programs. PRACT supports training and equipping of East African partner nation military units, specifically communications, logistics, intelligence and aviation advisors. Additionally, PRACT has improved regional coordination and interoperability by providing regional military intelligence training, regional vehicle maintenance and logistics training, regional combat medical training and Defense Institution Building (DIB). We see positive results from the PRACT program. USAFRICOM has used PRACT to the benefit of our CT and CVE initiatives in Somalia, Kenya, Ethiopia, Uganda and other countries in the region. These initiatives include incorporating USAID, Department of Justice, and Department of State towards our security cooperation relationship. The program provides partner nations with both hard and soft power capabilities through their military, law enforcement, and public diplomacy and development tools to 1) Neutralize al-Shabaab; 2) Elevate Governance Reform, Human Rights, and Inclusive Economic Growth; and 3) Strengthen Regional Cooperation. Between fiscal year 2009 and fiscal year 2016, PRACT funds have trained over 2100 counterterrorism personnel in a range of skillsets including military intelligence, civil-military operations, logistics, communications, and Counter-Improvised Explosive Device (C-IED). Partner nation personnel train both bilaterally and regionally, encouraging network building and collaboration in CT operation.

23. Senator PERDUE. General Waldhauser, can we realistically expect the Somali National Army to assume responsibility for security across the country by the time African Union forces are expected to withdraw by 2020?

General WALDHAUSER. A complete transfer of responsibility from AMISOM to the Somali National Army will be difficult by 2020. However, there are two reasons for optimism in expecting significant progress toward this goal. In February, Somalia elected its first non-transitional government in over a decade. President Farmaajo ran on a platform of reform and is making great strides to establish a national security architecture and to push his government to develop and sustain Somali National Security Forces that are able, accountable, affordable, and appropriate. Additionally, the international community, to include AMISOM, has made great strides in expanding and synchronizing training pipelines for Somali National Security Forces, and will continue to do so through 2018. The combined thrust of institutional reform and increased training capacity will result in a significantly larger and more capable Somali National Security Force by 2020. While this may not be enough to fully replace AMISOM, it should be enough to enable conditions-based drawdown planning and persuade some AMISOM troop contributing countries to re-

main beyond 2020, if required—possibly through the next election in 2021. That said, AMISOM's declared departure date has been helpful in spurring Somalia and international planning efforts. Additionally, AMISOM's drawdown and eventual departure will also remove a Somali population grievance that al-Shabaab has been able to use in its information operations. Finally, there is potential for al-Shabaab to be degraded via reconciliation if broad Security Sector Reform gains steam. Al-Shabaab reductions via reconciliation would reduce the number of Somali National Security Forces required to replace AMISOM.

QUESTIONS SUBMITTED BY SENATOR KIRSTEN GILLIBRAND

CHAIN OF COMMAND FOR COUNTERTERRORISM OPERATIONS

24. Senator GILLIBRAND. General Votel and General Waldhauser, news reports indicate that the Administration is considering delegating the decision-making authority for counterterrorism operations to lower levels of the chain of command. Presumably, many of these operations will occur within your areas of responsibility. If this is done, how do we ensure that the impact of tactical and operational decisions made at your level do not have unintentional strategic consequences in the Middle East and Africa?

General VOTEL. Regarding operational authorities, I can assure you that delegation occurs at levels that are wholly commensurate with the appropriate levels of military experience. Additionally, the rigorous processes and procedures ingrained through all levels of the Department of Defense—from the Secretary of Defense through the combatant commanders to the Combined/Joint Forces Commanders—ensure that, when given increased authorities, we have proactive measures in place to ensure that actions taken are responsible, appropriate and aligned with national objectives. I have the utmost faith in the men and women of CENTCOM to accomplish our directed missions. In addition, I'm in routine contact with my fellow combatant commanders and my subordinate commanders on day-to-day operations. COCOM commanders, including me and the commanders of EUCOM and AFRICOM work closely together to ensure that actions taken in our individual areas of responsibility do not have unintended strategic consequences in other areas.

General WALDHAUSER. If there is a policy adjustment (changing the Presidential Policy Guidance for Procedures for Approving Direct Action Against Terrorist Targets Located Outside the United States and Areas of Active Hostilities (CT-PPG)) whereby the President delegates decision-making authority for CT operations, there are several existing and proposed mechanisms and strategies that ensure the effects of local tactical decisions within my area of responsibility do not have unintentional [negative] consequences in Africa or in other areas. At AFRICOM we exercise a rigorous decision making process whereby we continuously question the pros and cons of contemplated actions. We "Red Team" pending operational decisions to determine any unintended consequences our actions may have in Africa or other parts of the globe. We question whether our adversaries may capitalize on our actions in social media or other forums; and then, having decided the pros outweigh the potential cons, we use deliberate planning processes to develop mitigation strategies against those potential negative effects. On a more global basis, the new administration has charged DOD with a 30-day push to develop a strategy for the global defeat of ISIS and other violent extremist organizations. This effort complemented an endeavor ongoing for roughly the last 18 months to develop a DOD plan to counter transregional terrorist organizations, having recognized that our regionally focused efforts created seams between the Combatant Commands that our adversaries were able to exploit. DOD is developing a revised Global Campaign Plan to Counter Violent Extremists in response to the new administration's direction and policy guidance. This plan is designed specifically to ensure that the department applies a global or transregional view to its activities and operations to create synchronization of our efforts. Organizationally, the Joint Staff created a staff section led by a general officer to align our efforts, and has reaffirmed Special Operations Command as the combatant commander charged with ensuring global coordination of CT efforts. The strategies, plans, and organizations within DOD are designed to ensure that our local actions do not negatively impact global efforts.

25. Senator GILLIBRAND. General Votel and General Waldhauser, are you getting the strategic guidance you need to plan and execute these types of operations?

General VOTEL. Yes, we are getting the strategic guidance necessary to plan and execute these types of operations. I'm in frequent contact with Secretary Mattis and General Dunford and appreciate their continued support.

General WALDHAUSER. From my perspective, we are getting the strategic guidance necessary to execute CT operations. The Secretary of Defense (SECDEF) provides the necessary military guidance. Additionally, there is emergent strategic guidance from the administration based on National Security Presidential Memorandum-3 (NSPM-3). At USAFRICOM we seek to link these operations to a whole-of-government effort that address the long-term drivers of terrorism. The strategic guidance is necessary for the effective coordination of USG and international partner efforts across a planning horizon that includes post-conflict guidance on desired future conditions—both political and military. The political end-states also provides guidance for follow-on whole-of-government efforts after CT operations have been completed. Parts of Africa remain a battleground between ideologies, interests, and values. Equality, prosperity, and peace are often pitted against extremism, oppression, and conflict. Today, transregional violent extremist organizations (VEOs), coupled with an expanding youth bulge on the African continent, constitute the most direct security threat to our national interests. To address this threat, our military strategy articulates a long-term regionally focused approach for a safe and stable Africa. However, the military is not the only element of national power required to ensure stability on the continent. The robust support of our European allies and USG agency partners—the Department of State and U.S. Agency for International Development, in particular—are essential for building and maintaining stability. This soft power is critical for USAFRICOM to achieve our long-term military strategy. Programs that promote democracy, human rights, the rule of law, economic growth, improved access to education, and addressing food instability are vital to the development of African countries. Factors such as lack of education and healthcare, hope for a future, and a clear path to an honest livelihood will all impact the expanding youth bulge in Africa. Providing a viable alternate path, and thus preventing those youth from being radicalized by VEOs, is the biggest challenge in Africa.

26. Senator GILLIBRAND. General Votel and General Waldhauser, even if the authority to make operational decisions is delegated, do you believe that the President, as Commander in Chief, retains responsibility for an operation's success or failure?

General VOTEL. As Commander-in-Chief, the President provides strategic guidance to military and civilian leadership, along with the authorities required to execute operations as directed. Military commanders retain ultimate responsibility for an operation's success or failure.

General WALDHAUSER. Yes, the President's role as Commander in Chief, as articulated in Article II of the Constitution and further codified in the Goldwater-Nichols Act of 1986, clearly establishes his position as the senior ranking member in the operational chain of command of our armed forces.

27. Senator GILLIBRAND. General Votel and General Waldhauser, please explain the process by which you and your fellow combatant command colleagues will ensure that the President has the necessary information to make informed decisions about such operations.

General VOTEL. As a combatant commander, I provide regular updates to the Secretary of Defense who reports to the President. Through these updates, along with other routine engagements with the Secretary and the Chairman of the Joint Chiefs of Staff, General Dunford, I and my fellow combatant commanders provide our best military advice and recommended courses of action for addressing issues and conducting operations. Additionally, major changes to existing operations or the introduction of new operations are coordinated through the interagency process which allows for concerns from outside Department of Defense to be voiced and for all elements of national power to be considered.

General WALDHAUSER. The President can delegate to the SECDEF, who may further delegate to the combatant commanders a measure of decision authority bounded by time and geography to remove adversaries from the battlefield. When delegated, every measure will be taken to ensure our actions are limited to the minimum necessary to successfully engage individuals whose actions pose a threat to U.S. persons and interests around the globe. When delegated these counterterrorism authorities, current targeting principles will be employed:

1. The proposed action must clearly articulate why the targets need to be removed from the battlefield based on the threat they present to U.S. persons and interest.
2. We will ensure there is legal basis to target the individuals through consultation with combatant command judge advocates general, Office of General Counsel, and the National Security Staff legal advisors.
3. We will maintain the standard of near or reasonable certainty of positive identification of the targeted individuals or groups.

4. We will exercise extreme caution to ensure to best of our ability that non-combatants are not affected by our actions. AFRICOM regularly reports all its operations to senior leadership through the Chairman of the Joint Chiefs of Staff.

SOMALIA

28. Senator GILLIBRAND. General Waldhauser, Americans still remember how a routine raid to capture two Somali rebels in 1993 disintegrated into one of the most lethal attacks on United States troops on African soil. Recent news reports indicate that the United States military may be taking a more active role in supporting African Union and Somali troops' counter-al-Shabaab efforts. What are the criteria by which "self-defense" strikes against al-Shabaab are currently selected and executed?

General WALDHAUSER. Self-defense actions against al-Shabaab are conducted pursuant the ground force commander's inherent right and obligation to exercise self-defense under the Chairman of the Joint Chiefs of Staff Standing Rules of Engagement (SROE). Under the SROE, the U.S. may exercise self-defense to neutralize a hostile act or hostile intent when the lives of U.S. forces are at risk. The U.S. remains committed to our partners in eliminating terrorism and advancing security in the region. In certain circumstances, the U.S. may exercise self-defense of a properly designated partner force. In every case in which the U.S. takes military action, we are bound to adhere, as a matter of international law, to the law of armed conflict. This includes, among other things, adherence to the fundamental law of armed conflict principles of distinction, proportionality, necessity, and humanity.

29. Senator GILLIBRAND. General Waldhauser, are news reports of Pentagon plans to increase U.S. offensive involvement in counter-al-Shabaab operations accurate?

General WALDHAUSER. USAFRICOM has requested additional authority that will add flexibility and timeliness to the targeting and decision making process. If approved, these authorities will allow us to prosecute targets in a more rapid fashion. Employment orders will not be given unless we know exactly who we are attacking on the ground.

30. Senator GILLIBRAND. General Waldhauser, if so, can you tell us what the President's response has been to that recommendation?

General WALDHAUSER. We are pleased the President approved our request for the additional authority on March 29th. This strike authority, to be used in conjunction with the Federal Government of Somalia, will enhance our ability to support the AMISOM mission and troop contributing countries, as well as help us to maintain pressure on the VEO network in Somalia.

31. Senator GILLIBRAND. General Waldhauser, how will the military incorporate lessons that we learned from the 1993 operation into any such plans?

General WALDHAUSER. The 1993 Battle of Mogadishu, to include missteps and mistakes, has been a case study from which the Special Operations Community and the entire U.S. military has used to learn. In today's operating environment, updated tactics, techniques and procedures and advanced technologies are now incorporated during operations to implement the lessons learned from the Battle of Mogadishu.

ISIL IN IRAQ

32. Senator GILLIBRAND. General Votel, media reports indicate that ISIL is returning to areas previously cleared by Iraqi security forces, such as Anbar and Salahuddin provinces, due to police authorities' inability to hold those areas, and a corrupt judiciary that allows some ISIL collaborators to abscond. Please share with us any additional information on this development that you have. I understand that you have a police force training effort underway in Mosul to guard against ISIL's resurgence after the city falls.

General VOTEL. [Deleted.]

33. Senator GILLIBRAND. General Votel, are you planning to expand this training effort to other Iraqi provinces?

General VOTEL. [Deleted.]

ISR

34. Senator GILLIBRAND. General Waldhauser, one of the issues that was raised wherever we went in Africa during a visit in 2015 was the limited amount of intelligence, surveillance and reconnaissance assets and the ability to share the intel-

ligence we gathered with our partners on the ground. Do you currently have the necessary ISR capabilities for the operations you have described?

General WALDHAUSER. AFRICOM's current ISR allocation partially satisfies operational requirements. AFRICOM has a Joint Staff validated 23 Full Motion Video (FMV) orbit requirement, and is currently sourced with 7.75 FMV orbits. AFRICOM's current ISR allocation requires monthly prioritization for countering violent extremist organizations (VEOs) and monitoring emerging crises. Maximum flexibility for steady-state operations is achieved through active mission management of apportioned ISR platforms. AFRICOM utilizes the Global Force Management process to obtain additional ISR enablers appropriate for the threat and mission.

35. Senator GILLIBRAND. General Waldhauser, are you now able to quickly share relevant information with our partners?

General WALDHAUSER. Yes, USAFRICOM has established a number of sharing processes and procedures in order to support more agile information sharing with our partners on the ground. There has been a lot of work in the DOD and Intelligence Community Policy realm which have supported our efforts. On average, we are turning much of the information production the same day and in some instances can surge to support in near real time, as dictated by operational requirements.

36. Senator GILLIBRAND. General Waldhauser, if not, what more can be done to make this process easier?

General WALDHAUSER. USAFRICOM still requires input and programmatic funding from OSD to support a more robust architecture with which to disseminate and share classified information electronically to AFRICOM partners. In addition, annually supported OSD led security surveys would assist in ensuring information is managed and providing the appropriate level of security protection by the host nations. Lastly, support from the Air Force Battlefield Information Collection and Exploitation Systems (BICES) program office is necessary in accelerating AFRICOM's acquisition of the necessary communications architecture to be able to share classified information electronically.

QUESTIONS SUBMITTED BY SENATOR RICHARD BLUMENTHAL

IRANIAN BELLIGERENCE

37. Senator BLUMENTHAL. General Votel, Iran's continued and disturbing malign influence and actions over the last several weeks remain a key concern of mine. Within the last week, Iran has reportedly tested anti-ship ballistic missiles, tested a new Russian-made S-300 missile air defense system, as well as harassed a U.S. Navy ship in the Strait of Hormuz by sending an Iranian frigate within 150 yards and smaller boats within 600 yards. Last month, the Iranians fired a medium-range ballistic missile in violation of a UN Security Council Resolution, resulting in U.S. sanctions enforcement against 25 individuals and entities. What is CENTCOM doing to address Iran's recent actions?

General VOTEL. Despite ongoing reductions in U.S. force posture in the region, CENTCOM addresses Iranian malign naval actions by maintaining a forward presence in the area of responsibility and is working to ensure that naval forces are enabled through appropriate rules of engagement, capabilities, and training. U.S. and partner forces in the region engage regularly in robust planning and training exercises to ensure readiness and to leverage complimentary capabilities. CENTCOM will continue to expose Iran's unique and unprofessional naval actions in order to hold them accountable.

38. Senator BLUMENTHAL. General Votel, how concerned are you with Iran's acquisition and testing of the S-300 missile air defense system and what is CENTCOM doing to address it?

General VOTEL. Senator, it is a significant concern. Delivery of the S-300 culminated a sales agreement between Russia and Iran that CENTCOM has been monitoring since 2007. This system represents a significant improvement to Iranian lethality against conventional and fifth-generation advanced aircraft; however, I am confident in our tactics, techniques and procedures to defeat the S-300 in an open conflict. Of equal concern is how to deal with this system in peacetime should Iran choose to employ it to challenge U.S. or Coalition air superiority in the Arabian Gulf. While legacy Iranian surface to air missile systems, such as the S-200, could be used to threaten or harass commercial and military aviation in the Arabian Gulf,

the S-300's increased lethality and capabilities could significantly expand their ability to impact routine CENTCOM operations in international airspace. We will continue to monitor the basing and movement of the S-300, ensure our aircrews continuously review their capabilities to operate safely and effectively in support of our current operations and will only alter mission profiles when absolutely necessary.

39. Senator BLUMENTHAL. General Votel, it is well known that Iran strongly backs and supports Hezbollah. What steps are you taking to counter the threat posed by Hezbollah?

General VOTEL. CENTCOM works to Build Partner Capacity through Foreign Military Sales, Foreign Military Loans, exercises and training with regional partners in our area of responsibility to enable their ability to counter the military threat posed by Lebanese Hezbollah as part of the Prepare component of our regional strategy. Our mil-to-mil activities focus primarily on the Lebanese Armed Forces, to eventually provide a viable alternative to Lebanese Hezbollah. These efforts also contribute to diminishing the perception and narrative that Lebanese Hezbollah exists to defend Lebanon against the Israeli threat.

ISIL

40. Senator BLUMENTHAL. General Votel, United States forces in Syria are authorized to operate to train, assist, and advise coalition partners to defeat ISIL. ISIL is no longer in Manbij. What authority justifies the Army's 75th Ranger Regiment's presence?

General VOTEL. As part of the campaign against ISIS, the United States is using force against elements in Syria. The Coalition Forces Commander exercises authority as outlined in Joint Staff order to employ his forces in Syria as part of the overall campaign to defeat ISIS. As part of the overall campaign plan, small teams of United States special operations forces have also deployed to Syria to help coordinate United States operations with some of these indigenous ground forces. One of these indigenous partnered forces, the SAC/Syrian Defense Force, successfully liberated Manbij from ISIS and then transitioned governance to the Manbij Council. Coalition forces remain to ensure that ISIS is not able to reestablish itself in the area as part of the assigned complementary mission to advise and assist partner security forces operating in liberated areas, in this case—Manbij. Additionally, these forces provide over watch of the situation in Manbij and provide a measure of assurance to our partners. Currently, elements of the 75th Ranger Regiment are fulfilling this requirement, because they constitute the most appropriate and available force for the mission.

41. Senator BLUMENTHAL. General Votel, Marines have arrived in Syria to establish an outpost near Raqqa to fire artillery in support United States-backed forces fighting to retake Raqqa from ISIL. Between the Army and the Marines, this is a noticeable escalation of our involvement in Syria. How large is our force presence in Syria now?

General VOTEL. [Deleted.]

42. Senator BLUMENTHAL. General Votel, Secretary Mattis presented a classified plan to the White House to defeat ISIL, as requested by President Trump in an Executive Order earlier this year. Although we have not seen the plan, there are reports that it could include an increased U.S. ground presence and military equipment. What was your role in the development of this plan?

General VOTEL. Our Coalition Military Campaign Plan remains the Coalition's plan to defeat ISIS in Iraq and Syria, and of course we have shared our plan as well as other contingency plans with Secretary Mattis and his staff. My staff is working with the Joint Staff and the Office of the Secretary of Defense on the planning efforts to help inform the new administration, and I feel comfortable with my level of coordination, collaboration, and alignment with the Secretary, the Chairman, and our staffs.

43. Senator BLUMENTHAL. General Votel, to defeat ISIL, do you believe we need a more robust ground presence? If so, what would it consist of?

General VOTEL. Our approach of providing advice, assistance, and key enabling capabilities in support of the indigenous forces in Iraq and Syria is working. Not only is it working, but the approach is important for a sustainable victory over ISIS, as it places the responsibility of defeating ISIS on those who continue living in the area. The "by, with and through" approach does require operational patience, but the indigenous forces have a vested interest in getting it right. I am satisfied with

the force structure that we currently have in place to support our indigenous partners. However, if conditions on the ground dictate that we need additional assets to enable their maneuver better, we will make the necessary requests through appropriate channels.

DJIBOUTI

44. Senator BLUMENTHAL. General Waldhauser, a new Chinese base is being built just a few miles from Camp Lemonnier. How will it impact our own installation and operations? Will we need to make operational adjustments? Are you concerned about security risks—be it physical or cyber?

General WALDHAUSER. From an operational perspective, we have concerns about the Chinese presence in Djibouti. We will continue to remain vigilant in order to ensure every aspect of our operational security is in place and our operations are not degraded or compromised. In the meantime, we will continue to engage with the Government of Djibouti on issues that impede an amenable China-United States co-existence within their country. We will also look for opportunities to engage with China in meaningful ways to support our mutual interests for a stable and secure Africa.

45. Senator BLUMENTHAL. General Waldhauser, Djibouti is a strategic location for China, with half its oil imports passing through the Mandeb Strait providing a potential choke point. This creates a vulnerability requiring escorts for these ships. Do you have concerns that China will increase its naval presence in the area? What impact will that have on our operations?

General WALDHAUSER. Djibouti is not only a strategic location for China but for the United States as well. China has contributed some naval assets to the Combined Task Force in the counterpiracy effort off Somalia, and this has helped the unified international effort. On the other hand, we have concerns about China's increasing presence in Djibouti. Though China is referring to its base as a "support facility," this facility will be an operations base. As the Chinese begin to increase their naval presence at this facility, we must be vigilant on the possible impact on our operations and the likelihood that China could potentially use its base to support forward deployed assets, as well as grant access to Russia. With the distinct possibility of more naval assets in the area, we may have to increase our engagements with the Chinese to deconflict space for our operations.

MILITARY PRESENCE/FORCE LEVELS

46. Senator BLUMENTHAL. General Votel, an Afghan official disclosed to the Wall Street Journal that in December then President-elect Trump, in a conversation with Afghan President Ashraf Ghani, said he would support Afghan forces and entertain increasing troops following an assessment. Has an assessment been ordered?

General VOTEL. Yes, there are parallel efforts ongoing within the National Security Council, Department of Defense, and CENTCOM. My staff, in conjunction with General Nicholson, is conducting a review and will provide recommendations to Secretary Mattis and General Dunford.

47. Senator BLUMENTHAL. General Votel, how important is the continuance of the NATO Resolute Support Mission in training, advising and assisting the Afghan Security Forces and institutions?

General VOTEL. Senator, it is essential that there is a continuance of the NATO Resolute Support Mission. I'll echo comments made by General Nicholson, commander, Resolute Support that the 39 nations' four-year commitment made at the 2016 Warsaw Summit and Brussel's donor conference served to strengthen the Afghans' resolve and sent a strong message to the enemy. This support demonstrates that the international community remains committed to the success of both the mission and the Government of the Islamic Republic of Afghanistan.

**DEPARTMENT OF DEFENSE AUTHORIZATION
FOR APPROPRIATIONS FOR FISCAL YEAR
2018 AND THE FUTURE YEARS DEFENSE
PROGRAM**

THURSDAY, MARCH 23, 2017

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

UNITED STATES EUROPEAN COMMAND

The committee met, pursuant to notice, at 9:34 a.m. in Room SD-G50, Dirksen Senate Office Building, Senator John McCain (chairman of the committee) presiding.

Committee members present: Senators McCain, Inhofe, Wicker, Fischer, Rounds, Ernst, Tillis, Sullivan, Cruz, Sasse, Reed, Nelson, McCaskill, Shaheen, Gillibrand, Blumenthal, Donnelly, Hirono, Kaine, King, Heinrich, Warren, and Peters.

OPENING STATEMENT OF SENATOR JOHN MCCAIN, CHAIRMAN

Chairman MCCAIN. Well, good morning.

The Senate Armed Services Committee meets this morning to receive testimony on the posture of United States European Command. I would like to welcome General Scaparrotti, who is back before the committee. I am sure he has been eagerly awaiting that opportunity. We thank you for your decades of distinguished service and for your leadership of our men and women in uniform.

This morning, our thoughts and prayers are with the loved ones of the four innocent people killed and dozens more injured in an attack in the heart of London that police believe was inspired by radical Islamist terrorists. We stand in solidarity with the British people, committed as ever to our special relationship and to the common defense of our security and our values.

Three years ago this last week, Russia violated Ukrainian sovereignty and annexed Crimea, a seminal event that revealed what had already been increasingly obvious for years: that the United States and our European allies confront an aggressive, militarily capable Russian Government that is hostile to our interests and our values and willing to use force not as a last resort but as a primary tool to achieve its revisionist objectives. Many believe this challenge had been consigned to the history books. Indeed, the United States operated under that assumption for far too long, drastically reducing our military presence, allowing our intelligence

capabilities to wither, and unilaterally disengaging from the information fight.

I might add that yesterday we received information that Sergei Magnitsky who was murdered by Vladimir Putin's thugs—his lawyer was thrown from a fourth floor room. I mean, this kind of stuff you cannot make up. It is an indication of Vladimir Putin's feeling of impunity that he can go around killing people without any penalty to pay. I am sure that what Mr. Putin was trying to do is send a message to anybody else in Russia who wants to stand up against him. I digress.

Three years later, I regret to say the United States still has not adjusted to the scope, scale, and severity of the new strategic reality we face in Europe. We continue to lack coherent policy and strategy to deter conflict and prevent aggression in Europe. Despite important progress made through the European Deterrence Initiative, we still have no long-term vision for United States force posture in Europe, one that accounts for Russia's rapid military modernization, evolving nuclear doctrine, violations of the INF [Intermediate-Range Nuclear Forces] Treaty, advanced anti-access/area denial threat concentrated in Kaliningrad, and significant military buildup along its western border.

Indeed, as General Scaparrotti points out in his written testimony—and I quote—"the ground force permanently assigned to EUCOM [United States European Command] is inadequate to meet the combatant command's directed mission to deter Russia from further aggression."

The new administration has an opportunity to turn the page and design a new policy and strategy in Europe backed by all elements of American power and decisive political will. General Scaparrotti, we hope you can help this committee begin to think through the basic requirements for such a policy and strategy and what resources and authority you need both as European Commander and Supreme Allied Commander, Europe to deter and, if necessary, defeat aggression against the United States and our allies.

Some of the features of a new approach in Europe are already clear. For example, the need to enhance the forward presence of United States military forces and provide defensive lethal assistance to Ukraine. But we still have a lot of work to do in other areas, particularly in countering Russian disinformation and devising gray zone strategies for competition below the threshold of major conflict.

What is also clear is that no United States policy or strategy in Europe can be successful without our NATO [North Atlantic Treaty Organization] allies. At the 2014 NATO Summit in Wales, the leaders of every NATO ally pledged to reach the goal of spending 2 percent of their GDP [Gross Domestic Product] on defense by 2024. The good news is that according to NATO Secretary-General Jens Stoltenberg, defense budgets across Europe and Canada increased by 3.8 percent last year, or by some \$10 billion.

This is important progress, but we must be careful not to reduce the NATO alliance of the notion of burden sharing to simply 2 percent. Our allies do not just need to spend more, they need to spend better. One senior European official recently said that Europe spends roughly 50 percent of the United States on defense, but pro-

duces just 15 percent of the capability because defense purchases are uncoordinated, duplicative, and inefficient. That is why enhancing European security is not just a job for NATO but also for the European Union, which has an important role to play in encouraging cooperative defense acquisition and operation of modernized defense equipment.

Finally, we must never forget that the essential contributions America's allies make to our national security are not measured in dollars alone. After the September 11th attacks killed 2,600 Americans and 135 citizens of NATO countries, for the first time in history, our NATO allies invoked article 5 of the North Atlantic Treaty. NATO troops went to fight side by side with American troops in Afghanistan, and over 1,000 of them made the ultimate sacrifice.

The price our NATO allies paid in blood fighting alongside us should never be diminished. We must never forget that America is safer and more secure because it has allies that are willing to step up and share the burden of collective security.

Senator Reed?

STATEMENT OF SENATOR JACK REED

Senator REED. Well, thank you very much, Mr. Chairman, for holding this timely and important hearing.

I join you in solidarity with our British allies and applaud your comments.

Thanks also to General Scaparrotti for your nearly 40 years of service in the military, your leadership in Afghanistan, Korea, and now at United States European Command. Also, please pass along our sincere gratitude for the outstanding service of all the men and women who serve with you in EUCOM. Thank you, General.

The transatlantic relationship is a cornerstone of U.S. national security and the international order established at the end of World War II. Our European allies and partners have stood with us in maintaining the peace, including in coalition operations in Afghanistan and fighting terrorist extremists in Iraq and Syria. The NATO alliance remains strong and is grounded in a shared vision of an integrated and stable Europe rooted in respect for sovereignty and political and economic freedom.

I am concerned, however, about the mixed signals that the current administration seems to be sending regarding the United States commitment to NATO and the willingness to cut a deal with Russia. Secretary Tillerson's reported decision to skip a NATO foreign ministers meeting next month and take a trip to Moscow prior to a NATO summit in May has raised concerns in some European capitals. I urge Secretary Tillerson to reconsider his attendance at NATO next month and send a strong signal of our unwavering support for the alliance.

The broad and growing challenges facing the EUCOM Commander mean that alliance unity is more important than ever. The cohesion of NATO is being directly threatened by Russia. President Putin has repeatedly shown he will use military force to assert a Russian sphere of influence over its neighbors and to undermine their further integration into Europe. Nowhere is this more evident than in Ukraine where Russia has used hybrid warfare tactics to seize Crimea and continues to support militarily and financially

Russian-led separatists in eastern Ukraine, in violation of Russia's commitments under the Minsk agreements. As we heard at Tuesday's panel of distinguished former government officials, it is critically important that we assist Ukraine in resisting Russian pressure and instituting democratic reforms. A successful, reformed Ukraine would provide a powerful alternative to Putin's autocratic rule.

The United States has taken significant steps in recent years to rebuild its military presence in Europe and reassure our allies and partners threatened by renewed Russian aggression. The European Deterrence Initiative, or EDI, and the NATO enhanced forward presence have increased the rotational presence of forces in Eastern Europe. In addition, while many NATO members fall short of the 2 percent of GDP target for defense spending, defense budgets among NATO nations are increasing and a number of allies are making significant in-kind contributions as well. Questions remain, however, whether we have the appropriate mix of forces in Europe, both quantitatively and qualitatively, and I hope you will address these questions this morning.

Russia is deploying the full array of tools in the Kremlin playbook to challenge the West. This includes aggressive actions in the nuclear realm. I agree with the experts on Tuesday's panel regarding the importance of responding strongly to Russia's fielding of a missile system in violation of the Intermediate-Range Nuclear Forces, or INF, Treaty. In addition, Russia's nuclear doctrine of escalate to deescalate is not only deeply disturbing but potentially catastrophic.

Also disconcerting is Russia's increasing boldness in using non-military tools to target Western democracies and advance Putin's strategic aims. Russia is employing an array of covert and overt asymmetric weapons in the gray zone short of military conflict, including cyber hacking, disinformation, propaganda, economic leverage, corruption, and even political assassination. To counter this insidious Russian interference, we must begin by recognizing it as a national security threat. Further, the intelligence community has warned that the kinds of Kremlin-directed malign activities witnessed in last year's United States presidential election are likely to re-occur in the future, including during elections in France, Germany, and elsewhere in Europe this year. Responding to this national security threat will require a whole-of-government approach and a comprehensive strategy for pushing back against Russia broadly.

EUCOM faces a number of other challenges as well. This includes increasing instability in the Balkans where Russian influence operations are feeding Serbian resentments both in Serbia and among Bosnian Serbs. In addition, in the Balkans, where traditionally a moderate form of Islam has been practiced, there are growing Islamic Salafist influences as a result of a mosque-building campaign funded by Saudi Arabia. On its southeastern border, EUCOM must contend with the instability arising from Syria and the transnational threats emanating from that conflict. To the south, the migration crisis in the Mediterranean countries continues to strain European resources for security. General, I am in-

terested in hearing how NATO is handling these myriad of problems and how the United States can be helpful.

Again, I want to thank General Scaparrotti for his service and I look forward to this morning to his testimony.

Chairman MCCAIN. Good morning, General.

**STATEMENT OF GENERAL CURTIS M. SCAPARROTTI, USA,
COMMANDER, U.S. EUROPEAN COMMAND/SUPREME ALLIED
COMMANDER, EUROPE**

General SCAPARROTTI. Chairman McCain, Ranking Member Reed, and distinguished members of the committee, I am honored to testify today as the Commander of the United States European Command. On behalf of over 60,000 permanently assigned servicemembers, as well as civilians, contractors, and their families who serve and represent our Nation in Europe, thank you for your support.

Before starting, I would like to also express my condolence on behalf of the entire European Command team for the civilians and policemen killed and wounded in yesterday's terrorist attack in the UK [United Kingdom]. Our thoughts and prayers go out to these victims and their families impacted by this senseless attack. We strongly condemn this attack and will continue to stand shoulder to shoulder with our NATO ally and our partners to defeat terrorism.

Chairman, the European theater remains critical to our national interests. The transatlantic alliance gives us a unique advantage over our adversaries, a united, capable warfighting alliance resolved in its purpose and strengthened by shared values that have been forged in battle. EUCOM's relationship with NATO and the 51 countries within our AOR [Area of Responsibility] provides the United States with a network of willing partners who support global operations and secure international rules-based order. Our security architecture protects more than one billion people and has safeguarded transatlantic trade which now constitutes almost half of the world's GDP.

However, this security architecture is being tested, and today we face the most dynamic European strategic environment in recent history. Political volatility and economic uncertainty are compounded by threats to our security system that are trans-regional, multi-domain, and multi-functional. In the east, a resurgent Russia has turned from partner to antagonist as it seeks to reemerge as a global power. Countries along Russia's periphery, including Ukraine and Georgia, struggled against Moscow's malign activities and military actions. In the southeast, strategic drivers of instability converge on key allies, especially Turkey, which has to simultaneously manage Russia, terrorists, and refugee flows. In the south, violent extremists and transnational criminal elements spawn terror and corruption from North Africa to the Middle East, while refugees flee to Europe in search of security and opportunity. In the high north, Russia is reasserting its military presence and positioning itself for strategic advantage in the Arctic.

In response to these challenges, EUCOM has shifted its focus from security cooperation and engagement to deterrence and defense. Accordingly, we are adjusting our posture, our plans, our

readiness so that we remain relevant to the threats we face. In short, we are returning to the historic role as a warfighting command focused on deterrence and defense.

EUCOM's transition would not be possible without the congressional support of the European Deterrence Initiative. Thanks in large measure to ERI, or EDI, over the last 12 months, EUCOM has made clear progress with an enhanced forward presence or force presence, complex exercises and training, infrastructure improvements, increased prepositioning of equipment and supplies, and partner capacity building throughout Europe.

But we cannot meet these challenges alone. In response to Russian aggression, EUCOM has continued to strengthen our relationship with strategic allies and partners, including the Baltic nations, Poland, Turkey, and Ukraine. EUCOM has also strengthened ties with Israel, one of our closest allies. Above all, EUCOM has supported the NATO alliance which remains, as Secretary Mattis said, the bedrock of our transatlantic security.

Thus, EUCOM posture is growing stronger, and I remain confident in our ability to affect this transition. But there is much work to do. We must not only match but outpace the modernization and advances of our adversaries. We must invest in the tools and capabilities needed to increase effectiveness across the spectrum of conflict. We must ensure that we have a force that is credible, agile, and relevant to the dynamic demands of this theater.

To this end, EUCOM has identified the following focus areas: ISR collection platforms that improve timely threat information and strategic warning; land force capabilities that deter Russia from further aggression; enhanced naval capabilities for antisubmarine warfare, strike warfare, and amphibious operations; prepositioned equipment to increase our responsiveness to crisis and enhance missile defense systems.

Let me conclude by again thanking this committee's members and staff for their continued support of EUCOM not only through increased funding but also by helping us to articulate the challenges that lie before us. Support from other senior leaders and, above all, the public at home and across Europe is vital to ensuring that we have a ready and relevant force.

This remains a pivotal time for EUCOM as we transition to meet the demands of a dynamic security environment. I remain confident that through the strength of our alliances and partnerships and with the professionalism of our servicemembers, we will adapt and ensure Europe remains whole, free, and at peace.

Thank you, and I look forward to your questions.

[The prepared statement of General Scaparrotti follows:]

PREPARED STATEMENT BY GENERAL CURTIS M. SCAPARROTTI

I. INTRODUCTION

Mr. Chairman and distinguished members of this Committee, I am honored to testify before you in my first year as the Commander of United States European Command (EUCOM). It is a privilege to lead the great soldiers, sailors, airmen, marines, coast guardsmen, and civilians in this Command. They continue to demonstrate remarkable commitment, dedication, and selfless service both in Europe and across the globe. We all appreciate your continued support.

The European theater remains critical to our national interests. The transatlantic alliance gives us an unmatched advantage over our adversaries—a united, capable,

warfighting alliance resolved in its purpose and strengthened by shared values that have been forged in battle. EUCOM's relationship with NATO and the 51 countries within our Area of Responsibility (AOR) provides the United States with a network of willing partners who support global operations and secure the international rules-based order that our nations have defended together since World War II. Our security architecture protects more than one billion people and has safeguarded transatlantic trade, which now constitutes almost half of the world's combined GDP.

Nevertheless, today we face the most dynamic European security environment in history. Political volatility and economic uncertainty are compounded by threats to our security system that are trans-regional, multi-domain, and multi-functional. In the East, a resurgent Russia has turned from partner to antagonist. Countries along Russia's periphery, especially Ukraine and Georgia, are under threat from Moscow's malign influence and military aggression. In the Southeast, strategic drivers of instability converge on key allies, especially Turkey, which has to simultaneously manage Russia, terrorists, and refugee flows. In the South, violent extremists and transnational criminal elements spawn terror and corruption from North Africa to the Middle East, while refugees and migrants fleeing persecution to Europe in search of security and opportunity. In the High North, Russia is reasserting its military prowess and positioning itself for strategic advantage in the Arctic.

EUCOM fully recognizes the dynamic nature of this security environment, and in response, we are regenerating our abilities for deterrence and defense while continuing our security cooperation and engagement mission. This requires that we return to our historical role as a command that is capable of executing the full-spectrum of joint and combined operations in a contested environment. Accordingly, we are adjusting our posture, plans, and readiness to respond to possible future conflicts.

This shift would not be possible without congressional support of the European Reassurance Initiative (ERI). Thanks in large measure to ERI, over the last 12 months EUCOM has made demonstrable progress. United States tanks have returned to European soil. United States F-15s and F-22s have demonstrated air dominance throughout the theater. United States naval forces have sailed throughout European waters. EUCOM has operationalized its Joint Cyber Center. With the approval of former Secretary Carter, EUCOM delivered the first new operational plan for the defense of Europe in over 25 years.

ERI also supports high-end exercises and training, improved infrastructure, and enhanced prepositioning of equipment and supplies, while State Department and DOD funds build partner capacity throughout Europe.

EUCOM has also continued to strengthen our relationship with allies and partners. Our relationship with Turkey endured a coup attempt with minimal disruption to multiple ongoing operations. EUCOM has strengthened ties with Israel, one of our closest allies. Above all, EUCOM has supported the NATO Alliance, which remains, as Secretary Mattis has said, the "bedrock" of our transatlantic security. Overall EUCOM is growing stronger.

II. THEATER ASSESSMENT—RISKS AND CHALLENGES

Over the past year I have highlighted three signature issues facing us in this dynamic security environment: Russia, radicals or violent extremists, and regional unrest—leading to refugee and migrant flows. At the same time, managing the political, economic, and social challenges posed by refugees and migrants is a consuming concern of our allies and partners.

Russia

Russia's malign actions are supported by its diplomatic, information, economic, and military initiatives. Moscow intends to reemerge as a global power, and views international norms such as the rule of law, democracy, and human rights as components of a system designed to suppress it. Therefore, Russia seeks to undermine this international system and discredit those in the West who have created it. For example, Russia is taking steps to influence the internal politics of European countries just as it tried to do in the United States in an attempt to create disunity and weakness within Europe and undermine the transatlantic relationship. Furthermore, Russia has repeatedly violated international agreements and treaties that underpin European peace and stability, including the Treaty on Intermediate-Range Nuclear Forces (INF) and the Treaty on Conventional Armed Forces in Europe (CFE), and it is undermining transparency and confidence building regimes such as the Vienna Document and Open Skies, which provides greater transparency of posture and exercises in the region.

Russia's political leadership appears to seek a resurgence through modernization of its military. Russia is adjusting its doctrine, modernizing its weapons, reorga-

nizing the disposition of its forces, professionalizing its armed services, and upgrading capabilities in all warfighting domains. Russia desires a military force capable of achieving its strategic objectives and increasing its power.

Russia's aggression in Ukraine, including occupation and attempted annexation of Crimea, and actions in Syria underscore its willingness to use military force to exert its influence in Europe and the Middle East. In Ukraine, Russia's willingness to foment a bloody conflict into its third year through the use of proxy forces in the Donbas, and elsewhere, is deeply troubling to our allies and partners, particularly Russia's closest neighbors. In Syria, Russia's military intervention has changed the dynamics of the conflict, bolstered the Bashar al-Assad regime, targeted moderate opposition elements, and compounded human suffering in Syria, and complicated United States and coalition operations against the Islamic State of Iraq and Syria (ISIS). Russia has used this chaos to establish a permanent presence in the Middle East and eastern Mediterranean.

This past year saw other significant demonstrations of Russia's renewed military capability, including the first ever combat deployment of the KUZNETSOV Task Force, nation-wide strategic exercises, joint air, ground, and maritime operations in Syria using new platforms and precision-guided munitions, and the deployment of nuclear-capable missiles to Kaliningrad. Russia's deployment in Ukraine and Syria also revealed increased proficiency in expeditionary combat and sustainment operations.

Another key component of Russia's military advancement is its Integrated Air Defense Systems (IADS). For example, in connection with its deployment to support the Assad regime in Syria, Russia fielded advanced Anti-Access / Area Denial (A2/AD) systems that combine command and control and electronic warfare capabilities, and long range coastal defense cruise missiles with advanced air defense platforms. EUCOM assesses that Russia plans to meld existing and future IADS systems into a central command structure to control all air defense forces and weapons.

In the High North, Russia continues to strengthen its military presence through equipment, infrastructure, training, and other activities. Russia is positioning itself to gain strategic advantage if the Northern Sea Route opens and becomes a viable shipping lane between Europe and Asia.

Most concerning, however, is Moscow's substantial inventory of non-strategic nuclear weapons in the EUCOM AOR and its troubling doctrine that calls on the potential use of these weapons to escalate its way out of a failing conflict. Russia's fielding of a conventional/nuclear dual-capable system that is prohibited under the INF Treaty creates a mismatch in escalatory options with the West. In the context of Putin's highly centralized decision-making structure, Moscow's provocative rhetoric and nuclear threats increase the likelihood of misunderstanding and miscalculation.

In addition to recent conventional and nuclear developments, Russia has employed a decades-long strategy of indirect action to coerce, destabilize, and otherwise exercise a malign influence over other nations. In neighboring states, Russia continues to fuel "protracted conflicts." In Moldova, for example, Russia has yet to follow through on its 1999 Istanbul summit commitments to withdraw an estimated 1,500 troops—whose presence has no mandate—from the Moldovan breakaway region of Transnistria. Russia asserts that it will remove its force once a comprehensive settlement to the Transnistrian conflict has been reached. However, Russia continued to undermine the discussion of a comprehensive settlement to the Transnistrian conflict at the 5+2 negotiations. Moscow continues to play a role in destabilizing the Nagorno-Karabakh dispute by selling arms to both parties—Armenia and Azerbaijan—while maintaining troops in Armenia, despite an international pledge to co-chair Minsk Group charged with seeking resolution of the conflict.

Russia fiercely opposes one of our strongest EUCOM partners, Georgia, in its attempts to align with the European and transatlantic communities. Russia's occupation of Abkhazia and South Ossetia since its 2008 invasion the Georgian regions of has created lasting instability.

In the Balkans, Russia exploits ethnic tensions to slow progress on European and transatlantic integration. In 2016, Russia overtly interfered in the political processes of both Bosnia-Herzegovina and Montenegro.

Additional Russian activities short of war, range from disinformation to manipulation. Examples include Russia's outright denial of involvement in the lead up to Russia's occupation and attempted annexation in Crimea; attempts to influence elections in the United States, France and elsewhere; its aggressive propaganda campaigns targeting ethnic Russian populations among its neighbors; and cyber activities directed against infrastructure in the Baltic nations and Ukraine. In all of these ways and more, Russia is attempting to exert its influence, expand its power, and discredit the capability and relevance of the West.

Radicals

Violent extremists, most notably ISIS, pose a serious, immediate threat to United States personnel, our allies, and our infrastructure in Europe and worldwide. In 2016, there were major terrorist attacks in Berlin, Brussels, Istanbul, Nice, Paris, and elsewhere. ISIS has made its intentions clear: it seeks to overthrow Western civilization and establish a world-wide caliphate.

While its footprint in Iraq and Syria shrunk in 2016, since 2014, ISIS has significantly expanded its operations throughout Europe and now leverages its network to enable and inspire attacks by European-based extremists in their resident countries. Further, ISIS has exploited the migration crisis to infiltrate operatives into Europe. Since Turkey expanded its counter-ISIS role and advocacy for coalition operations in Mosul, it has experienced an increased number of terrorist attacks, and ISIS's leaders have called for more. We do not expect the threat to diminish in the near future.

As a consequence of this threat, European nations have been forced to divert financial resources and military personnel to internal security. The impact of this reallocation is not yet fully appreciated and will likely persist for years. In short, violent extremism poses a dangerous threat to transatlantic nations and to the international order that we value.

Regional Volatility

In EUCOM's AOR, Russia's indirect actions have sought to exploit political unrest and socioeconomic disparities. Russian aggression in Ukraine has led to the deaths of approximately 10,000 people since April 2014. Recently in eastern Ukraine, Russia controls the battle tempo, again ratcheting up the number of daily violations of the cease fire and—even more concerning—directing combined Russian-separatist forces to target civilian infrastructure and threaten and intimidate OSCE [Organization for Security and Co-operation in Europe] monitors in order to turn up the pressure on Ukraine. Furthermore, Moscow's support for so-called "separatists" in eastern Ukraine destabilizes Kyiv's political structures, particularly as Ukraine undertakes politically-difficult reforms to combat corruption and comply with IMF requirements.

Ukraine seeks a permanent and verifiable ceasefire, the withdrawal of heavy weapons and Russian forces, full and unfettered access for OSCE monitors, and control over its internationally-recognized border with Russia. Russian-led separatist forces continue to commit the majority of ceasefire violations despite attempts by the OSCE to broker a lasting ceasefire along the line of contact.

Turkey has long been and remains an ally of the United States. It now occupies a critical location at the crossroads of multiple strategic challenges. To its west, it implements the Montreux Convention, which governs transit through the Turkish Straits, and is committed to local solutions for Black Sea issues. To its north and east, Turkey maintains a complicated relationship with Russia. Ankara seeks to resume the level of trade with Moscow that it enjoyed prior to Turkey's November 2015 shoot down of a Russian fighter. Turkey has absorbed the largest number of refugees from Syria—almost three million. Despite these challenges, EUCOM continues to work closely with Turkey to enable critical basing and logistical support to the counter ISIS fight and supports Turkey to counter its terror threat.

Although the flow of refugees to Europe has slowed, the refugee situation remains a significant challenge to our European allies and partners. The strain on the social systems of European nations, especially along the Mediterranean Sea, diverts resources that could otherwise go toward military and defense spending, and finding solutions has tested political relationships. EU [European Union] member states struggle to find a common, "shared" approach to admit and settle migrants. Both NATO and the EU, in conjunction with Turkish and Greek authorities, have committed law enforcement and military assets to this issue, including a maritime force in the Aegean Sea to conduct reconnaissance, monitoring, and surveillance.

The Syrian civil war and the risk of spillover into neighboring states, including Israel, continue to threaten stability in Europe and the Levant. Despite assistance from the USG [U.S. Government] and the international community, the refugee population in Jordan and Lebanon has placed significant burdens on the government and local residents. Additionally, factional fighting in Syria has resulted in occasional cross-border fire into the Israeli-occupied Golan Heights. Israel has avoided being drawn into the conflict in Syria but has taken military action to deny the transfer of advanced weapons to Hezbollah.

The Balkans' stability since the late 1990's masks political and socio-economic fragility. Russia promotes anti-European views in this region by exploiting corrupt political systems, poor economic performance, and increased ethnic polarization. Addi-

tionally, Islamic radicals seek to take advantage of high unemployment rates, political turmoil, and socioeconomic disparities to recruit violent extremists.

Iran's regional influence in the Levant continues to grow through its ongoing support to radical groups such as Lebanese Hezbollah, Hamas, Palestinian Islamic Jihad, and paramilitary groups involved in the Syrian conflict and in counter-ISIS efforts across Iraq. Iran, which Israel views as its greatest existential threat, continues to transfer advanced conventional arms to Hezbollah and is clearly committed to maintaining Syria as the key link of the Iran-Hezbollah axis, which sustains a terrorist network in Syrian-regime controlled territory. Furthermore, Iran has taken advantage of the Syrian crisis to militarily coordinate with Russia in support of Assad.

III. THEATER ASSESSMENT—STRENGTHS AND OPPORTUNITIES

EUCOM will meet these challenges and adapt to the new security environment by capitalizing on our strengths and building new capabilities. We are developing a credible and relevant force structure built for deterrence and defense and leveraging a unified and adaptive NATO Alliance, and transitioning into a command able to address the strategic challenges before us.

Deter Russia

EUCOM activities, facilitated by ERI funding, continue to be the primary demonstration of our deterrent capability.

Increased Rotational Forces. ERI has directly supported an increase in the rotational presence of United States forces in Europe, a critical augmentation to EUCOM's assigned forces. For example, ERI funded Fort Stewart's 1st Armored Brigade Combat Team's deployment to Europe from March to September 2016. Also, ERI funded the deployment of F-22 fighters, B-52 bombers, and additional combat and lift aircraft to Europe as part of the ERI Theater Security Package. Looking ahead, continued congressional support for ERI will sustain these rotations and enable additional anti-submarine warfare capabilities complementing maritime domain awareness assets in Iceland that are included in the fiscal year 2017 ERI request. Additionally, rotational Marine units will operate from Norway and the Black Sea region.

Trained and Equipped Component Commands. EUCOM has also used ERI to fund and field Army Prepositioned Stocks (APS), providing a rapid mobilization capability for additional armored units in Europe. Separately, EUCOM advocated for and received full support for a \$220 million NATO Security Investment Program project (i.e., paid for by NATO common funding) that will build warehousing and maintenance capability for staging APS stocks in Poland. Additionally, ERI funds dozens of projects to upgrade flight-line and munitions-storage infrastructure across eight NATO nations to support not only rotational presence but also training events in Eastern Europe. The Navy is using ERI to fund capability enablers and force rotations to support EUCOM and NATO exercises, including Mine Countermeasure Teams and additional flying hours specifically to enhance EUCOM's deterrence posture.

Persistent Presence. ERI increased funding for United States forces in the Baltics, Poland, Romania, Bulgaria, and the Mediterranean during 2016. In addition, ERI allowed EUCOM to continue our contribution to NATO's Air Policing mission by funding a continued fighter presence in theater with the 493rd Fighter Squadron at RAF Lakenheath in the UK.

Complex Exercises with Allies and Partners. ERI expanded the scope of EUCOM's involvement in over 28 joint and multi-national maritime, air, amphibious, and ground exercises across 40 countries. In June 2016, EUCOM participated in the Polish national exercise ANAKONDA, which involved approximately 31,000 Allied troops—including over 14,000 U.S. personnel—and provided a robust demonstration of Allied defensive capabilities, readiness, and interoperability. ERI also supported Navy-led BALTOPS 16, the premier maritime exercise in the Baltic region with over 6,100 troops from participating nations. Utilizing ERI resources, the Air Force took part in over 50 exercises and training deployments across Europe. An Acquisition and Cross-Servicing Agreement concluded with the EU last December enables EUCOM to cooperate better with EU missions in the Balkans and elsewhere.

Russia Strategic Initiative (RSI): EUCOM leads the Department of Defense's Russia Strategic Initiative (RSI), which provides a framework for understanding the Russian threat and a forum for coordinating efforts and requirements. RSI allows us to maximize the deterrent value of our activities while avoiding inadvertent escalation. In just over a year, RSI has created a number of analytic products for combatant commanders that will enable a more efficient application of existing resources and planning efforts.

Detering Russia requires a whole-of-government approach, and EUCOM supports the strategy of approaching Russia from a position of strength while seeking appropriate military-to-military communication necessary to fulfill our defense obligations in accordance with the Fiscal Year 2017 National Defense Authorization Act. Going forward, we must bring the information aspects of our national power more fully to bear on Russia, both to amplify our narrative and to draw attention to Russia's manipulative, coercive, and malign activities. Finally, NATO and U.S. nuclear forces continue to be a vital component of our deterrence. Our modernization efforts are crucial; we must preserve a ready, credible, and safe nuclear capability.

Enable the NATO Alliance

As the United States manages multiple strategic challenges, our enduring strength remains NATO, the most successful alliance in history. NATO's leadership understands that the security environment has radically changed over the past few years. The Alliance has placed renewed emphasis on deterring further Russian aggression, countering transnational threats, such as violent extremist organizations, and projecting stability in the Middle East and North Africa, while fulfilling its commitments in Afghanistan.

The Warsaw Summit last July was a significant demonstration of unity, cooperation, and strategic adaptation. As the member nations declared in NATO's Warsaw Summit Communiqué, "We are united in our commitment to the Washington Treaty, the purposes and principles of the Charter of the United Nations (UN), and the vital transatlantic bond". This unity is NATO's center of gravity, and the United States must continue to support solidarity among the Alliance nations.

Enhanced Forward Presence (eFP). The signature outcome of the 2016 Warsaw Summit was the decision to establish an enhanced Forward Presence (eFP) in the Baltics and Poland to demonstrate NATO's cohesion in defense of the Alliance. Canada, Germany, the United Kingdom, and the United States have begun deploying multinational battalion task forces to Latvia, Lithuania, Estonia, and Poland respectively on a rotational basis. Defense Cooperation Agreements (DCAs) signed in 2017 with Estonia, Latvia, and Lithuania are facilitating the deployment of U.S. forces to the three Baltic states. The United States serves as the framework nation for eFP in Poland and is working closely with the other framework nations and their host nations to ensure NATO's key deterrence and defense measures are capable and integrated.

European Phased Adapted Approach (EPAA). EUCOM continues to implement the EPAA to defend European NATO populations, territory, and infrastructure against ballistic missile threats from threats outside the Euro-Atlantic region. In July 2016, the United States-funded Aegis Ashore facility in Romania became operational and transferred to NATO operational control. Work on the Aegis Ashore site in Poland (authorized and appropriated in fiscal year 2016 legislation) is underway and on track for completion by the end of calendar year 2018 and operational under NATO operational control in mid-2019.

Projecting Stability. NATO is a key contributor to ensuring security and projecting stability abroad. It is worth remembering that the first and only time the Alliance invoked the mutual defense provisions of its founding treaty was in response to the 9/11 attacks on the United States. Today, through NATO's Resolute Support Mission, over 12,000 troops (including over 5,000 non-U.S. personnel) provide training and assistance to Afghan security forces and institutions. NATO is committed to ensuring a stable Afghanistan that is not a safe haven for terrorists.

Additionally, it is notable that all 28 NATO nations participate in the Counter-ISIS coalition. NATO committed AWACS surveillance aircraft and actively contributes to capacity building in Iraq. EUCOM actively supports NATO's goal of expanding its operations against this terrorist threat.

Support to Washington Treaty. EUCOM provides support for key articles of the Washington Treaty, enabling NATO members to meet their collective security commitments. EUCOM conducts activities, such as security cooperation, to help allies meet their article 3 commitment to "maintain and develop their individual and collective capacity to resist attack." We have been able to reduce allies' dependencies on Russian-sourced, legacy military equipment thanks to ongoing congressional support for critical authorities and funding that provide shared resources. EUCOM also actively assists the Alliance when an ally declares, under article 4, that its territorial integrity, political independence, or security is threatened. The last time an ally invoked article 4 was 2015, when Turkey sought consultation following terrorist attacks. Most importantly, EUCOM is the force that backs the United States' commitment to article 5, which declares that an armed attack on one ally is an attack on all.

NATO Spending Trends. At the Wales Summit in 2014, the allies pledged to reverse the trend of declining defense budgets and invest in the development of highly-capable and deployable forces. Today, in addition to the United States, four allies (Estonia, Greece, Poland, and the United Kingdom) meet the NATO guidelines for 2 percent of GDP, up from three in 2014. Allies' defense expenditures increased in 2015 for the first time since 2009 and grew at a real rate of 3.8 percent in 2016, with 22 member nations increasing defense spending. Allies are showing demonstrable progress toward their commitment to contribute 2 percent of their GDP within a decade (by 2024).

This is a positive trend, but allied nations must meet the 2 percent mark with 20 percent allocated to the modernization of equipment and infrastructure. Critical ally and partner capability shortfalls remain, including strategic lift; intelligence, surveillance, and reconnaissance (ISR); deployable command and control; air to air refueling; and air and missile defense. Further, both EUCOM and NATO are hampered by inadequate infrastructure that affects the ability to maneuver across the continent. The expansion of the Alliance to include former Eastern Bloc countries has exacerbated the lack of common transportation networks between the newer NATO members in the east and the more established allies in the west. EUCOM is working closely with NATO to identify and address infrastructure requirements to improve U.S. and NATO freedom of movement throughout the theater.

Build Partner Capacity

EUCOM has spent several decades working with the Department of State to help allied and partner nations develop and improve their military and other security forces. This partner capacity building has been accomplished with the support of this Committee, which has been generous in providing us the authorization we need to accomplish this critical task. I would highlight two activities in particular.

Defense Institution Building (DIB). DIB helps partner nations build effective, transparent, and accountable defense institutions. For example, EUCOM fully endorses the work of the Defense Reform Advisory Board in Ukraine, which is helping to bring about both political and military reform as the Ministry of Defense, General Staff, and Armed Forces transition from centralized Soviet-style systems and concepts towards a Euro-Atlantic model. We also support defense institutions in Georgia, helping them improve their strategic logistics, human and material resource management, and institutional aspects of their training management system. Overall, our DIB efforts lay the groundwork for broader security cooperation activities.

Joint Multinational Training Group Ukraine (JMTG-U). Together with forces from Lithuania, Latvia, Estonia, the UK, and Canada using State Department-provided Foreign Military Financing and Ukraine Security Assistance Initiative funds, EUCOM trains, advises, and equips Ukraine security forces, helping them build the capacity to defend their sovereignty and territorial integrity. Our team, working through the Multinational Joint Commission, has developed Ukraine's institutional training capability so that Ukraine can create a NATO-interoperable armed force. Our efforts include the training of both conventional and special operations units, as well as advising Ukraine on defense reform priorities.

Assist Israel

EUCOM's mission to assist in the defense of Israel, one of our closest allies, remains a top priority. Success will depend on the continued support of Congress and our strong relationship with the Israel Defense Forces. Many aspects of our bilateral relationship have been guided by the Strategic Cooperation Initiative Program (SCIP) framework, which dates to the Reagan Administration. SCIP enables robust cooperation and coordination on a vast range of security matters. Going forward, we are working to update the SCIP to incorporate an examination of all major exercises to ensure each meets the three major pillars of our security relationship: (1) missile defense, air operations, and counter-terrorism; (2) managing the Weapon Reserve Stockpile for Allies-Israel (WRSA-I); and (3) ensuring Israel's qualitative military edge.

Counter Transnational Threats

Adopting a whole-of-government approach, EUCOM, together with its interagency partners, conducts initiatives to counter transnational threats including countering terrorism and the flow of foreign fighters, countering illicit finance networks, combatting the trafficking of persons and illicit substances; and building allied and partner security, investigative, and judicial capacity. In conjunction with the Departments of State, Justice, Homeland Security, and other federal law enforcement agencies, EUCOM works to monitor and thwart the flow of foreign fighters, support the dismantlement of facilitation networks, and build partner nation capacity to defeat violent extremism.

Through our counter terrorism cell, EUCOM strengthens the global Counter-ISIS efforts in coordination with and support of U.S. Central (CENTCOM), Africa (AFRICOM), and Special Operations (SOCOM) Commands. We have focused on those who facilitate the ISIS brand and network through radicalization, financing, and propaganda.

Also, EUCOM and NATO are working to increase ties with the EU to enhance the capabilities Europe can collectively bring to bear against transnational threats. These three organizational nodes foster a shared understanding of the threats, help match resources accordingly, and can address all elements of national power including diplomatic, informational, military, and economic. In order to realize this networked approach, EUCOM will support NATO efforts to expand the capability and capacity of Allied Joint Forces Command—Naples.

Enable Global Operations

EUCOM personnel actively support operations in AFRICOM and CENTCOM AORs. EUCOM's well-developed and tested infrastructure provides critical capabilities in strategic locations such as Incirlik, Turkey; Sigonella, Italy and Moron and Rota, Spain. Basing and access in Germany, Greece, Italy, France, Spain, Turkey, and the United Kingdom enable more timely and coordinated trans-regional crisis response.

IV. RESOURCE REQUIREMENTS

Significant United States force reductions following the collapse of the Soviet Union were based on the assumption that Russia would be a strategic partner to the West. These reductions now limit United States options for addressing challenges in a changing European strategic environment. The strategic rebalance to Asia and the Pacific, combined with budget limitations in the Budget Control Act of 2011, have contributed to substantial posture reductions across our land and air domains. For example, between 2010 and 2013, two fighter squadrons and a two-star numbered air force headquarters were inactivated, along with associated critical enablers and staff personnel. In addition, the last two heavy Brigade Combat Teams (BCT), a two-star division headquarters, and a three-star corps headquarters were removed from Europe, leaving only one Stryker and one airborne brigade. As a result of the BCT losses, without fully-resourced heel-to-toe rotational forces the ground force permanently assigned to EUCOM is inadequate to meet the combatant command's directed mission to deter Russia from further aggression.

Deterrence Posture. Going forward, we will need to continue maintaining capable forces for effective deterrence. EUCOM is coordinating across the DOD to obtain the forces we need in every warfare domain. This may include additional maneuver forces, combat air squadrons, anti-submarine capabilities, a carrier strike group, and maritime amphibious capabilities. We will continue to enhance our plans for pre-positioning equipment across the theater as a flexible deterrent measure and to exercise the joint reception, staging, and onward integration of CONUS-based forces into Europe.

ERI Requirements. EUCOM's continues to require the ability to deter Russian aggression and counter malign influence while assuring allies and partners. We anticipate needing to continue deterrence measures initiated in previous ERI submissions to include: Army and Air Force prepositioning, retention of F-15 presence, improved airfield infrastructure improvements, and to address some new capabilities needed in the theater.

Indications and Warnings (I&W). EUCOM's ability to provide strategic warning is critical to credible deterrence. A robust intelligence capability enables accurate analysis and rapid response in a changing theater security environment. This capability also supports the design of realistic exercises, posture alignment, and future requirements. Furthermore, when completed, EUCOM's Joint Intelligence Analytic Center at Royal Air Force Croughton will provide a dedicated, purpose-built intelligence facility collocated with NATO and AFRICOM's analytic centers that will enhance capability and capacity in both combatant commands and NATO. Finally, additional intelligence collection platforms in theater, such as the U-2, the RQ-4, and the RC-135, are required for accurate and timely threat information to support strategic decisions.

Recapitalization Efforts. The European Infrastructure Consolidation effort announced in January 2015 enables EUCOM to divest excess capacity and consolidate missions and footprints at enduring locations. However, with aging infrastructure and little recent investment, recapitalization and consolidation projects are required to support warfighter readiness, command and control requirements, deployments, training, and quality of life. This Committee has been key to these critical efforts. We continue to modernize communications facilities and schools across Europe. Last

year, Congress authorized the final increment for the Joint Intelligence Analysis Center, which enables the closure of RAF's Molesworth and Alconbury.

V. CONCLUSION

Let me conclude by again thanking this committee's Members and staff for their continued support of EUCOM, not only through providing our requested funding, but also by helping us to articulate the challenges that lie before us. Support from other senior leaders and, above all, from the public at home and across Europe is vital to ensuring that we remain ready and relevant. This is a pivotal time for EUCOM as we transition to meet the demands of a dynamic security environment. I remain confident that through the strength of our alliance and partnerships, and with the professionalism of our servicemembers, we will adapt and ensure that Europe remains whole, free and at peace.

Chairman MCCAIN. Since a quorum is now present, I ask the committee to consider a list of 62 pending military nominations. All of these nominations have been before the committee the required length of time. Is there a motion to favorably report these 62 military nominations?

Senator REED. So moved.

Chairman MCCAIN. Is there a second?

Senator NELSON. Second.

Chairman MCCAIN. All in favor, say aye.

[Chorus of ayes.]

Chairman MCCAIN. The ayes have it.

[The list of nominees follows:]

MILITARY NOMINATIONS PENDING WITH THE SENATE ARMED SERVICES COMMITTEE WHICH ARE PROPOSED FOR THE COMMITTEE'S CONSIDERATION ON MAY 23, 2017.

1. *BG Sean L. Murphy, USAF to be major general* (Reference No. 92).
2. *In the Navy there are 2 appointments to the grade of rear admiral (lower half) (list begins with John A. Okon)* (Reference No. 109).
3. *In the Navy there are 19 appointments to the grade of rear admiral (lower half) (list begins with Edward L. Anderson)* (Reference No. 111).
4. *In the Navy there is 1 appointment to the grade of captain* (Susan M. McGarvey) (Reference No. 147).
5. *In the Navy there is 1 appointment to the grade of commander* (Sheila I. Almendras-Flaherty) (Reference No. 168).
6. *In the Navy there is 1 appointment to the grade of captain* (Adrian D. Ragland) (Reference No. 170).
7. *In the Marine Corps Reserve there are 5 appointments to the grade of colonel (list begins with Mark S. Jimison)* (Reference No. 171).
8. *In the Navy there is 1 appointment to the grade of captain* (Christopher R. Desena) (Reference No. 207).
9. *In the Navy there is 1 appointment to the grade of captain* (Kenneth L. Demick, Jr.) (Reference No. 212).
10. *In the Navy there is 1 appointment to the grade of captain* (Michael C. Bratley) (Reference No. 214).
11. *In the Marine Corps there is 1 appointment to the grade of lieutenant colonel* (Jason G. Lacis) (Reference No. 233).
12. *In the Marine Corps there is 1 appointment to the grade of lieutenant colonel* (Kevin J. Goodwin) (Reference No. 235).
13. *MG Bradford J. Shwedo, USAF to be lieutenant general and Chief, Information Dominance and Chief Information Officer, Office of the Secretary of the Air Force* (Reference No. 300).
14. *MG Giovanni K. Tuck, USAF to be lieutenant general and Commander, Eighteenth Air Force, Air Mobility Command* (Reference No. 302).
15. *LTG James C. McConville, USA to be general and Vice Chief of Staff of the Army* (Reference No. 303).
16. *BG Stuart W. Risch, USA to be major general* (Reference No. 304).

17. *MG Thomas C. Seamands, USA to be lieutenant general and Deputy Chief of Staff, G-1, U.S. Army* (Reference No. 305).
18. *Col. Mark E. Black, USAR to be brigadier general* (Reference No. 306).
19. *Col. Matthew V. Baker, USAR to be brigadier general* (Reference No. 307).
20. *BG Chris R. Gentry, USAR to be major general* (Reference No. 308).
21. *BG Robert A. Karmazin, USAR to be major general* (Reference No. 309).
22. *BG Marion Garcia, USAR to be major general* (Reference No. 310).
23. *BG Joseph E. Whitlock, USAR to be major general* (Reference No. 311).
24. *Col. Miguel A. Castellanos, USAR to be brigadier general* (Reference No. 312).
25. *Col. Windsor S. Buzza, USAR to be brigadier general* (Reference No. 313).
26. *Col. Randall V. Simmons, Jr., USAR to be brigadier general* (Reference No. 314).
27. *Col. Michael D. Wickman, USAR to be brigadier general* (Reference No. 315).
28. *In the Army there are 32 appointments to the grade of major general (list begins with Carl A. Alex)* (Reference No. 316).
29. *In the Army Reserve there is 1 appointment to the grade of colonel (Kalie K. Rott)* (Reference No. 317).
30. *In the Army there is 1 appointment to the grade of major (Norma A. Hill)* (Reference No. 318).
31. *In the Army there is 1 appointment to the grade of lieutenant colonel (Frank C. Pescatello, Jr.)* (Reference No. 319).
32. *In the Army there is 1 appointment to the grade of major (Basim M. Younis)* (Reference No. 320).
33. *In the Army Reserve there is 1 appointment to the grade of colonel (Stanley F. Gould)* (Reference No. 321).
34. *In the Army there is 1 appointment to the grade of major (Scott W. Fisher)* (Reference No. 322).
35. *In the Army Reserve there are 16 appointments to the grade of colonel (list begins with Gary L. Beaty)* (Reference No. 323).
36. *In the Army Reserve there are 2 appointments to the grade of colonel (list begins with Daniel J. Convey)* (Reference No. 324).
37. *In the Army there are 2 appointments to the grade of major (list begins with Sophia Dalce)* (Reference No. 325).
38. *In the Army there is 1 appointment to the grade of colonel (Dawn E. Elliott)* (Reference No. 326).
39. *In the Army there is 1 appointment to the grade of lieutenant colonel (DO12528)* (Reference No. 327).
40. *In the Army there is 1 appointment to the grade of major (Benjamin W. Hillner)* (Reference No. 328).
41. *In the Army there is 1 appointment to the grade of major (Celina S. Pargo)* (Reference No. 329).
42. *In the Army there is 1 appointment to the grade of major (Paul R. Ambrose)* (Reference No. 330).
43. *In the Army there are 2 appointments to the grade of major (James L. Dungca)* (Reference No. 331).
44. *In the Army there is 1 appointment to the grade of colonel (Charles R. Burnett)* (Reference No. 332).
45. *In the Navy there is 1 appointment to the grade of commander (Evan M. Colbert)* (Reference No. 333).
46. *In the Navy there is 1 appointment to the grade of captain (Luciana Sung)* (Reference No. 334).
47. *In the Navy there is 1 appointment to the grade of captain (William A. Schultz)* (Reference No. 335).
48. *In the Navy there is 1 appointment to the grade of lieutenant commander (William L. McCoy)* (Reference No. 336).
49. *In the Navy there is 1 appointment to the grade of Captain (Chris F. White)* (Reference No. 337).
50. *In the Navy there is 1 appointment to the grade of lieutenant commander (Karl M. Kingry)* (Reference No. 338).

51. In the Navy there is 1 appointment to the grade of commander (Michael A. Polito) (Reference No. 339).
52. In the Navy there is 1 appointment to the grade of lieutenant commander (Raymond J. Carlson, Jr.) (Reference No. 340).
53. In the Marine Corps there is 1 appointment to the grade of lieutenant colonel (Javier E. Vega) (Reference No. 341).
54. In the Marine Corps there is 1 appointment to the grade of major (Sergio L. Sandoval) (Reference No. 342).
55. In the Navy there is 1 appointment to the grade of lieutenant commander (Christopher M. Allen) (Reference No. 343).
56. *In the Army there are 3 appointments to the grade of brigadier general (list begins with Susan K. Arnold)* (Reference No. 377).
57. *Col. Richard J. Lebel, USAR to be brigadier general* (Reference No. 378).
58. *Col. Todd W. Lewis, USAR to be brigadier general* (Reference No. 379).
59. *In the Army there are 2 appointments to the grade of brigadier general (list begins with George N. Appenzeller)* (Reference No. 380).
60. *MG Steven R. Rudder, USMC to be lieutenant general and Deputy Commandant, Aviation, Headquarters, U.S. Marine Corps* (Reference No. 381).
61. In the Air Force Reserve there is 1 appointment to the grade of colonel (James E. Thompson) (Reference No. 382).
62. In the Army there is 1 appointment to the grade of lieutenant colonel (Pablo F. Diaz) (Reference No. 383).
63. In the Army there is 1 appointment to the grade of lieutenant colonel (Craig A. Nazareth) (Reference No. 384).
64. In the Army there is 1 appointment to the grade of lieutenant colonel (Brian C. McLean) (Reference No. 385).
65. In the Army there is 1 appointment to the grade of major (Raymond C. Casteline) (Reference No. 386).
66. In the Army Reserve there is 1 appointment to the grade of colonel (Daniel J. Shank) (Reference No. 387).
67. In the Army there is 1 appointment to the grade of lieutenant colonel (Christopher W. Degn) (Reference No. 388).
68. In the Army there is 1 appointment to the grade of colonel (Jason T. Kidder) (Reference No. 389).
69. In the Army there is 1 appointment to the grade of colonel (Tito M. Villanueva) (Reference No. 390).
70. In the Army there is 1 appointment to the grade of lieutenant colonel (Philip J. Dacunto) (Reference No. 391).
71. In the Army Reserve there is 1 appointment to the grade of colonel (Stephen R. November) (Reference No. 392).
72. In the Army there is 1 appointment to the grade of colonel (Luisa Santiago) (Reference No. 393).
73. In the Army Reserve there is 1 appointment to the grade of colonel (Robert J. Bonner) (Reference No. 394).
74. In the Air Force there is 1 appointment to the grade of major (Johanna K. Ream) (Reference No. 411).
75. In the Air Force Reserve there are 118 appointments to the grade of colonel (list begins with Paul R. Aguirre) (Reference No. 412).
76. In the Army there is 1 appointment to the grade of major (Mohamad El Samad) (Reference No. 413).
77. In the Army there is 1 appointment to the grade of major (Lana J. Bernat) (Reference No. 414).
78. In the Army there is 1 appointment to the grade of lieutenant colonel (Patrick K. Sullivan) (Reference No. 415).
79. In the Army Reserve there are 207 appointments to the grade of colonel (list begins with Derek L. Adams) (Reference No. 416).
80. In the Army Reserve there are 230 appointments to the grade of colonel (list begins with Rodney Abrams) (Reference No. 417).
81. In the Army Reserve there are 58 appointments to the grade of colonel (list begins with Christine N. Adams) (Reference No. 418).

82. In the Navy there is 1 appointment to the grade of lieutenant commander (Aaron L. Witherspoon) (Reference No. 430).
83. In the Navy there is 1 appointment to the grade of captain (John E. Fritz) (Reference No. 437).
84. In the Marine Corps there is 1 appointment to the grade of major (Michael S. Stevens) (Reference No. 451).
85. In the Marine Corps there is 1 appointment to the grade of major (Patrick J. Mullen) (Reference No. 452).
86. In the Marine Corps Reserve there are 45 appointments to the grade of colonel (list begins with Raymond L. Adams) (Reference No. 453).
87. *MG Laura J. Richardson, USA to be lieutenant general and Deputy Commanding General/Chief of Staff, U.S. Army Forces Command* (Reference No. 467).
88. *BG Charles N. Pede, USA to be lieutenant general and Judge Advocate General of the Army* (Reference No. 468).
89. *RADM Phillip G. Sawyer, USN to be vice admiral and Commander, Seventh Fleet* (Reference No. 469).
90. *MG Brian D. Beaudreault, USMC to be lieutenant general and Deputy Commandant for Plans, Policies, and Operations, Headquarters, U.S. Marine Corps* (Reference No. 473).

TOTAL: 818

General, do you have any general comment about the attack yesterday in London and the significance of it?

General SCAPARROTTI. Sir, the attack in London underscores again the dynamic environment in Europe. Europe is challenged by both a flow of terrorists returning to Europe from Syria and other places. They are challenged by an internal threat of those inspired by ISIS or directed by ISIS. This is an example of the attacks that we have seen in Europe in the past year. It is a difficult challenge. As I said, we remain solid and stand shoulder to shoulder with our allies in NATO to defeat this threat.

Chairman MCCAIN. The likelihood of further actions like this, particularly some that are self-indoctrinated, is very hard to stop.

General SCAPARROTTI. It is, sir. I would just say that the number of threat streams that we have of this type within Europe is probably higher in Europe than any other part of the globe with the exception of the places that we are actually physically fighting in like Syria and Afghanistan and Iraq.

Chairman MCCAIN. Is there a connection between that and refugees?

General SCAPARROTTI. The flow of refugees and those who move them, particularly criminal activities that will help move them—they also are more than willing to move both equipment, personnel, weapons, and people.

Chairman MCCAIN. As you know, there was an attempted coup in Montenegro by the Russians. The Montenegrin membership in NATO is pending, and 26 of the 28 nations I believe have already registered their approval. It is a small country, only 650,000 people. It is very strategically located, as you know. What is your view of the importance of Montenegro especially since they have completed all of the very difficult procedures necessary to become eligible—what is your view of the importance of their inclusion in NATO?

General SCAPARROTTI. Chairman, it is absolutely critical that they be brought into NATO. They have had this desire. They have

met the map. It underscores NATO's outreach and ability to bring in those who want to determine their own means of government and become a part of NATO. If we were to lose this, it would set back many of the other countries and peoples, particularly in Eastern Europe, who are looking forward to and have their eyes set on the West and becoming a part of NATO.

Chairman MCCAIN. So it is very important.

General SCAPARROTTI. I think it is critical, yes.

Chairman MCCAIN. I thank you.

Finally, you talked about the military presence necessary for additional forces in Europe, but one of the problems we continue to face—for example, one of the causes of the attempted coup in Montenegro is the saturation of propaganda emanating from Russia. We all know the controversy here in the United States about our election, but we now see them active in the French election apparently, in the German election. But more importantly, they are inundating the Baltics in particular. What are our ideas other than ask for a strategy? What are our ideas as to how to counter what has emerged as one of the greatest threats to stability in Europe?

General SCAPARROTTI. Chairman, I think, first of all, we have to confront this threat as it is, be sober-minded about it. We have to do it as an alliance and with our partners, and we have to call it out. We have to confront it. There seems to be a reluctance in many of the nations to actually confront it when we see it, publicly take it on. I think we as partners have to form together and begin to do this. As you said, it is prolific, and I believe we have got to confront it.

Chairman MCCAIN. We countered Russian propaganda during the Cold War with Radio Free Europe and Voice of America. All I have seen so far is disarray in Prague about the role, the funding, the strategies and all that. What do you think we need to do there to have our own effective counter-message to be sent? I know that is not exactly in your area of responsibility, but I think it is a kind of warfare.

General SCAPARROTTI. Sir, it is. The Russians see this as a part of that spectrum of warfare. That is their asymmetric approach.

I will start here. We have information operations that are military, and I have those that are countering malign influence in Europe. But what we really need is we need a whole-of-government approach, a whole-of-government information campaign, of which I am a small part of that. We need somebody in the lead of that, and then we need to finance it and form a governmental strategy. As you said, in the Cold War, we had one. There is a start on that. We have what is called the RIG, the Russian Information Group, which is the beginnings of that. But that has to be reinforced. It has to be financed. They have to have the authorities that they need to lead that forward.

Chairman MCCAIN. The lead on that would probably be the State Department. Right?

General SCAPARROTTI. The RIG is co-chaired with EUCOM and the State Department is the lead. Yes, sir.

Chairman MCCAIN. So it would not help you any if we slashed the spending for the State Department.

General SCAPARROTTI. No, sir.

Chairman MCCAIN. Senator Reed?

Senator REED. Well, thank you, Mr. Chairman.

In fact, you anticipated one of the questions I wanted to raise about the malign influences in elections and institutional capacity that are evident in Europe today. I think I can safely say that we are really not organized to deal with it at this point. Is that correct?

General SCAPARROTTI. Yes, sir. I agree we can get much better organized to deal with this than we are today.

Senator REED. Let me just go a step further and say that in your estimate, what are the strategic effects that the Russians are trying to achieve by these activities? This is not sort of a random kind of just stir up trouble for the sake of stirring up trouble. What are the strategic objectives?

General SCAPARROTTI. Sir, their overall objective is to undermine the governments that oppose them, to reinforce the political parties in each of those countries that might be aligned with them, to demonstrate the weakness of the West and undermine the U.S. and the West. They want to ensure that they can dominate particularly their periphery. They are doing that through this asymmetric approach.

Senator REED. Now, you have indicated that particularly with the European Defense Initiative and with the response initiative, we are beginning to reorganize, re-equip, et cetera. Can you give us a sense of your priorities? You had a long list of activities that you feel you have to undertake. But the top three issues that you have to get accomplished in the near future.

General SCAPARROTTI. Sir, the top three that we have to get accomplished—I think, first of all, is we have to get our posture correct for deterrence, and that is across all the services. It not just—we tend to focus on the Army part of this, but each of the services play a role in that.

Secondly, we have to ensure that our command has made the transition to a command that can command and control in the dynamic environment against an aggressor like Russia. We just recently had our command post exercise we have every 2 years. It was a great exercise, but what it laid out is the changes we have yet to make within the component commands in Europe in order to fight a foe like Russia.

Senator REED. With respect to Ukraine, our expert panel on Tuesday, who did a superb job, suggested that is really the critical arena at the moment. If they are able to subvert Ukraine, then that will send shock waves throughout Europe. Is that in your assessment? Just generally, how are we collectively, both NATO, the United States, EUCOM, and the EU, doing in terms of our efforts in the Ukraine?

General SCAPARROTTI. I think the good news with respect to Ukraine is that we are unified and we are organized. NATO has a defense fund that supports it along very similar lines to the United States. We are thankful to Congress for its funding of our activities there. In fact, we lead a multinational joint commission, which is actually the vehicle that among our allies and the United States, assesses and then directs the reform that needs to take place in conjunction with Ukraine. They also do the assessment of

the needs in terms of equipment and training and guide that training. So we are actually doing that together with our partners, as well as NATO through that one body. I think it is very effective.

Senator REED. In that regard, a great deal—my impression is—of the civilian capacity building and the anti-corruption efforts is being done by the European Union. So their efforts are absolutely critical to U.S. success. Is that fair?

General SCAPARROTTI. That is true, sir, and it is critical. Our connection to EU, as well as NATO's, has been in the forefront here for the past year or so for many reasons, and that is one of them.

Senator REED. Thank you very much.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Fischer?

Senator FISCHER. Thank you, Mr. Chairman.

Welcome, General. It is nice to see you again.

As you know, last week General Selva confirmed Russia's deployment of a weapon system that violates the INF Treaty. He went on to say that, "the system itself presents a risk to most of our facilities in Europe, and we believe that the Russians have deliberately deployed it in order to pose a threat to NATO and the facilities within the NATO area of responsibility."

You touched on this in your opening statement on page 5, and you said that the system creates a mismatch in escalatory options. Could you please elaborate on what you mean by that and what the implications are of this deployment?

General SCAPARROTTI. Well, this deployment gives them some advantage in terms of reach and precision within their systems. When we talk about escalation management, if there is a tension or a crisis with Russia, because of their doctrine and their view that they will escalate to dominate or escalate to deescalate, it creates a very tight range of options when we work through escalation management. So an enhancement like that just makes this a very restrictive and difficult management process you through in deterrence. It is that much more pressurized. So it is a critical enhancement. It is one that we need to respond to.

Senator FISCHER. You say we need to respond, and you just mentioned options, the word "option." Secretary Carter talked about options. He mentioned counter-force, countervailing capabilities, active defenses, but we did not see any real action in order to pursue those. Do you think that we need to?

General SCAPARROTTI. Yes, I think we do.

Senator FISCHER. Which of these options do you think would be the most effective in dealing with this?

General SCAPARROTTI. If I could, I would like to take that for a response for the record. I need to think about the comparison of those actually and tell you the best response.

[The information referred to follows:]

General SCAPARROTTI. [Deleted.]

Senator FISCHER. Okay. Thank you.

General SCAPARROTTI. Thank you.

Senator FISCHER. At a recent hearing of the Strategic Forces Subcommittee, which I chair, we discussed the implications of Russia's nuclear strategy, often referred to as the escalate/deescalate.

General Koehler, who is a former Commander of the U.S. Strategic Command, made the point that the Russian approach reinforces the value of NATO remaining a nuclear alliance, as well as the need for the deterrent value provided by United States nuclear weapons that are stationed in Europe.

In your written statement, you say that NATO and U.S. nuclear forces continue to be a vital component of our deterrence. Our modernization efforts are crucial. We must preserve a ready, credible, and safe nuclear capability.

Do you agree that NATO must remain a nuclear alliance and that the United States must continue to station those nuclear weapons on the European continent?

General SCAPARROTTI. Yes, Senator, absolutely I do.

Senator FISCHER. Can you outline to us specific benefits that we receive by having those stationed there?

General SCAPARROTTI. Well, first of all, it provides an immediate response that is within the NATO alliance as opposed to just the U.S. It represents the alliance in a response by 28 nations, a commitment by 28 nations that we will deter and we will deter their nuclear forces. I think that alone is significant.

Secondly, it gives us some other options because we have not only the U.S. but other contingents that provide essential capabilities within that nuclear capability. So there is more agility there as well.

Senator FISCHER. It recognizes the importance of deterrence. Thank you, General.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Shaheen?

Senator SHAHEEN. Thank you, Mr. Chairman.

Thank you, General Scaparrotti, for being here this morning and for your service to the country.

I want to follow up on the line of questioning that Senators McCain and Reed started on the whole information warfare issue. When former General Breedlove was before the committee earlier this week, he pointed out that recently Russia has established an information warfare division within its armed forces. Do you think NATO should be looking at something like that? Are there already efforts underway? You talked about the RIG group, but should we be doing more within NATO to address the propaganda that Russia is putting out throughout Europe and the United States, by the way?

General SCAPARROTTI. Yes, Senator. I think in the United States, we have organization I think to effectively operate. What we need to do is policy and then actions that flow from that within the United States. That is a whole-of-government approach. That is probably not the structure that we have in the way that we need it today. So it is more of a whole-of-government response I would tell you. I think we are pretty agile in the military, rather than establishing some information command, et cetera. We have smaller units that tactically execute these kinds of missions. I have them in EUCOM.

Within NATO, NATO has taken this on as well, but it is somewhat nascent at this point. I think we do have to pursue that. I mean, we have got an adversary here who is using this to very

good benefit, and we have to compete short of conflict in this area as well.

Senator SHAHEEN. But as you point out, we do not really have a strategy to do that, and we do not have anybody in charge of that in the United States Government. I mean, we have the Global Engagement Center that is starting up in the State Department. I have spoken, as I am sure others have, with the continuation of the efforts we had during the Soviet Union when we had the Cold War and we had Radio Free Europe, and they did a terrific job in those days. But we do not have a continuation of that that is part of sharing and cooperating with factually presenting what is happening in the West compared to what is going on with Russia's propaganda.

Where should that effort be located? Do you have thoughts about who should participate in that and how we better coordinate what we are doing?

General SCAPARROTTI. Yes, Senator, I do. I think actually that the RIG, the Russian Information Group, which I mentioned, is actually a good structure to start with. It has State as the lead, co-chaired with European Command. It has all of the other agencies involved in that. The GEC is a key leader in that, which has been empowered to do the communication piece of the State. But, you know, it is not robustly supported. I do not believe that it has the kind of focus and priority that we need to have. So, therefore, it exists but it needs to really be reinforced, funded. Then as you said, I think we have all the talent and creativity we need in this Nation to do this better than anybody else. We just need to decide to do it.

Senator SHAHEEN. Thank you.

There was a report. Actually I agree with you. I just want to make that clear.

There was a report earlier this week about Russia training Kurdish fighters. It was not clear to me to what extent they were doing that. But how is Turkey responding to that report? Are they concerned about what Russia is doing, and how does that affect their sort of growing rapprochement with Russia?

General SCAPARROTTI. Senator, I have not talked to my counterpart, the CHOD in Turkey, since this report came out. So we have not talked directly. I cannot tell you exactly what their response on this would be.

But given my association with them and their concern about the PKK [Kurdistan Workers' Party] and associated groups, Kurd groups, that are aligned with them, I think they would have great concern about it. They want to ensure that the attacks that they have from the PKK are not reinforced in any way—Turkey does. They also want to ensure that they do not have—the cantonments in Syria are not connected in Syria so they have Kurdish entity across their entire across their entire southern border. Given those two objectives, I think they are very concerned about it probably.

Senator SHAHEEN. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Inhofe?

Senator INHOFE. Thank you, Mr. Chairman.

General, last weekend, I was in the Ukraine and was observing their training. The 45th does a great job. In fact, that is the same group that not long ago was providing the same training of training in Afghanistan and Iraq. They are going to be there for a year long. I watched that, and there is really an art to that. They are doing a great job because most people will think that they are there to train the Ukrainians or wherever they are stationed, but they really there to train them to train the others, and there is a big difference. So I wanted you to know that they are really doing a good job.

During the parliamentary elections in 2014, I was with Poroshenko and the crowd when, of course, they had that huge success, the first time in 96 years. No Communist is in the parliament there. As you know, it became very controversial after that took place and Putin started killing Ukrainians, and we wanted to provide the lethal defensive assistance. Our committee was pretty much unanimous on that. The administration was not that excited about it. So in both the fiscal year 2016, we authorized \$300,000, in fiscal year 2017, authorized \$350,000 for the security assistance for Ukraine, including lethal assistance such as anti-armor weapons.

General Dunford during his nomination hearing said this. "I think it is reasonable that we provide that lethal support for the Ukrainians. Frankly, without that kind of support, we are not going to be able to protect themselves against the Russia aggression."

So I would kind of like to get your idea. Do you agree with him? Do you agree also that we need to provide that assistance? What are we providing now and how much more should we?

General SCAPARROTTI. Senator, thank you. In short, yes, I do agree with him. I have been there twice recently.

I would note that I agree. The Guard is doing a very good job there and an important one in their training relationship with the Ukrainians.

In terms of lethal support, the Ukrainians are in a very tough fight, which you saw. They are very disciplined soldiers. But they are facing what we say are separatists. They are actually Russian proxies in my mind. They are being provided very lethal equipment. The Russians are providing the separatists that. The Russians are also testing some of their new TTPs there. So we need to reinforce the Ukrainian military as much as we can and provide them the best opportunity to fight what is a very lethal Russian proxy at this point.

Senator INHOFE. I agree with that. I have a question for the record as to what kind of equipment specifically we should do.

But I want to mention one thing. Do you happen to know—his name is Fatmir Mediu. He was the Secretary of Defense in the Albanian defense. They had a meeting, and I happened to be attending that meeting—it was on January 31st—kind of a roundtable talking about ISIS and the threat in the Balkans. It was kind of revealing. Apparently a lot of the ISIS recruiting is taking place in the Balkans right now. Do you have any comment to make as to what our activity is there in terms of what the threat is there? Are we working with them as closely as we should?

General SCAPARROTTI. I am very concerned about the stability in the Balkans, and one of the reasons is that what is generally a moderate or a Western-looking Islamic population is increasingly being affected by extremist influence there. Part of that is recruiting for ISIS. It is a trend right now. It is one I think we have to pay very close attention to.

Senator INHOFE. Okay. That is good. I appreciate it.

Now, my time has expired, but for the record, I would like to get as specific information as we could as to what best we could afford to send over there against the aggression that they have. Okay?

General SCAPARROTTI. Yes, sir. Thank you.

[The information referred to follows:]

General SCAPARROTTI. [Deleted.]

Senator INHOFE. Thank you.

Chairman MCCAIN. Senator Heinrich?

Senator HEINRICH. Welcome, General.

As was mentioned earlier, it is being reported that our Secretary of State will be missing the NATO summit of foreign ministers in a couple weeks. This obviously comes at a time when the administration has criticized the value of NATO. Russia is meddling in European elections, and Russia is threatening our NATO allies in the Baltics.

Do you have any opinions on whether this sends the right signal to our NATO allies? What kind of messages do you think we should be sending to our NATO allies at this time?

General SCAPARROTTI. Senator, I think it is essential that our allies in NATO understand that we are absolutely committed to the alliance and continue to be a key leader within the alliance.

I noted this morning that the Secretary-General and the Secretary had met, and they are looking for a date that all of the allies can meet for the foreign ministers conference. I hope that is, in fact, worked out and that becomes a reality.

Senator HEINRICH. As do I.

General, Russian denial, deception, disinformation were all important parts of the hybrid warfare campaign that we saw during the illegal seizure of Crimea and its Russian support for separatists in eastern Ukraine. As EUCOM Commander, you lead much of the effort to identify and attribute Russian disinformation operations. Can you describe for us how Russia is organized to conduct this kind of information warfare and what techniques you are seeing on display in the Ukraine?

General SCAPARROTTI. Thank you.

When you are talking about this, you think about it in a military organization, but frankly, what I think is important is that Russia actually has a very broad set of groups to include their intelligence groups that are doing this. So they actually have a whole-of-government approach on this, which I think makes it one more difficult. It is one of the reasons that we also see what I think is a pretty rapid or agile use of social media, TV—

Senator HEINRICH. Absolutely.

General SCAPARROTTI.—cyber, et cetera. So it is a force to be reckoned with at this point. I think it is that organization that gives them the ability.

Senator HEINRICH. Do you have recommendations in terms of building our capacity or that of our allies and partners in the region to be able to resist these kinds Russian influence activities?

General SCAPARROTTI. Well, I think, first of all, in EUCOM we have elements that today have missions to counter Russian malign influence, both to identify it, counter it, and then, third, we are building partner capacity. We are exchanging techniques, et cetera. Estonia has an excellent cyber center of excellence, for instance. That is a key node in NATO. We work very closely with that. So we need to continue those kinds of partnerships and exchange of skill and understanding how they are working. I think, particularly as an alliance, we can counter this.

Senator HEINRICH. I think because of their proximity, we actually have a lot to learn from our Balkan partners, and given what we have seen even in our own elections, it is time to learn those lessons.

Russia's air defense systems like the S-300 and S-400 threaten to block our ability to be able to project power in the event of a conflict in the European region, particularly in the Baltics. This certainly undermines the United States and NATO's article 5 commitment to the defense of these allies and raises concerns about the alliance's ability to deter an increasingly aggressive Russia.

How capable are the Russian air defense systems particularly in Kaliningrad?

General SCAPARROTTI. Sir, I would just state in an unclassified venue, they are very capable. The newer systems like the S-400 is a definite enhancement in their capabilities. That is why we are concerned about it. As you stated, their location in Kaliningrad and Crimea and the Mediterranean provides difficulty for our access and mobility. We can counter this. I am confident of that.

Senator HEINRICH. Do you have opinions in that regard on what types of next generation technologies, for example, we will need to effectively counter the Russian A2/AD capabilities?

General SCAPARROTTI. Up front what I talked about in terms of our advanced aircraft, fifth generation, enhanced munitions, particularly long-range precision munitions, electronic warfare, those things generally is what we need to continue our modernization efforts on. If you would like, I could give you a more specific in a classified response, obviously.

Senator HEINRICH. I would appreciate that, General.

Thank you, Chairman.

Chairman MCCAIN. Senator Rounds?

Senator ROUNDS. Thank you, Mr. Chairman.

General, thank you for your service. I appreciate the opportunity to visit for just a few minutes today.

With regard to Montenegro, the chairman had begun the discussion in terms of the possibilities that they could become a member of NATO. If they were to become a member of NATO, what would you expect the Russian response to be and how would you prepare for it?

General SCAPARROTTI. Senator, I think we have probably seen their response in terms of their activity and their attempt to block that. I think to a certain extent, they know this is going to happen. I trust it will.

In a conversation with one of NATO's ministers, one of the countries that has communication with Russian leadership, he shared with me that a Russian leader told him that Putin had said he lost Montenegro, but there will not be another Montenegro. I think that is an indication of how they think and how important it is to them that these other nations that seek to have a democratic government and turn to the West are under threat. It is one of the reasons that I think Russia continues to have frozen conflicts and be present in places like Georgia and Ukraine because it is their means of controlling that.

Senator ROUNDS. You have got extensive background in Europe. You know a number of the European leaders. With the change in administrations, naturally there are going to be some questions in terms of policy changes, decision-making processes, and so forth. What questions are you getting from your European contacts in terms of leaders and what concerns do they have?

General SCAPARROTTI. Well, I think, first of all, as a new administration comes in, they want to ensure that we are committed to the alliance and the security of the transatlantic AOR. For instance, Secretary Mattis at the first NATO meeting at the defense ministers conference made our commitment very clear, as did Vice President Pence, at Munich. I think that is critical. They look to that.

They also now look to what are the policies and are the policies consistent with security in the transatlantic region. Of course, in a new administration, they are looking forward to policies with respect to NATO, policies with respect to Afghanistan and others.

Senator ROUNDS. When it comes to doing your job, you clearly have to have the tools and the tools in proper working order in order to get the job done. If you could give us a list of those areas that you have the most concern with our capabilities today. I will just give you an example. The fact that right now if we have one task force leaving the Mediterranean coming through and another one going in, in some cases we are actually stopping in the middle of the Mediterranean and trading ammo because we do not have enough ammo to literally maintain operational capabilities in multiple task forces. Those types of things concern us. We have a nuclear submarine sitting at the dock because literally we cannot get the maintenance done on it so that it is certified to die at this stage of the game—a nuclear submarine. The readiness clearly is not there in some cases.

Do you have issues right now under your command that you would share with us that you have concerns with?

General SCAPARROTTI. Senator, I would like to get into detail in a classified or closed session. But generally I would say this. The demands of our security strategy today in the dynamic world that we are working in requires us to have more capacity than we have today in our armed forces. You noted the Navy. So in Europe, I do not have the carrier or the submarine capacity that would best enable me to do my job in EUCOM. It is sufficient, but it is not what ideally I would like to have to deter Russia, assure our allies, build their capacity, work with them on the basis that we need to work with them. So that is an example of the areas.

Now, you mentioned munitions. I am concerned about that as well because we are using munitions today in those places where we are in conflict. The adversaries that we face, for instance, Russia or China or North Korea, will be high intensity conflicts. We have to invest in the stockpiles that we need, and we also have to invest in enhancing those munitions so as we look to the future, we do not find ourselves in a position where our adversaries have outpaced us.

Senator ROUNDS. Thank you, General.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Peters?

Senator PETERS. Thank you, Mr. Chairman.

Thank you, General Scaparrotti, for being here today. I certainly appreciate your testimony and also wanted to thank you for being very generous with your time at the Munich conference where we had an opportunity to discuss many of these issues at length.

General, as you are well aware, we are increasingly relying on space, cyberspace, and fiber optic communications cables in all aspects of our lives. These systems are also critical for social and economic activity, and their assured access and availability is vital to the U.S. strategic stability. When you look at Russia's navy operations right now in the EUCOM theater, which includes a significant footprint in the Arctic, which is growing dramatically without necessary response from us, and a \$2.4 billion expansion of the Black Sea fleet by 2020, Russia appears committed to bolstering their military infrastructure on EUCOM's flanks. This increased OPSTEMPO includes naval activity that suggests that Russia right now is exploring undersea cable vulnerabilities at much greater depths, depths where the cables are difficult to monitor and breaks are harder to repair.

So my question is, in general, what is your assessment as to whether or not we have sufficient redundancy within EUCOM's command and control architecture, to include ballistic missile defense systems, to withstand a coordinated attack on our undersea, terrestrial, and space-based communication systems that you rely on?

General SCAPARROTTI. Sir, what I would like to do is respond to that in a classified venue so I can give you a very accurate answer.

Senator PETERS. Sure.

General SCAPARROTTI. I am confident of our ability to operate today. As I just said, we just did our command post exercise, and we were looking at that. But we need to modernize what we have today in terms of command and control, as you noted, in order to have the right kind of resilience with the adversary that we face. You need a good deal of redundancy to be sure. That is one of the areas. If you note in a classified venue, what I have asked of OSD [Office of the Secretary of Defense], that is one of the key areas that I think we need to work on is the C-4 structure within Europe.

Senator PETERS. Well, I would appreciate that and actually following up on Senator Heinrich's questions too as you come back to brief on some of the A2/AD capabilities. I would be interested in learning more about that, particularly when it comes to next gen-

eration, what we need to be investing in today to be ready for the years ahead as warfare changes dramatically in the next few years.

But based on capabilities, to follow up my last question here related to capabilities, in the fiscal year 2016 NDAA budget, I co-led an effort to enhance lethality of the Stryker vehicles with a 30 millimeter cannon. This was in response to an operational needs statement from the 2nd Cavalry Regiment where the Strykers were the heaviest vehicles permanently stationed in Europe at that time. I understand that the work to add the 30 millimeter cannon to Strykers is going well. The first prototype was successfully delivered last October, and training is beginning on those vehicles.

The ERI also provides funds for upgrading the Abrams tanks to be prepositioned in Europe as well.

So could you just provide an update on the need for this capability and if we need to continue to be moving forward and that any lapses in that upgrade either of the Abrams or the Stryker is a problem or not for you?

General SCAPARROTTI. Senator, thank you very much.

It is not a problem for me, but it is a priority—

Senator PETERS. Right.

General SCAPARROTTI.—given the adversary that we have who continues to modernize. Particularly Russia is modernizing their armored force, as well as in each one of their services, they are making advancements. So it is critical that we outpace that, that we provide our soldiers in this case the very best equipment that we can and we continue to upgrade it.

Abrams is a fine tank, but as technology changes, we can make upgrades to it and make it better, and we make it better in terms of defense as well. We owe that to our soldiers.

Senator PETERS. The Stryker as well?

General SCAPARROTTI. The Stryker as well, absolutely.

Senator PETERS. Great. Thank you, General. I appreciate it.

General SCAPARROTTI. Thank you.

Chairman MCCAIN. Senator Sullivan?

Senator SULLIVAN. Thank you, Mr. Chairman.

General, good to see you. Thanks for spending time with a number of us in Munich.

Do you agree that one of the most important strategic advantages we have in terms of our national security is that we are an ally-rich nation, our adversaries are ally-poor?

General SCAPARROTTI. Senator, absolutely.

Senator SULLIVAN. Do you also agree that the ally-poor nations like Russia, China, North Korea, Iran—that they recognize that—they do not have many allies at all—and that they try to undermine our alliances? Is that not what certainly Vladimir Putin is up to?

General SCAPARROTTI. Yes, sir. I think his intent is actually to fracture NATO, and I think it is because he does fear NATO. He knows the power of that alliance.

Senator SULLIVAN. So given that, are we doing enough diplomatically, militarily right now—the Trump administration—to reinforce our alliances, expand our alliances, deepen our alliances? What is your assessment of what we are doing and what we could be doing

better whether it is in the military realm or diplomatic realm? How are we doing on that?

General SCAPAROTTI. Sir, I think we absolutely have a focus on building partner capacity, building our relationships with our partners. We are a leader in NATO. From a EUCOM perspective, that is something—I mean, we work on this every day. I do not think there is any question of that particularly on the military side. It is a very close relationship with our partners. It is day to day. It works both ways. We learn from our alliance partners as well.

Senator SULLIVAN. Are there things that you recommend that we could do more of or better in that regard? It is really, really an important issue—or the Senate? We play a big role in terms of our allies, treaties.

General SCAPAROTTI. Well, I think in terms of the alliance itself, here again, I keep coming back to it, but I think it is whole-of-government in the sense that every agency in the government does their part and it is clear to our allies that from every agency in the United States, that the alliance is important and it shows and demonstrates in its actions that the alliance is the bedrock of transatlantic security. So there is no disagreement in what they see in terms of action, not just on the military side but in terms of our diplomacy, our information, our economics, et cetera.

Senator SULLIVAN. I wanted to switch over to an issue that a number of us have been focused on and we have had discussions on it, is what is happening in the Arctic and the increasing importance of that region in terms of strategic resources, transportation, a lot of concerns of our NATO allies like the Norwegians and others about the significant Russian buildup in the Arctic. As you know, it does not look like a friendly buildup: four new brigade combat teams, a new Arctic military command, very aggressive actions in the high north, including a military exercise that was a SNAP exercise with close to 50,000 troops that EUCOM was barely aware of, which is kind of, in and of itself, not a good sign.

A number of us, Senator King, the chairman, were concerned enough that we did not have a strategy on that. So we required the Secretary of Defense to actually put forward a new Arctic strategy. There is a classified and unclassified version. Have you read that?

General SCAPAROTTI. I have not read it, no.

Senator SULLIVAN. So I would highly recommend that you take a look at it because it is the new DOD strategy. It is not perfect, but it is a heck of a lot better than the one that was previously published by DOD, which was pretty much a joke. Of course, EUCOM has a lot of important elements to play in that strategy.

But one of the things it emphasizes, it does talk about our strategic interests, which the last strategy did not even bother to do. But one of the things it emphasizes is looking at freedom of navigation operations, the ability to actually push back on the Russian buildup, which includes 40 icebreakers, 13 more under construction, several new seaports and harbors.

But although it emphasizes FONOPS [Freedom of Navigation Operations], do you think right now if Russia decided to deny access to vital United States or Arctic shipping lanes in the Arctic region, that you as the Commander of EUCOM—could you provide the President an option of conducting a surface FONOP to chal-

lenge that act like we are trying to do in the South China Sea, given our assets right now? Because the strategy emphasizes FONOPS, but it certainly seems like the means that we have right now would not enable you to make such a recommendation to the President. What do you think about that, General?

General SCAPARROTTI. I think it is would depend as well on the circumstances in terms of location and time of year because of the assets that we have as well. As you know, the northern sea route lays in closest proximity to Russia's coastline as well, which complicates that given their military buildup. So we clearly need to invest more in the kind of assets that help us in the Arctic. So that is how I would respond to that, Senator.

We can give options. We certainly need to improve our capabilities. I am concerned as well about our capabilities with respect to the high north and security of the North Atlantic, et cetera.

Senator SULLIVAN. That is just a diagram of what the Russians are doing. It is pretty significant.

Thank you, Mr. Chairman.

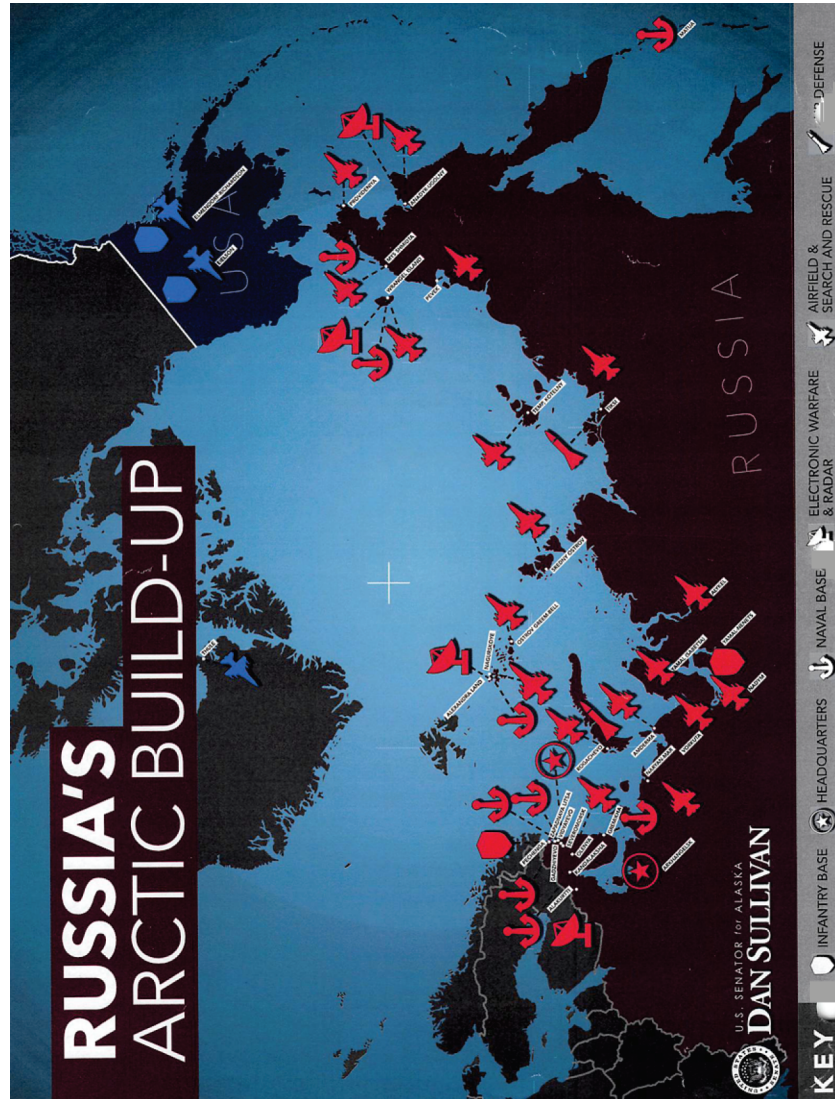
Chairman MCCAIN. Senator King?

Senator KING. Thank you, Mr. Chairman.

First, General, I want to thank you and your staff for preparing and presenting to the committee this map which I think is extraordinary. I am a great believer that you cannot confront your adversaries unless you understand them, unless you understand how they think. To me the amazing or very interesting and illuminating part of this map it shows the borders of the Soviet Union in 1989 and today the borders of Russia. Essentially from Putin's point of view, his border retreated about 1,000 miles across a whole front of eastern Europe. Clearly that is part of his world view in terms of Russia's proper place in the world. Would you agree?

General SCAPARROTTI. Yes, sir, I agree. That is why I think the map is illustrative because I think if you are Putin, you are looking out for Moscow and you see what I think he would consider to have been his strategic buffer. It tells you a bit about his mindset, and from what we know about him, he feels as though he has been encroached upon, that he has this sphere of influence that he believes is rightfully his. Of course, these are nations that have a right to determine their own government.

[The information referred to follows:]



Senator KING. Part of Russia's history is a kind of paranoia about the West, going back to Frederick the Great and probably Napoleon. They have, in fact, been invaded from the West. Again, that contributes to this mindset. Would you not agree?

General SCAPARROTTI. I agree, sir. Yes, sir.

Senator KING. That gets to my real concern—and I have raised this in other hearings—both in the South China Sea or in Europe, is the danger of an accidental war, a danger of misunderstanding, confusion, leading to some kind of escalation.

What protections do we have from a misunderstanding? For example, we deploy what we consider a defensive rocket battery, mis-

sile battery in Poland, and the Russians read that as an aggressive act, and it goes from there. How do we ensure that does not happen? As I view the world today, I think this is our gravest sort of state-to-state danger, is misunderstanding and leading to accidental conflict.

General SCAPARROTTI. Yes, sir. The thing that I worry about the most just day to day is that there is a miscalculation or an issue where we have forces in close proximity. So how do we deal with that?

First of all, there are international norms in the air, at sea, et cetera that day to day the Russians adhere to as well. We have seen violations of that on their part. But it enables us——

Senator KING. Deconfliction.

General SCAPARROTTI. It is deconfliction. That is correct. It is a good word.

The second thing is I think it is important that we communicate with them. Today we do that primarily through the media, et cetera. But we have, as you know, connection with the Russians for deconfliction. I think that communication is important because what I try to do in EUCOM——

Senator KING. Do you have direct lines of communication with your opposite number in Russia, for example?

General SCAPARROTTI. I do not today.

Senator KING. Do you not think that would be a good idea? You could say, wait a minute, that missile was launched by accident, do not get alarmed. I mean, I think having that kind of communication and at the higher level, at the State Department or at the White House level, there should be the opportunity anyway for this kind of communication.

General SCAPARROTTI. We do have communication for deconfliction within OSD today. It is limited. I agree with you. I think communication is an important component of deterrence, for instance. But I think also given Russia's behavior, there is some limitation to that. We should not reward them for some of their bad behavior as well. So we should do what we need to do to ensure we are safe and we deconflict.

Senator KING. I am not suggesting warning them. I am just suggesting if something occurs, you could get on the line and say, wait a minute. Do not misinterpret that. That is where the concern comes.

General SCAPARROTTI. That is correct.

Senator KING. We talked a lot—and I just want to associate myself with many of the other comments about the information war. To me, the specific answer to our failure to engage successfully in the information war goes back to, I think, 1998 or 1999 when we abolished USIA [United States Information Agency]. There is no single point in the United States Government today that is in charge of information, and I think it is inexcusable that the country that invented Hollywood and Facebook is being defeated on the information battlefield. Clearly, that is part of the war that we are engaged in. Putin is achieving great success in Europe and across the world and one would argue in many areas without firing a shot through effective use of information. I think our friends on the Foreign Relations Committee perhaps can consider that. But USIA

was the point and now we do not have it. So I hope we can recover that capacity sooner rather than later.

Thank you very much, General.

Senator REED [presiding]. On behalf of Chairman McCain, Senator Cruz please.

Senator CRUZ. Thank you very much, Senator Reed.

General, good morning. Thank you for your service.

The European theater continues to be a vital concern, a critical and complex region that will always be near the top of our national security priorities.

I want to begin by focusing on the repeated reports we are seeing of Russia's growing support for the Taliban and for ISIS. General Nicholson testified last month that Russia is attempting to legitimize the Taliban and undermine the Afghan Government. Just a few weeks ago, General Votel expressed his concerns regarding the extent to which Russia has managed to prop up the Assad regime. In the same hearing, General Waldhauser said that Russia is trying to exert influence on the outcome of which entity emerges with control of the government inside Libya. That is a fairly comprehensive list of radical Islamic terrorist hotspots across the globe from Afghanistan to the Middle East to Africa and Russia seeking additional influence with each.

How should this inform our future strategic choices with respect to Russia, and what impact would that have on your AOR?

General SCAPARROTTI. Senator, thank you. I think those are all accurate. I agree with all their statements.

I think actually that it is a part of Russia's intent to present themselves as a global power. In my view, where they are involved, they are not necessarily so concerned about the outcome, just that they can be a part of it. They can be seen as being a part of that. Whether it is an effective outcome I do not think it is as much of a concern to them.

So that is what we need to take from this, more so from our point of view the fact that they are a spoiler often in many of these cases. So we also have to engage them in this manner, and we have to engage globally as well in these places in order to ensure that we have the proper influence.

Senator CRUZ. If Russia were to succeed in undermining the Afghan Government, what would the effect of that be on the NATO alliance?

General SCAPARROTTI. It would be significant. I mean, NATO and the United States in my view must win in Afghanistan. I agree. I have seen the influence of Russia of late, an increased influence in terms of association and perhaps even supply to the Taliban.

Senator CRUZ. We have also seen over the past few months numerous instances of Russian aggression or hostile behavior such as Russian jets buzzing the United States Navy destroyer Porter and numerous intercepts of United States aircraft in the Baltic Sea. Some of these incidents have been exceedingly unsafe. Recently Russia also deployed a land-based cruise missile in clear violation of the INF Treaty. Also, a Russian spy auxiliary, gathering intelligence, ship conducted operations off the United States coast near our submarine bases.

General, in your professional opinion, what should be the U.S.'s responses to these actions? How do we reduce Russia's flouting of international norms?

General SCAPARROTTI. Senator, first of all, we must be strong in all that we do. We should confront them in each of these occasions or each of these incidents. Then we need to sail and fly every place that is within international norms and international airways and maritime. We just need to keep doing that. For instance, in the Baltic or in the Black Sea, these encounters are their means of showing us their displeasure for us being there. We have every right to be there. We have, in fact, increased our presence, and I think that is the right step, increase our presence and insist on the fact that we have every right within international law to operate there and continue to do so.

Senator CRUZ. Let me shift to a different question. American forces have conducted several deployments in support of Operation Atlantic Resolve to demonstrate our commitment to the stability of Europe. Recently 400 soldiers and 24 AH-64 Apache helicopters deployed to Europe from Fort Bliss. However, earlier this month, the Army's Deputy of Chief for Operations, Lieutenant General Joseph Anderson, expressed concerns regarding sustainable readiness for the Army's future rotations. In essence, it sounds like soldiers that are coming home from one deployment will have less time to get ready and train before re-deploying to the European theater. That or the Army will be forced to reduce its global commitments.

General, do you share the same concerns as General Anderson regarding this rotation of forces. What impact do you see in your AOR, and what do you recommend to improve the situation?

General SCAPARROTTI. Senator, first of all, it is crucial that we continue the rotations within Europe for deterrence of Russia and for assurance and support of our allies, the commitments that we have made. But I do agree with General Anderson that, for instance, in the Army, as an Army officer, we are less than a 1-to-2 dwell. We are turning our people very quickly. It is the reason that our Chief has said that we need to grow our force, and we need to focus on readiness, as he is doing, because we are committed today at a very high rate.

Senator CRUZ. Thank you, General.

Senator REED. Thank you, Senator Cruz.

On behalf of the chairman, Senator Donnelly please.

Senator DONNELLY. Thank you, Mr. Chairman.

General, thank you very much for being here.

We talk a lot about Russia's escalate to deescalate strategy or the idea that Russia has indicated through its words and its exercises that it sees the use of tactical nuclear weapons to supposedly deescalate a conflict as a realistic option.

How should NATO respond to this? Does the United States have the capabilities whether through dual-use aircraft or strategic bombers to deter such an escalatory move?

General SCAPARROTTI. Senator, thank you.

As I have said, we should be strong in the face of both their rhetoric, their actions, and their modernization. We do have the capability to deter this. But we must remain strong and we must con-

tinue to modernize given the pace of their modernization so that in the future we continue our dominance.

Senator DONNELLY. I am just wondering personally. Do you think that Vladimir Putin and/or the Russians believe that they could use a nuclear weapon without a similar scaled response?

General SCAPARROTTI. That is a good question. I think that about that a lot.

They have said publicly that they see the potential of the use of a nuclear weapon in what we would consider a tactical and conventional means. That is just alarming.

Senator DONNELLY. I think it is a clear misunderstanding of who we are as well—

General SCAPARROTTI. Exactly.

Senator DONNELLY.—is what I think.

I was privileged to be over in Georgia and Ukraine not too long ago. My friend and fellow Hoosier, Senator Lugar, helped create the Nunn-Lugar Cooperative Threat Reduction program to combat the spread of weapons of mass destruction. While we were there, we spent a lot of time working with the Georgian and Ukraine Government in efforts to counter the smuggling of those materials.

Russia has destabilized borders in both these countries, and I am concerned about the impact that has had on the ability to smuggle nuclear material through uncontrolled regions like eastern Ukraine. In Georgia, in fact, the special police unit calls those kind of areas the black holes. It is a serious threat given that the smuggling networks in these regions reach to the terrorist networks in the Middle East. That is the pipeline.

I was wondering what EUCOM is doing to counter this effort at the present time.

General SCAPARROTTI. Thank you, Senator. Your pipeline that you described is accurate.

We have a transnational threats element within EUCOM. It is whole-of-government. It relies mostly on not just the military piece but mostly on other agencies within our government connection with our partners and allies, with Europol within EU, et cetera. It is a network essentially to help us highlight criminal networks. They are often very closely aligned and working with our terrorist networks. So that is one of the major things that we do. It is an important function, and it is a central part of our counter-transnational threats line of effort, which is one of our five lines of effort.

Senator DONNELLY. I want to follow on some of the questions my colleague, Senator Fischer, asked earlier about Russia's INF violations and their deployment of nuclear-armed ground-launched cruise missile. They have similar air and sea launch capabilities that do not violate the INF. Why do you think they are deliberately choosing to deploy a seemingly redundant capability on land?

General SCAPARROTTI. Well, I think that it would provide them a capability internal to their country that gives much great reach, simply put.

Senator DONNELLY. Do you feel that all of the steps being taken in Kaliningrad with the Iskander short-range missiles—that the goal of all of that is to divide us, to undermine NATO, to try to separate the commitment from one to the other?

General SCAPARROTTI. Senator, I think that is part of it. I think much of what they do is to undermine confidence in NATO, undermine confidence in the West. It is to threaten them with the idea that we can have control over a swath of your country or a number of countries in the region with these systems.

Senator DONNELLY. I want to thank you. You have a real challenge on your hands at this time, but we want you to know we are 100 percent behind you, that we will do everything we can to provide you with all you need and that you can tell all of our friends and allies over there that we have their back.

General SCAPARROTTI. Thank you, Senator.

Senator DONNELLY. Thank you, Mr. Chairman.

Senator REED. On behalf of Chairman McCain, Senator Ernst please.

Senator ERNST. Thank you, Mr. Chair.

Thank you, General Scaparrotti, very much.

It is good to know that you do support providing lethal aid to our Ukrainian friends. It seems like we all do agree that there should be that lethal assistance out there. I have made this clear to this administration. I made it clear to the last administration as well. But I do hope that this administration decides to provide the assistance as soon as possible.

Recently I have grown increasingly concerned about Russia's use of tactical drones to spot for artillery and advanced technology for communication and GPS jamming. What types of advanced technologies are the Russians using against Ukraine and in other places as well? Is there specific technology that we should be considering when we are providing Ukraine the opportunity to counter that technology?

General SCAPARROTTI. Thank you, Senator.

Actually in Ukraine what we see the Russians do is somewhat what they have done in Syria, and that is use the Ukrainian conflict as a place that they can test some of their new technologies or TTPs, and one of them, as you mentioned, is the sensor to shoot our linkages between weapon systems and the use of drones, et cetera. That is a problem that we are working on hard ourselves because we are seeing a proliferation of that not just with the Russians but in some limited ways as well with terrorists. So we are working those technologies. The work with Ukraine provides us an opportunity to test some of the things that we are doing as well. We simply need to make EW [Electronic Warfare] and those kinds of things available to them that can help counter what the Russian proxy forces are bringing to bear there.

Senator ERNST. Absolutely. Thank you.

You also mentioned that you were concerned about the stability in the Balkans. On Tuesday, Ambassador Burns joined us here and highlighted Russia's increasing influence in Serbia. Specifically he did mention the recent coup and assassination attempt in Montenegro that was orchestrated by the Russians in Belgrade. In light of that effort targeting NATO interest, do you think we should have a more robust presence in Kosovo as a means to deter the Russians in the Balkans?

General SCAPARROTTI. Senator, I do. I have been to the Balkans several times in recent months primarily to learn more myself

about the actual situation there, but also to bring focus to it. The Russians are active in undermining our efforts in the Balkans today, and we need to provide additional interagency focus. I think this is a matter of not just the military support with, say, the Kosovo security force, et cetera, which we have troops in. I think it is also a diplomatic and informational effort with us and importantly with our partners because, as you know, NATO and the EU have a large role to play in the Balkans as well today and lead many of these organizational efforts. So we all need to work together. The military is a part of it. On that point, I would say we should not reduce our force size particularly the Kosovo security force because it is kind of the bedrock of stability right now. But we do need a much more robust diplomatic/informational effort among the alliance there.

Senator ERNST. Absolutely. I think everything should be on the table at this point in reassuring and assisting our allies, our friends in the Balkans.

Then just very quickly, you have mentioned the cyber center and how great it is, the cyber center that we have in Estonia. I will be meeting with their ambassador later to discuss their cyber defense center of excellence. So I am really excited about that opportunity.

Can you just tell me very briefly how well EUCOM and NATO are prepared to defend against cyber attacks, especially those that are aimed at disrupting the elections that we will see ongoing in Europe?

General SCAPAROTTI. Well, first of all, within EUCOM I think we are postured well to deal with cyber. Cyber Command works very closely with us, and literally it is a dynamic relationship because within the cyber domain, things change so rapidly. We just had our exercise here last month, we had an element from Cyber Command that acted as a component per se in EUCOM reporting directly to me. I think we are modernizing, we are moving forward. We have got good support. We have got a lot of work to do particularly in capacity.

Within NATO, NATO recently determined that cyber was a domain at the Warsaw Summit. That was important because what it did is it provided direction to work doctrine and policy in a much fuller way which is the commander within NATO I need, and it gave me authorities to do more within cyber in NATO, which we need to do. So on the defensive side, pretty good. Beyond that, we are at the beginning of this in terms of NATO complete cyber capability.

Senator ERNST. I do hope that is something that we can work on with them.

Thank you for your great service, sir. Thank you.

Chairman MCCAIN [presiding]. Senator Warren?

Senator WARREN. Thank you. Thank you, Mr. Chairman.

Thank you for being here, General.

I want to quickly ask about the importance of our non-military foreign assistance to your mission. When you appeared before this committee last year for your nomination as EUCOM Commander, you said—and I am going to quote you here—I strongly support the collaborative interagency approach. In my experience, it takes a network with all required agencies to defeat a threat network.

So, General, do you still agree with that statement?

General SCAPARROTTI. I do, absolutely.

Senator WARREN. The budget proposal put out by the Trump administration last week calls for a 29 percent cut to the State Department and significant cuts to other agencies with international responsibilities. General, would funding cuts to agencies that conduct diplomacy and development make your job as EUCOM Commander easier or more difficult?

General SCAPARROTTI. It will make the job more difficult. I rely heavily on our relationships with the other agencies in our government. Within my headquarters, my POLAD is essentially one of my deputies, Ambassador Elliott. That gives you an example of the importance we place on it in EUCOM. Many of the things I have talked about this morning, counter-transnational terrorism—that is predominantly agency personnel from State and Treasury. It is not uniformed personnel that do those actions for EUCOM in the United States and Europe.

Senator WARREN. Thank you, General. I agree strongly on this.

Russia is actively working to destabilize countries along its border and undermine unity within the European Union and NATO. They are doing this through a lot of indirect tactics like enabling separatist forces and disseminating propaganda and fake news. They even launched a cyber attack to influence the results of our election recently.

But Russia is also investing in other kinds of asymmetric capabilities like disrupting communications through electronic warfare or working to evade United States and NATO surveillance and investing in space and cyber tools. According to press reports and arms control analysis, they violated the Intermediate-Range Nuclear Forces Treaty by deploying ground-launched cruise missiles.

The European Reassurance Initiative, ERI, has helped to counter some of these destabilizing activities. The United States has deployed equipment and rotated forces into Central and Eastern Europe, but I am wondering if this standard display of force is the best way to deter Russia now that Putin seems to rely more on indirect tactics.

What I want to ask, General, is let us set aside conventional forces and prepositioned equipment for just a second, that it is there. What more can we do through ERI to address Putin's indirect and asymmetric tactics?

General SCAPARROTTI. Through ERI, we are actually using these funds in some of the areas for the asymmetric activities to counter those malign influences. We have special operations forces that are supported by this that do military information support operations and activities in support of U.S. Government, particularly the embassy and the ambassadors in each of the countries. It supports us as well in cyber in operations. In other ways, there are means that perhaps—for instance, support in naval forces are seen as a ship, et cetera, but they are actually supporting those capabilities and those ships support us in other ways in terms of asymmetric means. So I agree with you, and we do have a focus on that.

I would last say that part of this is we are learning too. I mean, part of that effort through ERI is to make sure we understand how

they operate in this gray zone or hybrid activity. That is supported here as well.

Senator WARREN. Thank you very much, General. I think we need to be smart about responding to and deterring Russia's asymmetric aggression. It seems to me that we cannot think solely about deploying more troops and conventional military assets in Europe in order to counter Russia. We have got to have a very wide perspective on this. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Wicker?

Senator WICKER. General, you mentioned on page 8 of your testimony the ceasefire violations in Ukraine, that the majority of them are being committed by Russian-led forces. Senator Warren mentioned fake news. How helpful are the OSCE monitors in giving us the correct picture there? Then I have a couple of other questions about OSCE.

General SCAPARROTTI. Senator, thank you.

OSCE is very important to this. One of the issues is that their job is to monitor activities and compliance with the agreement on both sides of the line of contact. In fact, Russia—it is well known that they intimidate and restrict the mission monitors in their job, which is one of the things that we need to encourage and insist that Russia stop doing and begin to allow the OSCE to do its job properly.

Senator WICKER. What can we do in that respect?

General SCAPARROTTI. Well, I think in that respect, sir, we need to bring the international community together with respect to Russia and their lack of movement on the Minsk. They say publicly they are in support of the Minsk agreement, but personally I think if you watch their actions, there does not seem to be steps taken on their part to do just that.

Senator WICKER. They are doing a lot of exercises there and in all of Europe. One of the techniques they use to try to get around their commitments is the SNAP exercise designation. Can you tell us about that?

General SCAPARROTTI. These exercises reflect Putin's focus on his modernization. It reflects his intent to make their forces more responsive to improve their mobilization, but it also is a part of intimidation I would say.

The SNAP exercises themselves are typically broadcast as much smaller than they end up being. Some of them are not announced at all in contravention to the Vienna document and the treaties that we have there. So that is very disturbing, and it is a way that you can have miscalculation. We know in the past, at least with Crimea, they have used an exercise to shield what was a violation of the sovereignty of Ukraine.

Senator WICKER. But they also continue to do exercises in Crimea. What is the significance of the most recent Russian exercise in Crimea?

General SCAPARROTTI. To me the significance is that—well, there are several of them. One is that they do both defensive and offensive operations as a part of that SNAP exercise. They rehearsed attacks on the eastern border, actually flew toward it, those kinds of activities which are very disturbing and create a lot of angst along

the eastern border and within EUCOM being able to watch this and understand what is their real intent. So it is the way they run the operations and without transparency that creates the problem.

They have the right to do military exercises. They need to do them in a way that is constructive and aligned with our agreements.

Senator WICKER. But they do not have a right to do the no-notice exercises under their agreements.

General SCAPARROTTI. Under the agreement, it has to be announced if it is over 9,000 troops, and it has to be observed if it is 13,000 or more. There has to be an allowance for observers if we choose to do so. Their SNAP exercises are much, much larger than that, almost 100,000 if you take them in all the different exercises that happen simultaneously.

Senator WICKER. Should we be concerned about trends in Russian activity in the North Atlantic?

General SCAPARROTTI. Yes, we should. They are more aggressive. They are reestablishing bases in the Arctic and North Atlantic. We have to go back to establishing the same deterrence that we practiced during the Cold War in my view.

Senator WICKER. Is there a forum where we are engaging with them diplomatically about that?

General SCAPARROTTI. I do not know the forum personally. I know that we have engaged with them diplomatically, but I could not tell you the forum, sir.

Senator WICKER. Thank you very much.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Hirono?

Senator HIRONO. Thank you, Mr. Chairman.

General, you have mentioned several times the importance of the whole-of-government approach particularly to reassure our NATO allies and your concern that the contemplated cuts to the State Department, for example, and the Treasury Department by this administration would raise major concerns for you, also shared by Secretary Mattis. Is that concern that you express shared by our other combatant commanders?

General SCAPARROTTI. Senator, I would say that you would have to ask them directly for their own personal opinion, but I will answer it this way. We operate with our interagency, and most of what we do today, even in the more direct actions that we have taken in, say, Afghanistan or Iraq have relied upon an interagency approach, a whole-of-government approach. That is the way we traditionally operate.

Senator HIRONO. It sounds as though that your concern or your commitment to the importance of a whole-of-government approach is one that is shared by our other commanders.

You mentioned that there is a possibility, of course, of Russia's use of nuclear weapons, and there is always that possibility. But on the other hand, Russia has cyber capability that can be very effective, and one wonders why they should resort to conventional warfare if they can use cyber to do all kinds of damage. So, for example, Russia is currently conducting cyber operations in various countries, such as the Ukraine, Montenegro, by attacking military communications and secure databases, as well as power grids. In

addition, they are using fake news and information operations to impact elections across the globe. This has magnified a wave of populist nationalism in Europe and impacted the recent United States elections.

I think that you mentioned or you described that you are working with our allies to create a defensive approach to the cyber operations that Russia has deployed.

I am wondering, though, has the question of what the U.S. would do if Russia's activities in affecting and disrupting the elections of our NATO allies, whether the question has come up where at some point we would say that these kinds of cyber attacks rise to the level of an act of war that would trigger reaction from us to support our NATO allies.

General SCAPARROTTI. Senator, that is a matter of policy, but I think we are a member of NATO. NATO has said that article 5 could be triggered by a cyber event. We are a member of that. So I think there is the occasion that that could occur. But, again, what we would do and what level that would be that would create a response is a policy decision.

Senator HIRONO. Something that we need to definitely discuss at the policy level.

I think you mentioned in response to another question regarding our mil-to-mil communications with Russia that we do not necessarily want to reward their bad behavior. I am wondering, based on your communication with the administration, do you know what the administration's position is on the current Russian sanctions? Would rescinding these sanctions affect stability in Europe in your view?

General SCAPARROTTI. I have not had the discussion with my leadership on the sanctions, Senator. I think that we must retain the sanctions. We put them in place as a result of their annexation of Crimea. It is another way that we, both the United States and the alliance in Europe, strongly show that that is unacceptable and we will maintain strength in the face of Russia's activities.

Senator HIRONO. So would any kind of cutting back on those sanctions not signal some kind of a retreat or weakness on the part of our U.S. commitment to NATO, for example?

General SCAPARROTTI. Well, I think personally that if we were to relieve or cut back on those, Putin would see that as a very good thing, and it would reward him standing fast long enough to perhaps survive the sanctions themselves.

Senator HIRONO. Thank you, Mr. Chair.

Senator MCCASKILL [presiding]. I am the acting chairman right now, and I have the pleasure of calling on myself.

I am going to say for the record what needs to be said here, and that is that if we want to send the right signal to Russia, all of the work that we are doing, that you and your command are doing, which is so important, is an integral piece of that. All of the work we do with our allies in Europe is an integral piece of that. But a big piece of it is having a Commander in Chief that will say that right things to Russia. We do not have a Commander in Chief right now who is willing to say out loud what everyone knows about Putin and what he is doing in Europe and what he tried to do in the United States. Until we have a Commander in Chief that is

willing to speak out against this thug and his behavior, I do not know that all the great work that you and your command can do is ever going to move the needle enough.

I have said it, and I feel better. You do not have to say a word, not your place to say a word. I understand the role of the Commander in Chief in your life. But I wanted to say it and put it on the record.

I was in Estonia. I would like to talk a little bit about what is going on in other places in nontraditional warfare. I was in Estonia last summer, and I was shocked how many Estonians told me—you know, we went to a coffee shop and we were talking to those who spoke English. They were saying how they really wanted to be part of NATO, but they were worried about the NATO soldiers being able to rape the citizens of Estonia and not be held legally accountable. I, of course, went, what?

As it turns out, this is the other thing Russia is doing, that Russia is pushing propaganda through Estonia that NATO is somehow going to damage their sovereignty in terms of the enforcement of rule of law.

Could you speak to that, General, that method that they use to try to undermine the support of NATO in the countries that they have designs on?

General SCAPARROTTI. You stated it clearly. In fact, we are now in NATO—the first forces are going into the four nations, Estonia being one of them. We have already had a couple of incidents of just complete untruth—the incident never occurred—within days of the troops arriving. We prepared for this. We expected it. We were able to respond to those truthfully and quickly and debunk the false story. But it is something that I expect will continue.

As you said, it obviously has—their disinformation obviously has some influence. If there is a consistent message from Russia in the east, it is to undercut the credibility of the United States and NATO at large, consistently.

Senator MCCASKILL. Do we have a robust enough response to this kind of disinformation campaign? Are we focusing enough on this part of the warfare?

General SCAPARROTTI. I think we are focused on it. I do not think we have a robust enough response at this point. I think we have to, both as the U.S. and also as allies, come together and take a more aggressive confrontation of Russia particularly in this gray area.

Senator MCCASKILL. Yes. I would certainly hope that would be on NATO's agenda as to strategies moving forward to combat this kind of insidious disinformation that really does strengthen the efforts of Russia to use military might to intimidate and eventually move into countries that have no desire to be occupied.

I also want to take a brief moment to talk about something I am like a broken record on and that is OCO [Overseas Contingency Operations]. The Congressional Research Service recently published an extensive report on OCO funding, and it states the obvious that those of us who are on this committee are painfully aware of, that this began truly for a contingency after 9/11 and has now morphed into something very ugly off the books in that we now

have the European Reassurance Initiative in the OCO budget. We now even have base budgeting in the OCO budget.

Talk, if you will, from your perspective, as you are asked to draw up your financial needs for your command, how you all are making a decision inside the Pentagon what you put in OCO and what you put in the base budget.

General SCAPARROTTI. Well, ma'am, for instance, I will start with EUCOM. We have the outline of the use of ERI, what it is intended to do based on Congress' direction. I have a process where my component commands, the other services, make recommendations for funding in ERI. I have a board that eventually comes to me for a decision that, first of all, asks the question, is that in support of the intent of ERI, and if not, why is it in here. We will push it off to the base budget. Or even those areas where I think, you know what, that is a broader activity we are funding. It really ought to be in the base, not in ERI. So I have that system myself within EUCOM, and we draw that line hard because we appreciate ERI. We want to maintain the credibility of it and how we use it. It is fundamental to doing our job in EUCOM.

Within OSD, there is a very deliberate process run by the DepSecDef and the Vice Chairman that all of us as combatant commands take part in. It is very detailed in terms of a look at each command and what we propose for a budget, what we intend to put in, and it looks at a cross section, as well, a comparison of each other. So it is a deliberate process.

I would just say that I am in favor of moving funds into the base. We need predictable funding—

Senator McCASKILL. Right.

General SCAPARROTTI.—so that we can actually make longer-term decisions and have more continuity. That would be better I think for the force as a whole as well.

Senator McCASKILL. This would be a good time for us to have the discipline, as the President has presented a budget that is—frankly, it is not a huge increase in the military. I think he is trying to make everybody believe it is a big increase to the military. I think it is only three percent higher than what President Obama recommended in his budget. But nonetheless, it is an increase. When everything else is getting cut, I think this would be a good time for us to bite the bullet—pardon the use of that particular analogy, but I think it would be time for us to be honest with the American people and put all of these items into the base budget so the American people understand what we are spending on the military as it compares to other parts of our budget.

I thank you for your service. I thank all of the men and women who serve under your command. I think you have got a really important job now. I understand the importance of what you do now has been exacerbated by what Russia has done over the last 12 months and what they continue to do in democracies across the world. We are depending on you to be our front line eyes and ears to their aggression. I thank you very much.

Chairman MCCAIN [presiding]. Senator Blumenthal?

Senator BLUMENTHAL, Thanks, Mr. Chairman.

I want to join in thanking you and the men and women under your command for their service in a critical area of the world for us and our national security.

I understand you have just come back from a trip to Israel, and I would like to ask you what security concerns the Israelis raised with you, focusing specifically on the Iranian development, continuing development, of their ballistic missiles.

General SCAPARROTTI. Yes, sir. Well, first of all, Israel is an extremely close ally of ours, a special ally. We in EUCOM have an excellent relationship with them. It is nearly daily contact. One of my missions is support of Israel and their defense.

As I visited, their CHOD and I and their senior leaders obviously talked about their concerns about Iranian malign influence, as well as their missile capabilities. We work closely with them to support and complement their missile defense, for instance. In fact, one day of that trip, I met their air missile defense commander and went to look at some of their sites to ensure that we in EUCOM were supporting that fully.

Beyond that, we discussed, for instance, their concern about Hezbollah and fighters gaining experience in Syria and other places and returning and what that might mean in the future, a concern about, obviously, Syria and the tri-border region as the conflict in Syria continues. So they live in a very tough neighborhood, and you can look in nearly every direction and have a threat.

Senator BLUMENTHAL, Is there more that we can and should be doing to strengthen their defenses against that kind of missile threat?

General SCAPARROTTI. Senator, we are doing all that we can. I mean, we work with this closely to ensure that we do, in fact, reinforce their defense. In fact, there are more things we can do with their missile defense. We have people there this week working on that as well. I mean, it is a matter of modernization, change in environment. But we are doing that. To maintain their military edge is very, very important and also to maintain the war stocks that we have committed to them for use.

Senator BLUMENTHAL, But there is more that we can do and we are doing it.

General SCAPARROTTI. We are, and we are focused on support of Israel.

Senator BLUMENTHAL, I take it, speaking of ballistic missiles, that you would agree with General Selva who testified earlier this week during the House Armed Services Committee that Russia is violating the INF Treaty.

General SCAPARROTTI. Yes, I agree.

Senator BLUMENTHAL, I think in your testimony you used the word "concerning." This is an extraordinarily important area. Is it not?

General SCAPARROTTI. Yes, sir, it is. It is an enhancement in capability that has a direct impact throughout the theater from my perspective.

Senator BLUMENTHAL, That is because, as you put it well in your testimony, it increases Putin's asymmetric options as this missile capability is built. The whole reason that the treaty exists is to stop this kind of development because it threatens to destabilize

the whole confrontation—not confrontation, but the array of forces in that part of the world. Correct?

General SCAPARROTTI. That is correct.

Senator BLUMENTHAL, Have you made recommendations as to what we should be doing about it?

General SCAPARROTTI. I have made recommendations in the sense that we need to respond to this. We need to be strong in the face of it. I think the actions that we have recommended in EUCOM, in terms of posture, force structure, et cetera, are all a part of this, a part of the response that we need to have for Russia at large.

Senator BLUMENTHAL, Is there consideration, to the extent you may know of it, about additional diplomatic or military action that the administration may be taking to counter this threat to our security?

General SCAPARROTTI. At this time, I have not had that discussion yet with that specific topic in terms of policy actions or actions that might be taken.

Senator BLUMENTHAL, Have you any expectation that that discussion will occur?

General SCAPARROTTI. Yes, I do.

Senator BLUMENTHAL, Can you give us a general time frame?

General SCAPARROTTI. No, I cannot, but I would expect we will have it. Yes, sir.

Senator BLUMENTHAL, Well, I would urge that it be done sooner rather than later. With all due respect, I am not nearly as well informed as you, but I am extremely alarmed by this violation of the INF Treaty and what it represents strategically in that part of the world and what it reflects in the way of Russian intentions around the world. Thank you, General.

General SCAPARROTTI. Thank you, sir.

Senator BLUMENTHAL, Thank you, Mr. Chairman.

Chairman MCCAIN. Apparently Senator King has not had enough.

Senator KING. Thank you, Mr. Chairman. Fortunately, your microphone was off for the editorial comment.

General, a couple of quick questions. Do you consider RT, Russia Television, an agent of the Russian Government?

General SCAPARROTTI. Yes, I do, sir.

Senator KING. It is my understanding that not only are they using RT in Europe, but they are also sniffing around or, in fact, looking into acquisitions of commercial television and radio capacity in Europe.

General SCAPARROTTI. That is correct. I have been told in a number of countries that they are using fronts, but essentially buying local TV, and in one case recently, a social media network that is influential particularly with the young in the Baltics.

Senator KING. When you say buying local TV, you are talking about TV stations, not airtime.

General SCAPARROTTI. That is right. They are buying TV stations and a social network company that does work on social media.

Senator KING. This is one more area of their what I consider very effective playing of a weak hand. They are aggressing upon us at a low dollar cost, but aggression nonetheless.

General SCAPARROTTI. Yes, sir. I agree.

Senator KING. Different subject. Iceland. I was in Iceland recently, and it struck me as an incredible strategic location. Keflavik air base was dismantled—or not dismantled. It is still there, but it was deactivated around 2004 or 2005. It strikes me that this is such a strategic location. Do you believe that we should at least consider, subject to the approval of the people of Iceland, some reconstitution of our capacity there? I know we have rotational forces there but something more than that.

General SCAPARROTTI. Senator, we do have rotational forces through there, but I think we should consider it. Again, it comes back to my concern about the high north, North Atlantic, and the increasing Russian threat from the North Atlantic fleet there. So that area is important to us to increase our activities with our allies to ensure that we deter Russia and we are very knowledgeable of their activities as well.

Senator KING. It struck me as a large, unsinkable aircraft carrier in the midst of the most strategic spot in the North Atlantic.

General SCAPARROTTI. Yes, sir.

Senator KING. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator King, I met with the President of Iceland, and I know that General Scaparrotti has too. We have a PR [Public Relations] challenge there as well with the people of Iceland. Is that not true, General?

General SCAPARROTTI. Yes, I believe we do. I think NATO could do more work there as well in terms of perspective or receptiveness, Senator.

Chairman MCCAIN. They would be more receptive if it were a NATO kind of commitment rather than just the United States.

General SCAPARROTTI. Well, in discussions, that is what has been discussed with me as the SACEUR [Supreme Allied Commander Europe].

Chairman MCCAIN. Well, I thank you, General, and I appreciate, obviously, the important information you have provided the committee.

I would just like to mention again what Senator King brought up, and that is this whole issue of this information warfare that is going on right now is something that crosses a lot of boundaries between State and Defense and intelligence and other agencies of government. Yet, every time I turn around and talk particularly to one of the smaller countries, that is one of their biggest issues is this propaganda that the Russians—and fake news, et cetera, ranging from what their obvious attempts at changing the outcome of the French election to the pressure on Latvia to alienate their Russian speaking population. So I hope we will move that issue up on our priority list. It seems to me it is kind of like the weather. We talk about it but we really do not do anything about it.

There is a precedent for it. It was called the Cold War. How many people do we know that after The Wall came down who said I listened to Radio Free Europe? I listened to the Voice of America. It kept hope alive. Why can we not reconstitute something along those lines to get the message out? I do not think it would be hard

to counter Russian propaganda given the kind of lifestyle they have in Russia.

So I hope you will think about it, and we will continue to think about it. But whenever you get one of these issues that involves more than one agency of government, as you know, we have much more difficulty, whether it be cyber, or whether it be this information challenge that we are facing now.

So we thank you, General, for visiting with us again and thanks for the great work. Senator King will come to Brussels and spend time with you as well. Thank you.

General SCAPARROTTI. Thank you, Chairman. My privilege.

[Whereupon, at 11:35 a.m., the committee adjourned.]

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR JOHN MCCAIN

COLOCATION OF THE NATO INTELLIGENCE FUSION CENTER (NIFC) WITH THE EUCOM JOINT INTELLIGENCE ASSESSMENT CELL (JIAC)

1. Senator MCCAIN. General Scaparrotti, hybrid threats challenge the NATO political decision making process because they obfuscate attribution. What is your assessment of intelligence sharing in NATO and what steps can be taken to improve it?

General SCAPARROTTI. The quality and quantity of intelligence sharing between allies and NATO varies based on national interests and capabilities. There are a number of examples of timely and high quality intelligence sharing, such as in Afghanistan and Kosovo. Sharing within military organizations and Allied Command Operations is robust. However, even in the military spectrum, there are high interest areas that suffer from a dearth of intelligence sharing. There is also significant room for system based virtual collaboration tools to improve sharing of NATO products within the U.S. intelligence community that would allow more efficient IC exploitation of NATO intelligence collection and production. Encouraging nations to share intelligence with NATO is a persistent effort. Allies have varying levels of capacity and interoperability of systems to share national intel with NATO. NATO intelligence production is conducted on both BICES and the NATO Secret Wide Area Network (NSWAN), but often, the systems are unable to access the other systems data. NATO is hampered with an inability to organize, search and discover existing intelligence information within the NATO intel system. There is also no central designated management authority for that responsibility between the civilian and military sides of NATO. This includes RFIs, collection, and significant portions of production by NATO elements. Finally, outdated processes and system verification of U.S. "read-ons" to NATO SECRET limits efficient sharing of NATO data back to the U.S. Government and thus limits the effectiveness of sharing between the U.S. and NATO. Potential Areas for Improvement:

- Encourage allies with robust intelligence capabilities to contribute to NATO commensurate with capability.
- Ensure expanded use of BICES and that NSWAN workstations are cross-domain enabled.
- Central management and a more organized RFI process across NATO. The improvement of tools to allow more robust discovery of existing RFIs, finished production, and other structured intelligence data is necessary to prevent duplication and lack of access of available relevant information.
- Quicker implementation of a PKI-enabled solutions to allow those with access to NATO SECRET to access NATO-produced intelligence production on U.S. classified networks.

2. Senator MCCAIN. General Scaparrotti, in the preface to the book by General Sir Richard Shirreff, former Deputy SACEUR, titled "War with Russia", he wrote: "Back in March 2014, there was a sense of incredulity among us western military leaders when it became increasingly clear that the "annexation" of Crimea was no less than a Russian invasion ... In the days that followed we received regular updates from NATO's Intelligence Fusion Centre, as they listed the Russian tank armies and airborne divisions now preparing to invade the rest of Ukraine." It sounds like the NATO Intelligence Fusion Center was a vital source of intelligence during

the Ukraine crisis in 2014. In your opinion and experience, why is the NATO Intelligence Fusion Cell important to NATO?

General SCAPARROTTI. As a Memorandum of Understanding (MOU) organization, the NIFC operates outside of the NATO Command Structure, which allows it greater flexibility than other NATO intelligence organizations. The agility of the organization to provide timely intelligence and establish a common picture facilitates NATO's ability to detect and understand the geopolitical and military challenges in a complex and dynamic environment. Additionally, the NIFC's unique position as an international military headquarters outside the NATO command structure allows the NIFC to serve as a hub for coalition intelligence production. In this capacity the NIFC acts as a center for Processing, Exploitation, and Dissemination (PED) of all-source intelligence production. Outside of Operation RESOLUTE SUPPORT, NIFC intelligence production has accounted for a majority of all NATO intelligence enterprise production over the past twelve months. The NIFC is the principle producer of GEOINT and targeting intelligence for Allied Command Operations. The NIFC continues to build capacity through sharing of tradecraft, process and methodology, enhancing interoperability and enabling intelligence sharing amongst allies and NATO partners.

3. Senator MCCAIN. General Scaparrotti, why is it important that the NATO Intelligence Fusion Cell be collocated with EUCOM's Joint Intelligence Analysis Center? What is lost if it is not collocated with the Joint Intelligence Analysis Center?

General SCAPARROTTI. There are several reasons why it is important for the NATO Intelligence Fusion Center (NIFC) to remain collocated with the EUCOM Joint Intelligence Analysis Center (JIAC). If NIFC were to relocate independent from the JIAC, it would require the U.S., as the framework nation, to spend additional money to replicate the administrative and operational support presently provided. At a minimum, the U.S. would be required to re-create, and in some cases replicate, operational and administrative capabilities. NIFC relocation to an alternate facility would require increased manpower to sustain operations. NIFC relocation outside of the UK would require the consensus of all Allied nations, as well as legal and treaty negotiations with a new host nation. From an operational standpoint, collocation is a key enabler for U.S.-NATO intelligence collaboration. This includes promotion of U.S.-NATO intelligence interoperability, shared views of common threats, enhanced intelligence sharing, federation and burden-sharing, as well as smooth operational transition from unilateral/multilateral to NATO operations. Separating the NIFC from the JIAC and other collocated intelligence elements within the JIAC would degrade these operational advantages and require additional investment by the U.S. to replicate the core support capabilities and infrastructure.

U.S. FORCE STRUCTURE REQUIREMENTS IN EUROPE

4. Senator MCCAIN. General Scaparrotti, General Breedlove told the committee last year that: "... our current force posture in Europe has been based on Russia as a strategic partner" This year your written testimony said: "... the ground force permanently assigned to EUCOM is inadequate to meet the combatant command's directed mission to deter Russia from further aggression." In your opinion, what changes must we make to our current military posture in Europe to adjust to the current threat reality?

General SCAPARROTTI. EUCOM force posture must continue to adapt to meet the complex and dynamic strategic challenges in our security environment. As I stated in my testimony, this means developing a relevant force structure across multiple domains and warfighting functions. We need additional Intelligence, Surveillance and Reconnaissance (ISR) capabilities, not only additional platforms, but the ability to analyze and disseminate their intelligence information. We also need additional land force capabilities, most notably a division-sized armor presence that includes a headquarters element; enablers such as fires, engineering, and combat aviation; and preposition equipment sets. Our naval capabilities must also increase, especially in anti-submarine warfare. We need to enhance our integrated air and missile defense to meet the strategic challenge of countering Russia's growing anti-access area denial capabilities. Lastly, we need to modernize and increase our munition stockpiles as our planning and targeting processes mature.

5. Senator MCCAIN. General Scaparrotti, NATO's missile defense was designed only to stop Iranian missiles. Do we need a reevaluation of European air and missile defense against Russia?

General SCAPARROTTI. EUCOM views Russia as a significant threat with mature and growing capabilities to conduct comprehensive and coordinated attacks in our

AOR. To counter this we should reevaluate ways to address our air defense capability gaps against advanced Russian air and cruise missile threats, but only in ways which will not destabilize the region geopolitically. EUCOM supports current U.S. national defense policy for Ballistic Missile Defense (BMD).

QUESTIONS SUBMITTED BY SENATOR JIM INHOFE

U.S. FORCE STRUCTURE IN EUROPE

6. Senator INHOFE. General Scaparrotti, EUCOM has been described as a lily pad, a forward staging area for multiple COCOMs to include EUCOM, AFRICOM, CENTCOM and PACOM. Is that true and why?

General SCAPARROTTI. EUCOM's role in enabling global operations for not only the Geographic Combatant Commanders but also TRANSCOM, STRATCOM and SOCOM is pivotal for the efficient execution of worldwide military operations. EUCOM personnel routinely support operations in the AFRICOM and CENTCOM areas of responsibility. EUCOM's well-developed infrastructure provides critical capabilities in strategic locations like Incirlik, Turkey; Sigonella, Italy; Souda Bay, Greece; and Moron and Rota, Spain. Basing and access in many European countries (e.g., Germany, UK, Italy, Spain, Greece, and Turkey) enable more timely and coordinated trans-regional crisis response.

7. Senator INHOFE. General Scaparrotti, is a rotational force as effective and efficient as a deterrent force as permanent basing?

General SCAPARROTTI. For the challenges we face in the EUCOM theater, no, permanent force structure is preferred over rotational forces. The Department of Defense evaluates numerous factors, such as operational requirements, costs, force management, readiness and political-military relationships, in their deliberations of whether to permanently station or rotationally deploy forces to a Combatant Commander. Numerous benefits would accrue to having additional permanent forces structure in Europe:

- 1) Increase operational flexibility and responsiveness;
- 2) Provide persistent presence for deterrence and response;
- 3) Enable dynamic presence for other Combatant Commands;
- 4) Enhance habitual relationships and interoperability with allies and partners;
- 5) Improve coalition partner capacity;
- 6) Demonstrate U.S. commitment and resolve;
- 7) Ensure access and bases for global operations;
- 8) Enable U.S. leadership of the NATO Alliance; and
- 9) Decrease costs associated with Operations and Maintenance and sustaining readiness of rotational forces.

8. Senator INHOFE. General Scaparrotti, do you support permanent basing and additional infrastructure in Europe and specifically Eastern Europe? If so, what would that look like?

General SCAPARROTTI. I support additional basing of U.S. Forces in Europe. Current U.S. national policy prohibits the permanent basing of U.S. Forces in parts of Eastern Europe due to the NATO-Russia Founding Act. Rotational U.S. and Allied forces in Eastern Europe provides a level of deterrence, posturing and assurance without violating U.S., NATO and international agreements. Our efforts to provide the austere infrastructure in Eastern Europe is to support rotational U.S. forces. The European Reassurance Initiative (ERI) program is the current funding tool to improve infrastructure in Eastern Europe, both in support of rotational presence and to provide infrastructure capabilities that may be needed in a crisis.

9. Senator INHOFE. General Scaparrotti, what concrete steps do you think need to be taken to change our force posture in Europe to deter Russia?

General SCAPARROTTI. To change the force posture in Europe, we would need to establish whether we are going to rely on permanent or rotational forces, or a mix of the two. Based on that policy decision, I believe we need to develop the right mixture of permanent and fully-resourced heel-to-toe rotational forces in the various combat domains. In the land domain I believe we need a Division's worth of armored ground power, in addition to the two brigades presently stationed in Europe (the 173 Airborne Brigade Combat Team and the 2nd Cavalry Regiment). Additionally, a division headquarters element is required in theater, along with enablers such as fires, engineering, and combat aviation to support an armored division. Fi-

nally, the requisite preposition equipment sets are necessary for rapid deployment of combat capability into the European theater. In the sea domain, our naval capabilities must also increase, especially in anti-submarine warfare. We need to enhance our integrated air and missile defense to meet the strategic challenge of countering Russia's growing anti-access area denial (A2AD) capabilities. In the air domain we need to ensure we have air assets with the ability to defeat Russian A2AD systems. EUCOM needs to modernize and increase our munition stockpiles as our planning and targeting processes mature. Finally, EUCOM needs additional Intelligence, Surveillance and Reconnaissance capabilities, not only additional platforms, but the ability to analyze and disseminate their intelligence information.

10. Senator INHOFE. General Scaparrotti, would it be useful to fully exercise NATO's ability to mobilize for combat in Europe, similar to what NATO used to do with its REFORGER Exercise from 1967 to 1993, to fully task NATO's combat capabilities and identify shortfalls?

General SCAPARROTTI. Yes, NATO, including the U.S. forces that support NATO, should more fully exercise the ability to mobilize for combat in Europe. Exercising Allied capabilities alongside the U.S. is absolutely central to this effort. ERI has allowed EUCOM to exercise more U.S. forces on the European continent. One recent example is the Baltic exercise SABER STRIKE 2017 where 22 allies and partners participated. In addition to NATO and partner exercises, ERI is also facilitating U.S. units' deployment to Europe to train and exercise with NATO's Very High Readiness Joint Task Force in that unit's training and validation events. Finally, as EUCOM rotates forces into Europe, it is actively sharing its Joint Reception, Staging, Onward Movement, and Integration lessons learned with allies to help inform NATO's own efforts to improve mobilization, mobility and freedom of movement across Alliance territory.

RUSSIA INF TREATY VIOLATION

11. Senator INHOFE. General Scaparrotti, on 8 March, General Selva, the Vice Chairman of the Joint Chiefs of Staff, confirmed that Russia is deploying nuclear-tipped ground-launched cruise missiles in violation of the 1987 INF (Intermediate-Range Nuclear Forces) Treaty. And you reaffirmed that violation in your opening statement. This is the same missile that was tested in 2014 in violation of the INF Treaty. These missiles will add to existing Russian nuclear capable air- and sea-launched cruise missiles that can range most of Europe and the United States when launched off bombers and submarines. General Scaparrotti, what should be the U.S. response to their violation?

General SCAPARROTTI. Russia's violation of the INF Treaty is but one example of their malign military activity, and the U.S. should use all elements of its national power to respond strongly to this INF Treaty violation. The Treaty has a provision for a Special Verification Commission to resolve questions of compliance. When asked by the Chairman of the Joint Chiefs of Staff, I will provide my best military advice. As you know, the Department of Defense is in the infancy stages of conducting its comprehensive Nuclear Posture Review as directed by the President in his 27 January 2017 memorandum on Rebuilding the U.S. Armed Forces. I am confident the review will yield a posture recommendation that ensures our nuclear deterrent addresses the Russian nuclear situation, and other 21st Century threats while maintaining our support to friends and allies.

12. Senator INHOFE. General Scaparrotti, what is the military advantage provided to Russia by the deployment of these missiles?

General SCAPARROTTI. Russia is developing intermediate-range missiles systems, such as the SSC-X-8 ground-launched cruise missile and the SS-X-28 ballistic missile, to strike critical infrastructure throughout Europe and Asia from behind Russia's air defense umbrella. These systems allow Russia to conduct strategic strikes at the same time reducing the vulnerability to counterattack.

13. Senator INHOFE. General Scaparrotti, given the threats posed by Russian nuclear cruise missiles and other short-range nuclear systems, do you believe U.S. and NATO nuclear forces are adequate to counter Russian nuclear threats and strategy while assuring allies?

General SCAPARROTTI. Yes, the U.S. and NATO nuclear deterrent posture is credible against the Russian threat. The U.S. strategic nuclear forces are the supreme guarantee of the security of the Alliance and ensure our ability to respond to Russian nuclear developments. In Europe, the combination of modern dual-capable aircraft, reliable forward-deployed B61 nuclear weapons, and NATO supporting infra-

structure assures our allies of continued U.S. support for nuclear deterrence in Europe.

ANTI-ACCESS, AREA DENIAL CAPABILITIES

14. Senator INHOFE. General Scaparrotti, Russia is developing Anti-Access and Area Denial, or 'A2-AD', capacity in Kaliningrad, Crimea, and the Eastern Mediterranean Sea. General Scaparrotti, what is your assessment of Russian military modernization efforts and what worries you most?

General SCAPARROTTI. [Deleted.]

15. Senator INHOFE. General Scaparrotti, in your opinion, what should or can NATO do to counter it?

General SCAPARROTTI. NATO will require adding new capabilities and increase readiness levels to counter the advancing A2/AD defense networks. NATO requires a holistic approach which must be implemented in peacetime, crisis and conflict. In my 2016 final assessment on implications of Russia's evolving A2/AD, I underlined three key requirements:

- 1) NATO has to relook at its peacetime activities and force presence.
- 2) In crisis, NATO will have to develop military measures to sustain a strategic coupling bridge to threatened nations.
- 3) In conflict, NATO will have to possess the right capabilities and quantities, also the required readiness to weaken or neutralize opposing A2AD. After the 2014 Wales Summit, NATO started to improve its strategic and operational plans. NATO's five Graduated Response Plans are tailored to specific threats, in which A2AD is addressed. The NAC has also tasked the NATO Military Authorities (SHAPE and ACT) to conduct an in-house simulation study. This will provide a deeper assessment of any potential additional measures, including forces, capabilities and readiness levels, required to counter A2/AD in conflict.

QUESTIONS SUBMITTED BY SENATOR DEB FISCHER

RESPONSE TO RUSSIA'S INF TREATY VIOLATION:

16. Senator FISCHER. General Scaparrotti, with respect to responding to Russia's recent deployment of a ground-launched cruise missile in violation of the INF Treaty, Secretary Carter previously described three sets of options: counter-force capabilities, countervailing capabilities, and active defense. Which of these options do you think would be the most effective response in dealing with Russia's recent missile deployment?

General SCAPARROTTI. [Deleted.]

QUESTIONS SUBMITTED BY SENATOR DAVID PERDUE

NATO DEFENSE SPENDING

17. Senator PERDUE. General Scaparrotti, there has been a lot of attention placed on the 2 percent of GDP spending targets for NATO allies. How many of our NATO allies are currently meeting the 2 percent target?

General SCAPARROTTI. Besides the United States, the United Kingdom, Greece, Estonia, and Poland are the other allies that currently meet the 2 percent spending targets. Romania is on track to meet 2 percent by the end of 2017, and we anticipate Lithuania and Latvia will meet the guideline by the end of 2018.

18. Senator PERDUE. General Scaparrotti, do you believe that the 2 percent spending target is the right way to measure adequate defense spending in NATO? If not, what should the benchmark be?

General SCAPARROTTI. It is essential that allies display the political will to provide required capabilities and deploy forces when they are needed. Allies also need to ensure forces are deployable, sustainable, and interoperable. The Defense Investment Pledge (guideline to spend a minimum of 2 percent of their GDP on defense and 20 percent of their defense budgets on major equipment, including related R&D) agreed at the Wales Summit was an important step in this direction and today NATO reaffirms its importance. Derived in 2006, the 2 percent and 20 percent guidelines were based on "an average Ally" ... not those that have underinvested in defense for some time. Many allies have numerous capabilities which need replacement that requires prioritization and increased investment. Some allies that have endured years of military cuts and downsizing would likely have a challenge

managing a large influx of funds as they no longer have sufficient expertise and numbers of staff in requirements, procurement, contract, quality assurance and acquisition management. Deployability and sustainability of Allied forces is also important. Allies continue to make important contributions to NATO operations, missions, and activities, as well as the NATO Command and Force Structures. Allies invest considerable resources in preparing their forces, capabilities, and infrastructure for Alliance operations, missions and activities that contribute to our collective security.

19. Senator PERDUE. General Scaparrotti, is there a story we're not getting when we see an ally is or is not meeting the 2 percent target or not?

General SCAPARROTTI. Every nation spends to meet their individual National Defense plans and to meet their national security objectives. These are independent of NATO's spending target of 2 percent. Additionally, many nations measure defense spending differently, such as taking into account personnel costs operational costs, and costs associated with developing and retaining capabilities. Allies also measure the adequacy of their spending differently. Some view this in terms of capabilities or output, particularly deployability to support operations, missions, and activities to meet their own national commitments, within NATO, and in other international organizations such as the EU and UN.

RELATIONSHIP WITH TURKEY

20. Senator PERDUE. General Scaparrotti, during the attempted coup d'état in Turkey last summer, the Turkish government cut off power to Incirlik Air Base leaving it without a commercial power supply for more than four days. Since the coup attempt, the Turkish government and state-controlled media have fueled anti-American sentiment and blamed the United States for a myriad of issues. At the same time, Turkey's relations with Russia have warmed considerably. Given these troubling trends, do you believe it would be prudent to assess alternative basing options for the Incirlik Air Base?

General SCAPARROTTI. For the purposes of flexibility, we have assessed alternative basing options, not only for Incirlik Air Base but throughout the EUCOM AOR. Other combatant commands are doing this sort of contingency planning as well. While EUCOM is prepared to shift our assets from Incirlik if required, we are working closely with Turkish military and political leadership to ensure a long, continued basing and access relationship with our Turkish Ally.

COMMUNICATION WITH RUSSIANS

21. Senator PERDUE. General Scaparrotti, Chairman of the Joint Chiefs of Staff General Dunford met with his Russian counterpart twice this year—the first such meetings since the two militaries cut off communications in the wake of Russia's annexation of Crimea in 2014. Could you describe to me the status of mil-mil relations and communications since 2014?

General SCAPARROTTI. Military-to-military activities and communications with the Russians is limited by current United States law and policy. Section 1233 of the 2017 NDAA prohibits mil-to-mil engagement unless Russia ceases occupation of Ukrainian territory and abides by the terms and is taking steps to support the Minsk Protocols. Exceptions to the NDAA are authorized for items deemed in the U.S. national interest, but require a waiver from the Secretary of Defense and submission of a report to the appropriate congressional committees. We continue to follow Department guidance and coordinate with other combatant commands as required to support communications requirements in the Middle East, which includes de-confliction procedures for United States Forces operating in Syria.

22. Senator PERDUE. General Scaparrotti, do we know who to call should we need to de-escalate a situation?

General SCAPARROTTI. Yes, we have the ability to communicate with Russian military officials based on previous agreements and communications systems that we have continued to maintain.

23. Senator PERDUE. General Scaparrotti, are you aware of communications occurring among your State Department counterparts?

General SCAPARROTTI. The RAND sponsored wargame, Reinforcing Deterrence on NATO's Eastern Flank, conducted in September 2016, was a unclassified wargame. As such, it was a good overview of the possible conflict, but is not fully accurate as it did not include a number of classified items that have been used in refining EUCOM's OPLAN such as the base planning facts and assumptions. The military

OPLAN classification prevents us from sharing the full details with RAND and others. ERI had also not been fully developed when the study was completed. Adding these deterrence forces would have certainly had an impact on the outcome. Wargaming is an effective tool to test assumptions, synchronize activities and identify gaps in plans and operations. While valuable insight was collected from this wargame, it must be noted that the outcome represents only one outcome based upon one set of variables and conditions.

RAND STUDY ON REINFORCING DETERRENCE ON NATO'S EASTERN FLANK

24. Senator PERDUE. General Scaparrotti, the RAND Corporation recently conducted a study entitled Reinforcing Deterrence on NATO's Eastern Flank: Wargaming the Defense of the Baltics (September 2016). This study explored the hypothetical consequences that could occur if Russia decided to reclaim the territory of the three Baltic republics. Using a war-game model, the study determined that, as presently postured, NATO cannot successfully defend the territory of the Baltic states. It also concluded that successful defense of the Baltics would require a force of about seven brigades, including three heavy armored brigades supported by air-power, land-based fires, and other ground combat enablers, to prevent the "rapid overrun" of the Baltic states. These conclusions are extremely troubling. In your view, were there things this study didn't take into account? Do you feel that this war-game framework presents a full and accurate picture of true military capabilities and outcomes?

General SCAPARROTTI. The UK will remain a staunch United States ally and leading European military power. We expect the UK will strengthen their resolve within NATO as the country exits the European Union. The UK will also strengthen bilateral agreements, including with the United States, Germany and France. In the short-term, we don't anticipate defense investment will be affected by Brexit, however, if the pound does not recover, the UK will likely need to relook their defense spending plans.

IMPACT OF BREXIT ON EUROPEAN DEFENSE

25. Senator PERDUE. General Scaparrotti, the United Kingdom serves as our strongest transatlantic ally and is the leading source of NATO hard power in Europe. With the UK's exit from the European Union, many questions remain regarding whether the UK will still be willing (and/or able) to provide the same level of military and defensive capabilities to NATO in mainland Europe. In your view, what might be the short and longterm impacts of Brexit on European defense?

General SCAPARROTTI. The UK will remain a staunch United States ally and leading European military power. We expect the UK will strengthen their resolve within NATO as the country exits the European Union. The UK will also strengthen bilateral agreements, including with the United States, Germany and France. In the short-term, we don't anticipate defense investment will be affected by Brexit, however, if the pound does not recover, the UK will likely need to relook their defense spending plans.

26. Senator PERDUE. General Scaparrotti, what impact might Brexit have on intelligence sharing and development of shared competencies and effectiveness across the continent?

General SCAPARROTTI. We don't expect the UK's intelligence capability will diminish post Brexit. They will remain an effective and capable partner to the U.S., NATO and bilaterally across the continent.

27. Senator PERDUE. General Scaparrotti, should Britain be forced to scale down its support of NATO in Europe, do you believe Germany and/or France would be willing and able to fill the void of security and defense?

General SCAPARROTTI. We don't expect the UK will scale down its support of NATO, rather, we think that the UK will strengthen their resolve within NATO as the country exits the European Union. The UK's requirements for continued collective defense and intelligence capability will not diminish post-Brexit, and NATO will remain the primary vehicle for the UK to address those requirements. In the unlikely event that the UK were to scale down NATO support, I believe that France and Germany will provide strong support to NATO well into the future. In reality, as allies increase capabilities with progress toward the Alliance's Wales goals to increase defense spending, this will result in increased capabilities available to NATO—including from Germany and France.

COUNTERTERRORISM (NEED TO FOCUS NATO EFFORTS MORE HERE TO SUPPORT EUROPE)

28. Senator PERDUE. General Scaparrotti, counterterrorism is a main topic at every NATO gathering. According to NATO's website, NATO counterterrorism efforts focus on "improving awareness of the threat, developing capabilities to prepare and respond, and enhancing engagement with partner countries and other international actors." However, as we have seen over the last several years with the rise of the number of terrorist attacks—including coordinated attacks—across Europe, European countries still struggle with coordination of counterterrorism efforts and intelligence sharing. Do you feel that the United States should encourage NATO to place more of a focus on counterterrorism efforts? If so, how can the U.S. better assist our NATO allies in this regard?

General SCAPARROTTI. Yes, although the U.S. is encouraging NATO to do more to combat terrorism, there is more to be done. NATO's role in counterterrorism in European countries is limited due to the fact that sovereign nations retain the primary responsibility for their own domestic security. In short, NATO's mandate is external defense, not internal security. At the same time, NATO has an active role in the international community's fight against terrorism outside Europe by projecting stability along its periphery. This includes NATO's continued support of the Defeat ISIS Coalition, training and capacity building in Iraq, and operations in Afghanistan. The U.S. is actively challenging allies to further identify ways to increase NATO's support to global counter terrorism efforts. As the threat has increased in Europe, the U.S. is taking steps to increase assistance through intelligence sharing and encouraging allies to reciprocate through participation in emerging counterterrorism structures within NATO. Two examples are the establishment of a terrorism intelligence cell within the Joint Intelligence and Security Directorate at SHAPE in Belgium, and the Regional Hub for the South being stood up at Allied Joint Force Command in Naples, Italy. These efforts require additional resources from all allies and NATO itself.

**DEPARTMENT OF DEFENSE AUTHORIZATION
FOR APPROPRIATIONS FOR FISCAL YEAR
2018 AND THE FUTURE YEARS DEFENSE
PROGRAM**

TUESDAY, APRIL 4, 2017

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

UNITED STATES STRATEGIC COMMAND PROGRAMS

The committee met, pursuant to notice, at 9:32 a.m. in Room SD-G50, Dirksen Senate Office Building, Senator John McCain (chairman of the committee) presiding.

Committee members present: Senators McCain, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Perdue, Strange, Reed, Nelson, Shaheen, Gillibrand, Blumenthal, Donnelly, Hirono, Kaine, King, Heinrich, Warren, and Peters.

OPENING STATEMENT OF SENATOR JOHN MCCAIN, CHAIRMAN

Chairman MCCAIN. Good morning.

The Senate Armed Services Committee meets today to receive testimony on the posture of U.S. Strategic Command.

We would like to welcome back General Hyten, who is making his first appearance before this committee as the Commander of U.S. Strategic Command. We thank you for your many years of distinguished service, General.

Over the last 2 years, civilian and military leaders at the Department of Defense, from the Secretary of Defense on down, have warned this committee about, quote, a return to great-power competition. Nowhere is this reality more evident than in Russia's and China's intensifying efforts in the nuclear, cyber, and space domains, which are the focus of Strategic Command's mission.

Russia continues to wield nuclear threats against allies that stand up to its aggression in Ukraine. It is well on its way toward completing the modernization of its strategic nuclear forces and has gone out of its way to deploy new nuclear capabilities not limited by the New START [Strategic Arms Reduction Treaty].

Russia's deployment of a new nuclear ground-launched cruise missile in violation of the 1987 INF [Intermediate-Range Nuclear Forces] Treaty is a clear signal of the elevated role of tactical nuclear weapons in Russian military doctrine. Moreover, this violation leaves the United States as the only country in the world abiding by treaty limits on its intermediate-range missile forces, a dan-

gerous asymmetry that has implications for effective deterrence not only in Europe, but the Asia-Pacific as well. Merely hoping that Russia will return to treaty compliance is insufficient to the seriousness of this threat. That is why Russia's violation of the INF treaty is so significant because it calls into question basic assumptions about United States nuclear policy, assumptions we must be prepared to reevaluate given the new realities of our strategic environment.

China has one of the world's largest and most comprehensive missile forces, continues to modernize its nuclear capabilities by adding more road-mobile systems and submarine-carried nuclear weapons, and continues to pursue counter-space capabilities designed to limit our use of space.

Beyond Russia and China, the breakneck pace of North Korean ballistic missile and nuclear testing in the past few years means that a North Korean missile tipped with a nuclear warhead capable of reaching our Homeland is no longer a distant hypothetical but an imminent danger. Iran's continued development and testing of advanced ballistic missiles suggests that its nuclear ambitions may have been delayed, but they have not been dashed.

These growing nuclear threats from great powers and rogue states indicate that whatever well-intentioned hopes we had after the end of the Cold War, the United States can no longer seek to reduce the role of nuclear weapons in our national security strategy, or narrow the range of contingencies under which we would have to consider their use.

That is why Congress has demonstrated its support for modernizing each leg of the nuclear triad, including a replacement for the air-launched cruise missile, through annual authorization and appropriations acts. Modernization is not cheap, but it is affordable: just 2 percent of the defense budget over the next 10 years, according to the CBO [Congressional Budget Office].

General Hyten, you told the committee last year that any program delays or reductions in funding will increase the risk to strategic and extended deterrence mission requirements, negatively impacting global stability and our national security. We look forward to your assessment as to whether there may be any such delays.

Finally, we understand that the Department of Defense will conduct a nuclear posture review, the first since 2010. That previous nuclear posture review stated: "Russia and the United States are no longer adversaries, and prospects for military confrontation have declined dramatically." What a relief. General Hyten, the committee is interested in your assessment of how the strategic landscape has changed since the last review and what assumptions need to be reexamined.

With respect to space, after years of prodding from this committee, I am pleased and, in some respects, impressed with Strategic Command's enhanced focus on responding to Chinese and Russian activities in space. We have come a long way in the past few years. But the fundamental fact remains: our space superiority is at risk. Russia and China are intent on exploiting our dependence on space to achieve an asymmetric advantage. To that end, both countries are investing significant resources and achieving real progress as they pursue, test, and demonstrate a full range of

capabilities such as anti-satellite missiles, co-orbital weapons, jamming, and cyber.

General Hyten, you were the architect of the Space Enterprise Vision when you were Commander of Air Force Space Command. I look forward to hearing more from you on what is required to sustain our space-based military advantage.

Senator Reed?

SENATOR JACK REED

Senator REED. Well, thank you very much, Mr. Chairman. Let me join you in welcoming General Hyten to the committee. We are grateful for your service and for the dedication of the many men and women who serve with you.

General, in a speech you gave earlier this year at Stanford's Center for International Security and Cooperation, you talked about the enormous responsibility you have assumed in ensuring our nuclear deterrent is capable of deterring threats that are existential to our Homeland. It is a sobering responsibility to be the one who will give advice to the President on the options before him and then be the one who must direct the execution of those options, and we appreciate the skill and the fidelity you bring to that task. Thank you, sir.

The President has directed the Department to conduct a nuclear posture review to outline our strategy and posture. I look forward to considering that review when it is completed. As the chairman noted, the last one was done in 2010 and the threat environment today is considerably different. The most significant developments are Russia's nuclear modernization and its bellicose threats about its nuclear capability and the significant advancements made by North Korea in its nuclear missile programs.

But there are other troubling advances. China is fielding its own SSBN [ballistic missile submarine] that will patrol the Pacific, which will hold most, if not all, of our Homeland at risk. In addition, Pakistan and India continue to develop their nuclear capabilities with tactical and long-range missiles, which in some cases reach well beyond their borders, affecting nations to which we have made security commitments.

In other words, General Hyten, while Russia with its near-peer nuclear standing is and should be the focus of the next nuclear posture review, the landscape is quickly shifting. It has become multipolar, and how we structure our deterrence and the military options are changing rapidly.

Finally, we are now coming to grips with our own nuclear modernization. Because of the existential threat it deters, there has been bipartisan support for modernization of the nuclear triad in this committee. I am hopeful that this consensus continues because this is a 20-year acquisition program extending well beyond this and future administrations.

Let me touch on a few other topics.

In the area of space, we will value your expertise to develop long-term requirements and plans to counter the asymmetric threats to our space assets. I assume that will be discussed further in tomorrow's closed session.

In the area of missile defense, you are responsible for synchronizing global missile defense planning and operations. I look forward to hearing your thoughts on the state of our Homeland and regional systems. The administration has called for a missile defense review, which also needs to address the topics contained in a provision of the fiscal year 2017 Defense Authorization Act, which include left-of-launch missile defeat capabilities, cruise missile defense of the Homeland, and the role of deterrence in missile defeat policy. We look forward to hearing your thoughts on this review and the ongoing improvements to our interceptors, sensors, and command and control system.

Thank you, Mr. Chairman. I look forward to the testimony.
Chairman MCCAIN. Welcome back, General Hyten.

**STATEMENT OF GENERAL JOHN E. HYTEN, USAF,
COMMANDER, U.S. STRATEGIC COMMAND**

General HYTEN. Thank you very much.

Chairman MCCAIN. By the way, your complete statement will be made part of the record.

General HYTEN. Thank you, Mr. Chairman.

Good morning, Chairman McCain and Ranking Member Reed, members of the committee.

Since the end of World War II, strategic deterrence has underwritten our Nation's security and preserved our way of life. Our nuclear force has been and always will be the backbone of our Nation's strategic deterrence.

Today the nuclear force of the United States is safe, secure, reliable, and ready. It is the foundation of the combatant command I am honored to lead.

However, in the 21st Century, strategic deterrence is more than nuclear. It is the integration of all our capabilities in all domains across all the combatant commands, other governmental organizations, and alongside our allies.

The global security environment we operate in has changed. Our adversaries are developing advanced nuclear and conventional weaponry that rivals our systems and capability and capacity. They fully understand the warfighting capability that cyber and space can enable. To maintain technological and operational superiority, our military must stay ahead of our adversaries. We must adapt and modernize.

The primary focus of our deterrence modernization efforts must address the entire nuclear infrastructure: first, the platforms, the ICBMs [Intercontinental Ballistic Missiles], the submarines, nuclear capable heavy bombers with their associated tankers. Second, the actual nuclear weapons themselves; and finally, the nuclear command and control architecture that enables the entire enterprise. They are all essential to this security of our Nation.

At a time when our adversaries have significantly modernized and continued to upgrade their nuclear forces, nearly all elements of the nuclear triad are operating beyond their designed service life. Any recapitalization program delays will further diminish these capabilities and affect our ability to execute our mission.

Space is a warfighting domain just like air, ground, maritime, and cyber. We must normalize how we plan and operate in space.

The same concepts that govern other military operations also apply in space. Efforts taking place with the interagency, allies, partners, and commercial industry to develop capabilities, integrate, and execute operations is beginning to pay dividends. Our integrated missile defense network continues to disseminate across the globe as a sign of our commitment to our allies and shared common defense.

Ballistic missile proliferation is increasing as more countries acquire greater numbers of ballistic missiles while simultaneously advancing technical sophistication to defeat U.S. defense systems. In response, we must continue to advance our missile defense capabilities and forces to assure allies and deter adversary aggression.

We are managing the unified command plan elevation of U.S. Cyber Command, which I fully support and engage with on a daily basis. Meantime, we also remain engaged with the Joint Staff and with United States Special Operations Command as they assume primary responsibilities to previous STRATCOM [Strategic Command] missions of joint intelligence, surveillance, and reconnaissance and combating weapons of mass destruction.

U.S. Strategic Command is a global warfighting command. All of our deterrent forces remain safe, secure, reliable, and ready. The morale of the force is also very high. They understand again the critical importance of our missions. Nevertheless, the U.S. faces significant challenges in sustaining the critical capabilities that underpin our strategic deterrent. Our Nation's strategic capabilities must be a core focus of our national security spending, and I am sure that sustained congressional support, support from this committee, combined with the hard work of the exceptional men and women who support U.S. Strategic Command will ensure we remain ready, agile, and effective against both current and future threats.

I look forward to engaging with you today and throughout my time as the U.S. STRATCOM Commander. Thank you for this opportunity, and I look forward to your questions.

[The prepared statement of General Hyten follows:]

PREPARED STATEMENT BY JOHN E. HYTEN

INTRODUCTION

Strategic deterrence has underwritten our nation's security and preserved our way of life since the end of World War II. The early deterrence theorists in the 1950s and 1960s were able to make their ideas practical during a time of turbulence, rapid technological change, and a contest of two starkly different ideologies that divided the world in half. During this critical time, our theorists—hand in hand with our practitioners—helped carry the Cold War to a successful conclusion.

Today, strategic deterrence is still foundational, but it is also different. Its core principles are the same. Our nuclear capabilities are the foundation and the bedrock for our defense.

USSTRATCOM is a global warfighting command. All our forces, in all domains, stand ready today. Our nuclear forces are safe, secure, reliable, and ready—capable of responding wherever necessary and whenever our nation calls. These forces compel all potential adversaries to realize that any benefits they see in an attack on our nation, or our allies, will be far outweighed by the cost. Our nuclear triad provides military capabilities that give our leadership the flexibility and decision space to respond to any strategic attack. We also have space and cyberspace forces that are critical to the American way of war in every theater. We must employ them decisively, to include defending the space and cyber domains from threats.

USSTRATCOM accomplishes seven assigned Unified Command Plan (UCP) missions; Strategic Deterrence, Space Operations, Cyberspace Operations, Joint Electro-

magnetic Spectrum Operations, Global Strike, Missile Defense, and Analysis and Targeting. Our vision is to improve our ability to effectively integrate these disparate missions to create an even more effective deterrent. We are working to identify gaps, and work with the services to program and organize for success. With this in mind, USSTRATCOM will continue to change to respond to this dynamic world. We are transitioning to a new Command and Control Facility and will continue to advocate for essential modernization programs. Simultaneously, we are “in the fight” every day, everywhere—which requires a constant focus on today with an eye toward tomorrow.

Our ability to deter major power conflict also depends on our ability to deter in all domains—particularly space and cyber. We must think about any future national security construct from a multi-domain perspective and this involves strategic deterrence. Since 1992, USSTRATCOM has been the primary combatant command responsible for providing strategic deterrence for the United States. The ways and means have evolved, but the end state has endured. Peace is still our profession.

GLOBAL SECURITY ENVIRONMENT

Russia warrants constant attention. Its security strategy makes clear that it is re-asserting itself as a global power. It is modernizing its conventional and strategic military programs, emphasizing new strategic approaches, declaring and demonstrating an ability to escalate, maintaining a significant quantity and variety of nuclear weapons, and according to Russian media reports, is developing hypersonic glide vehicles. Furthermore, Russia has engaged in destabilizing actions in Syria and Ukraine, while also developing and deploying weapons that violate the Intermediate-range Nuclear Forces (INF) Treaty. Russia is also advancing development of counter-space and cyber capabilities.

China is pursuing a long-term military modernization program across a range of conventional and strategic domains with implications in the Pacific region and beyond. Simultaneously, it is modernizing nuclear missile forces, and building out a secure, second-strike capability. Although China still professes a “No First-Use” doctrine, it is re-engineering its long-range ballistic missiles to carry multiple nuclear warheads. It also continues to develop and test its hypersonic-glide vehicle capability. China’s pursuit of conventional global strike capabilities, offensive counter-space technologies, and exploitation of computer networks also raises questions about its global aspirations. These developments—coupled with a lack of transparency on nuclear issues such as force disposition and size—impact regional and strategic stability.

Although North Korea is not an existential threat to the United States, it remains the most dangerous and unpredictable actor in the Pacific region. Pyongyang’s evolving ballistic missile and nuclear weapons program underscore the growing threat. It continues to defy international norms and resolutions, as demonstrated by a number of provocative actions this past year, including their fourth and fifth nuclear tests. North Korea is also pursuing development of Intercontinental Ballistic Missile (ICBM) and Submarine Launched Ballistic Missiles capabilities, and an improved Intermediate Range Ballistic Missile. These developments highlight its commitment to diversify its missile forces and nuclear delivery options, while strengthening missile force survivability. North Korea also continues efforts to expand its stockpile of weapons-grade fissile material and has demonstrated its capability and willingness to conduct destructive cyber-attacks against the United States and its allies.

Iran continues to develop ballistic missile, space, and cyberspace capabilities—and we remain focused on preventing the development of new threats in the region. While Iran continues to follow the mandates of the Joint Comprehensive Plan of Action, we must remain vigilant to any Iranian intentions that indicate it will pursue nuclear weapons.

Ungoverned or ineffectively governed regions remain incubators for those who seek to attack the world’s peaceful societies. Transregional Terrorist Organizations (TTOs) recruit and operate freely across political, social, and cyberspace boundaries. The effect of weapons of mass destruction (WMD) in the hands of TTOs could be catastrophic, which highlights the importance of our national non-proliferation and counter-WMD efforts. The counter-WMD mission is now led by U.S. Special Operations Command (USSOCOM) but USSTRATCOM is committed to maintaining a close partnership. It is another essential element of deterrence.

THE PROBLEM

For decades now, we have held a military advantage over our adversaries, both from a nuclear and conventional standpoint. That is starting to change. As our na-

tion rightly focused on combating violent extremist organizations and the states that support them, other adversaries have taken the opportunity to develop advanced nuclear and conventional weaponry that rival many of our systems. That is not all: our adversaries are learning from each other and demonstrating advanced understanding of the cyber and space domains.

One of our biggest challenges in the future will be staying ahead of the pace of change we see in our adversaries. We have a problem delivering timely responses to new threats. We don't move fast enough from concept to capability. The pace of change is rapid and demands us to change ahead of the evolving threats, but our processes favor preserving the status quo. We are risk averse, while our adversaries have not. Our industrial base is also fragile in many areas, which complicates our ability to stay ahead of, or in some regards stay even with, our adversaries.

PRIORITIES

I have three fundamental priorities in my command.

Above all else, USSTRATCOM will provide *strategic deterrence* against any potential adversary. Our operations must be ceaseless, deliberate, and enabled by a focus on today's operations and a commitment to modernize our triad, our weapons, our command and control, our space, cyberspace, and missile defense capabilities. Our deterrence efforts must include proactively shaping and messaging any potential adversary.

If deterrence fails, the nation counts on us for a *decisive response*. These responses must defeat any adversary with all the elements of our command's power, in all domains. We must work with all our components and task forces to achieve this outcome. However, mere execution will not suffice in the current strategic environment.

Neither strategic deterrence nor decisive response will function without a resilient, equipped, trained, and *combat-ready force*. To that end, we must embrace the mentality that USSTRATCOM is a warfighting command. Our fight is each day, around the globe. This requires our forces to have depth in capability and breadth in capacity—we cannot do it alone. We must constantly challenge ourselves to integrate with allies, partners, the interagency, DOD, the Joint Staff, and other commands to cover our seams and gaps, and to ensure we capitalize on the unique capabilities that USSTRATCOM can bring to bear.

THE NUCLEAR FORCE

All elements of our nuclear forces will be assessed in the Administration's coming Nuclear Posture Review—but we have an excellent basis to begin this analysis.

With regard to our nuclear weapons, I serve as a principal member of the Nuclear Weapons Council (NWC): the interagency organization responsible for maintaining and managing the Nation's nuclear weapons stockpile. To ensure synchronization and unity of effort across the Department of Defense and the Department of Energy's National Nuclear Security Administration (NNSA) priorities, the NWC-approved Strategic Plan outlines an approach to sustain the enduring stockpile, align warhead and platform modernization efforts, and identify the essential NNSA industrial capacity required to maintain the Triad. A key element of the current strategy is the "3+2" vision to transition the stockpile of 11 warheads to three ballistic warheads and two air-delivered warheads. Assuming it remains consistent with the current Nuclear Posture Review, full realization of "3+2" requires long-term sustained commitment to the modernization and recapitalization of NNSA's infrastructure, as well as continued development of the human capital and science-based stewardship tools needed to certify and assess the stockpile.

Our land-based ICBMs, sea-based Ballistic Missile Submarines (SSBNs), and nuclear-capable heavy bombers—with their associated tankers—provide strategic deterrence and stability. Considering this, our ICBM's are the most responsive, our submarines are the most survivable, and our bombers are the most flexible. Each element is essential to the security of our nation. The synergistic capabilities of the Triad present adversaries with a complex, multi-layered challenge that also hedges against unforeseen technical problems or changes in the security environment.

The U.S. faces significant challenges to sustain the capabilities that will meet our enduring national security objectives. At a time when Russia and other countries continue to modernize and upgrade nuclear capabilities, nearly all elements of the U.S. nuclear weapon stockpile, delivery systems, and other infrastructure are operating beyond their designed service life. Maintaining strategic deterrence, assurance, and escalation control capabilities requires a continuing, multi-faceted, long-term investment approach.

The investment in, and commitment to, our Nation's strategic capabilities must continue and planned sustainment and modernization activities must be completed

on schedule. Any recapitalization program delay will adversely impact the execution of our strategic deterrence mission and degrade our ability—and ultimately our credibility—to deter and assure. Sustained Congressional support, stable and timely budgets, combined with the hard work of the exceptional men and women who support United States Strategic Command, will ensure that we continue to effectively deter strategic attack, assure our allies and partners, and address both current and future threats.

NUCLEAR COMMAND, CONTROL, AND COMMUNICATIONS (NC3)

Our nation's nuclear deterrent is only as effective as the command and control networks that enable it to function. Therefore, the NC3 system must also be assured, reliable, and resilient across the full spectrum of conflict. Maintaining a credible nuclear deterrent requires modernization and recapitalization of key systems and capabilities throughout the NC3 architecture. The challenges posed by today's security environment make it increasingly important to optimize our NC3 systems architecture while leveraging new technologies. Through continued funding for NC3 modernization programs, we will ensure effective command and control of the Nation's forces for many years to come.

USSTRATCOM requires a NC3 capability comprised of interdependent systems, facilities, and platforms operating throughout the space, air, and terrestrial domains to both effectively execute strategic deterrence operations and provide support for the President as an essential component of the National Leadership Command Capability. As an example of this, USSTRATCOM is working with the White House, national laboratories, and the private sector to improve decision support capabilities, setting the conditions for timely and informed senior leader decision-making under any circumstance, in transit or at fixed locations.

In the space domain, we are transitioning from the Milstar satellite communications system to the Advanced Extremely High Frequency (AEHF) satellite communications systems. AEHF, coupled with the requisite ground node and airborne platform Family of Advanced Beyond Line-of-Sight terminals (FAB-T) will extend capabilities to enable collaboration between the President and senior advisors under any circumstance to improve connectivity with our nuclear forces.

Within the air layer, we are continuing efforts to replace the communications systems on the E-6B Airborne Command Post (ABNCP) and Take Charge and Move Out (TACAMO) aircraft as well as the E-4B National Airborne Operations Center (NAOC) to provide world-wide connectivity to the nuclear forces. In conjunction with communications update efforts such as the Low Frequency Transmit System (LFTS), the Air Force is pursuing a course of action to recapitalize the E-4B platform, which is approaching its end of service life. The selected platform must be capable of meeting all mission requirements assigned to the E-4B NAOC. Additionally, the Air Force continues efforts to field a very low frequency (VLF) and AEHF capability for the B-2 bomber fleet that will ensure beyond line-of sight connectivity throughout the spectrum of conflict.

Within the terrestrial domain, the Air Force completed high altitude electromagnetic pulse hardening upgrades to its early warning radar sites and continues to modernize its Nuclear Planning and Execution Systems (NPES). The construction of the new USSTRATCOM Command and Control (C2) Facility, which will be a key component of nuclear and national C2 architecture. Although we still have some funding challenges and schedule risks, we remain on track for occupancy in 2018. This new facility will serve as a visible reminder to adversaries of our national commitment to maintain modern and effective NC3 capabilities.

ICBMS

With smart and consistent sustainment, modernization, and recapitalization, the ICBM force will continue to provide a responsive, reliable, safe, secure, and effective deterrent force for many decades. However, the Minuteman weapon system is far beyond its intended lifespan. Launch Facilities and Launch Control Centers require investment in repair and modernization. Additionally, vehicles and equipment used to support the Minuteman weapon system require an immediate, long-term investment. USSTRATCOM supports ongoing sustainment and modernization investments in the current Minuteman weapon system.

Minuteman recapitalization is necessary to address the issues associated with operating a weapon system beyond its planned design life, and we must continue that sustainment until the deployment of the Ground Based Strategic Deterrent (GBSD), which will begin initial deployment in 2028.

The GBSD program successfully completed Milestone-A last year and is progressing toward an integrated weapon system solution, including the flight system,

weapon system C2 ground launch systems, and facilities. We continue to encourage cooperation between the Air Force, Navy, and industry as they develop the technologies to meet our deterrence needs.

Protecting our force remains a top priority and USSTRATCOM supports completing the UH-1N Helicopter Replacement program, Payload Transporter Replacement, and the ICBM Cryptographic upgrade. These programs should not be difficult and the need is now. Additionally, we must update legal guidance, policy frameworks, and Rules of Engagement to defend all threats, particularly new threats like unmanned aerial systems.

SSBNS

The *Ohio*-class submarine has been life-extended from 30 to 42 years. Starting in 2027, one *Ohio*-class SSBN will retire each year, with no margin to extend them further. Continued support for staffing and improvements at naval shipyards, Trident Refit Facilities, and Strategic Weapons Facilities are critical to maintaining the necessary operational availability of the *Ohio*-class as it approaches end-of-life. USSTRATCOM continues to support and work with the Navy as it modernizes their SSBN force. As the Navy's "number-one" priority and USSTRATCOM's top modernization item, the design and production of the *Columbia*-class SSBN must continue for on-time delivery to meet its first strategic deterrent patrol in 2031. The 12 submarines in the class will serve as the survivable leg of the Triad through the 2080s. Ensuring that the *Columbia*-class SSBN remains on schedule and funded throughout the next decade is vital to prevent any capability gaps. Any delay will assert unacceptable risk on our sea-based nuclear deterrent.

We fielded the Trident II D5 missile more than 25 years ago. The Navy has taken steps to extend the life of the Trident missile through the life of the *Ohio*-class, which enables it to serve as the initial baseline ballistic missile for the *Columbia*-class submarine. We share the Trident II system with the United Kingdom, as well as the design for the Common Missile Compartment for both countries' ballistic missile submarine classes. We must continue our commitment to the United Kingdom to ensure our strategic forces are equipped with the weapons systems needed to meet operational requirements into the future.

BOMBERS

To ensure our bombers provide a credible deterrence and assurance capability, ongoing sustainment and planned modernization activities must remain on track. I support and appreciate the Air Force's continued emphasis to provide an effective and ready force.

The B-52 will receive a radar system upgrade that will enhance weapons delivery, improve weather detection and avoidance, and aid aerial refueling operations. Potential advantages include range improvements, reduced air refueling demand, longer time-on-station, and a reduced maintenance footprint. The B-52's radar is a 1960s analog system, updated in the 1980s, and is now more than 20 years beyond its service life. Its Current Mean-Time-Between-Failure rate indicates a likelihood the radar will delay, degrade, or fail during a 20-hour mission.

The B-52's structural life extends beyond 2050, but the B-52 TF-33 engine has been in service since 1961 and is facing component wear and diminishing manufacturing sources. USSTRATCOM supports Air Force studies investigating the benefits of replacing B-52 engines. I support an engine upgrade for the B-52, as the result will be increased range, longer combat time-on-station, smaller maintenance footprint, and less of a tanker bill. The upgrade will ensure that the B-52 remains a viable component of the bomber force in the face of advanced threats.

The B-2 fleet will receive the next generation of assured and survivable communication, VLF receivers, and survivability upgrades against modern threats to retain the platform's stealth attributes. Difficulty maintaining stealth attributes is the primary reason for downtime on B-2 aircraft. USSTRATCOM supports Air Force initiatives to fund upgrades to B-2 survivability, communications, and maintainability—this is critical to mission effectiveness and longevity of the nation's only penetrating bomber.

As potential adversaries develop and deploy increasingly sophisticated anti-air defenses, the new B-21 will ensure we maintain an effective penetrating bomber capable of striking any target around the world. The B-21 is a key component of the Air Force Family of Systems portfolio, including ISR, electronic warfare, and long-range strike. It will provide the President with capabilities to hold targets at risk around the globe regardless of anti-access/area denial environments. Coupled with the Long Range Standoff (LRSO) cruise missile, the B-21 will deny adversaries safe havens and sanctuary.

As is the case with other Triad systems, our bombers and their associated weapons are well beyond their intended service lives, requiring attention to maintain combat readiness. Legacy gravity bombs and the Air Launched Cruise Missile (ALCM) meet current military requirements, but declining sustainability and survivability challenges require replacement systems. The B61-12 gravity bomb and LRSO must deliver on schedule to avoid any strategic or extended deterrence capability gaps.

The B61-12 Life Extension and tail-kit adaptor programs are currently on schedule to deliver on time and preclude a capability gap, as both have progressed satisfactorily in engineering, manufacturing, and development. Both programs met fiscal year 2012-2016 milestones. The first production unit is planned for March 2020. Testing to date has shown the B61-12 accuracy requirement is achievable and the weapon will function as designed against required target sets. The B61-12 is a key element of the future air-leg of the strategic Triad and is required to maintain a continuous gravity nuclear capability by arming the B-2, B-21, legacy dual capable aircraft, and the F-35A. It will ensure continued support to NATO and our other partners around the world.

The ALCM carries the W80-1 warhead and is launched solely from the B-52. Intended for Soviet-era threats, the ALCM's survivability in modern air defense environments is deteriorating. Designed in the 1970s and fielded in the early 1980s with an expected 10-year service life, the ALCM is encountering sustainability and viability issues from age related material failures, advancing adversary capabilities and diminishing manufacturing sources. Parts and materials designed for a 10-year service life are now 35 years old, and are obsolete. Three Service Life Extension Programs (SLEP) are funded, but cannot keep pace with the rate of discovery of deficiencies. Funding for SLEPs and other sustainment issues are straining Operation & Maintenance funding. Operational and surveillance testing will reduce ALCM quantities below operational needs in 2030.

The LRSO cruise missile will replace the ALCM. It will provide the President with a range of deterrent options consistent with nuclear policy objectives. It provides an effective counter to adversary capabilities and a challenge to their own defenses. The LRSO is the first missile system developed in unison with a nuclear warhead for many decades. Limiting resources or funding of either component will disrupt its entire concept-to-capability timeline. To conclude, the LRSO and W80-4 LEP programs must remain in synch and on time to preclude a capability gap.

SPACE

Space is a warfighting domain just like the air, ground, maritime, and cyber domains. The DOD with the National Reconnaissance Office and Air Force Space Command have embarked on implementing their shared Space Enterprise Vision, which supports the National Space Policy and focuses on the concepts of operation, crew force, and systems required to prevail in a conflict that extends into space. I support this effort because we must normalize how we think of space, how we operate in it, and how we describe it to each other. It is unique for many reasons, but the concepts that govern other military operations: intelligence, maneuver, fires, protection, logistics, and C2 apply just the same.

As of November of 2016, the Joint Interagency Combined Space Operations Center (JICSpOC) entered its initial phase of operations. The JICSpOC is a center that synergizes the National Reconnaissance Office, the National Intel Community and the DOD. It is focused on achieving interagency unity of effort while defending against space threats. In coordination with our partners and to eliminate confusion, we have decided to rename the JICSpOC to better describe its actual purpose. As of 1 April 2017, the JICSpOC will be called the National Space Defense Center (NSDC).

We have a combined space operations initiative with Australia, Canada, New Zealand, and the United Kingdom. The MOU, signed in 2013, continues in the spirit of cooperation with regular boards that make or recommend space policy decisions. A board in November 2016 directed the formation of general officer-led working groups for operations and exercises, capabilities and architectures, and policy. These working groups cross military and policy positions reside in the participant countries.

We have other multi-national space operations initiatives as well. Notably, France and Germany were included for the first time in the Schriever Wargames in 2016.

We conducted a Space Situational Awareness Table-Top Exercise in September of 2016, with partner nation participation from the UK, Canada, Australia, Japan, France and Germany. We are examining the prospect of inviting Italy and the Republic of Korea to follow-on exercises later this year. These initiatives are part of

the multi-national collaborative environment we are fostering to expand international cooperation, strengthen stability in the space domain, and increase assurance and resilience.

While we continue to build partnerships, new satellite communication (SATCOM) capabilities face significant funding challenges. These fielding issues must be resolved to prepare the U.S. to fight effectively in future conflicts. SATCOM capabilities associated with the Mobile User Objective System (MUOS) Wideband Code Division Multiple Access (WCDMA) are constrained by the availability of tactical terminals and issues in bringing the MUOS Radio Access Facility gateways into operation. The fielding of new AEHF Extended Data Rate (XDR) capabilities is improving over time, but delayed XDR terminal programs are hampering the transitions from Milstar to AEHF. Protecting wideband communications is essential to fighting effectively in the future. We must unify these separate service efforts under an interoperable standard to enable joint operations in contested environments. I support future operations leveraging the burgeoning commercial SATCOM industry.

Joint force capability development notwithstanding, we have been successful in integrating the three-year Cooperative Research and Development Agreement (CRADA) initiative at the Joint Space Operations Center (JSpOC), with six commercial industry satellite systems and services owner operators. These owner operators are DigitalGlobe, Eutelsat, Intelsat, Inmarsat, Iridium, and SES-GS; and our objective is to improve the ability to deliver operational capability, lower cost, and reduce risk.

These commercial partners are not under contract. The industry provides representatives to collaborate directly on the JSpOC floor in the areas of space operations and resiliency, decision support, threat mitigation, automated tools analysis, exercise participation, space catalog, common data standards and protocols. Current law does not allow government sponsorship of security clearances, badging and accesses unless under contract, and we could use some help in this area.

USSTRATCOM is also actively engaged in DOD support to the Civil Space Traffic Management effort directed by the National Security Council, and led by the Federal Aviation Administration on behalf of the Secretary of Transportation. USSTRATCOM must continue to track all objects in space for national security purposes but we can share the data with others. We see a potential where the DOD and DOT jointly operate a mutually-supportive U.S. space traffic management enterprise that will foster more enhanced spaceflight safety for all operators including from government, civil, and commercial sectors across the globe, but we must be careful to do so in a way that does not adversely impact our national security.

JOINT ELECTRONIC WARFARE

Our peer and near-peer adversaries have studied U.S. capabilities and our ability to dominate the electro-magnetic spectrum is at risk. Many countries have organized for spectrum warfare with specific EW/spectrum warfare units. They have built electronic attack capabilities to counter virtually all of our spectrum dependent systems. Our military once had a focus and drive in this area, but we have lost much of our expertise. We must recommit our investments in systems, personnel, and training.

The EW Executive Committee (EXCOM) is a step in the right direction to address the criticality of gaining and maintaining EMS superiority, which affects all domains. The Joint Concept for EMSO (JCEMSO), signed by the Chairman of the Joint Chiefs in March 2015 provides an initial concept vision for future electromagnetic spectrum operations. With a global perspective and UCP Joint EW mission area responsibilities, USSTRATCOM is engaged in Joint Electromagnetic Spectrum Operations (JEMSO) advocacy across the doctrine, organization, training, materiel, leadership and education, personnel, facilities and policy on behalf of the Department.

MISSILE DEFENSE

Ballistic missile proliferation and lethality continues to increase as more countries acquire greater numbers of ballistic missiles and are increasing their technical sophistication to specifically defeat U.S. ballistic missile defense systems. In the past year, we continue to see missile tests from North Korea and Iran that cause us and our allies continued concerns. Their efforts to advance missile technologies threaten stability. In response, we must continue our efforts to advance capabilities and missile defense forces to assure allies of our commitment for a common defense and to deter further aggressions from these regional and transregional actors.

As an essential element of the U.S. commitment to strengthen strategic and regional deterrence against states of concern, we continue to deploy missile defense

capabilities and strengthen our missile defense postures. During the past year, we have operationally deployed the Aegis Ashore Missile Defense Complex in Romania as part of the European Phased Adaptive Approach Phase II and added additional Ground Based Interceptors (GBIs) as we remain on track to meet the objective of 44 GBIs by end of this calendar year. Continued investments toward our warfighter missile defense priorities are essential. Priority missile defense upgrades and capability advancements include:

- Increase of reliability and lethality of our interceptors to include the continued development of the Redesignated Kill Vehicles (RKV) for the GBI, completion of testing and deployment of the SM-3 Block IIA capability, and future enhancements to the GBI, most notably the Multi-Object Kill Vehicle (MOKV).
- Sensor and discrimination capabilities to include the continued development of the Long Range Discrimination Radar (LRDR) and increasing the sensor network based on the conclusion of the Department's Sensor Analysis of Alternatives. At some point soon our nation must commit to deployment of a global space-based sensor system with discrimination capability.
- Increase the robustness of regional missile defense capability and capacity to include continued deployment of the Aegis Ballistic Missile Defense and the Terminal High-Altitude Area Defense (THAAD) capabilities and implementation of the recommendations from the Department's Joint Regional Integrated Air and Missile Defense Capability Mix (JRICM) study.

We cannot be successful in this endeavor by investing solely in active missile defense capabilities—we must strengthen all pillars of missile defense including the capability to enable a left-of-launch capability in the Missile Defeat enterprise. We are exploring efficiencies that can be gained by fusing non-kinetic, cyber, electromagnetic, and kinetic capabilities to deny, defend, and defeat adversary threats. Furthermore, additional efforts should be invested in the Department's ability to find, fix, track, target, engage, and assess (F2T2EA) threats and the adoption of corresponding policy and organizational constructs.

We must strengthen our collaboration with our allies and explore further integration of our collective capabilities toward an effective mutual defense. We are investing in collaboration with our allies across multiple venues, including the USSTRATCOM-hosted Nimble Titan wargame. This biennial wargame is conducted with our key allies in partnership with the Department of State and our Geographic Combatant Commands. We continually explore and experiment with potential collaboration and integration approaches with our allies to inform development of policy, military, and investment options.

Finally, we depend on flight-testing—it is critical to assessing and validating the performance of the operational system in actual flight environments. The high cost of flight-testing often limits the number of flight test opportunities. The Missile Defense Agency endeavors to maximize the opportunity for learning to advance capability development through flight test success or failure. The body of data collected in flight-testing is robust, and we discover unexpected findings in every test. Flight test failures are unplanned, but when failures happen—learning occurs. The root cause is determined, corrective actions are implemented, and the overall capability of the system improves.

CYBER

Cyber is still a critical mission assigned to USSTRATCOM. We continue to work closely with U.S. Cyber Command to ensure our nation is prepared to respond to any and all challenges within this domain. I applaud the direction signed into law in the fiscal year 2017 National Defense Authorization Act and remain committed to the elevation of U.S. Cyber Command to be a unified command as soon as possible. They will be providing a detailed posture statement on cyber in the near future.

INITIATIVES

To ensure U.S. conventional power and deterrence are just as strong in the future as they are today, technological and operational innovation is crucial. The pace at which potential adversaries are improving their capability is a challenge. Holding adversary targets at risk will continue to be challenged as advanced offensive and defensive systems hinder our ability to effectively maneuver in anti-access/area denial environments. One of my top priorities is anticipating change and confronting uncertainty with agility and innovation. USSTRATCOM has been a participant with Third Offset Strategic Portfolio Reviews that ultimately lead up to Investment Decisions. One example of USSTRATCOM's contribution is the Global Operations Innovation Initiative (GOII).

USSTRATCOM continues to be the lead advocate for development and deployment of Conventional Prompt Strike (CPS) weapons systems, which can influence all forms of conflict and offset adversary advantages. While there are many hypersonic activities ongoing within the Department, I support CPS as the leading technology maturation effort in the realm of hypersonics.

The challenge of holding adversary targets at risk will continue to grow as advanced offensive and defensive systems hinder our ability to maneuver in anti-access / area denial (A2AD) environments. CPS weapons will provide a responsive, long-range, non-nuclear strike capability against distant, defended, time-critical threats. Having a hypersonic strike capability enhances our overall deterrent posture by providing the President additional options to hold targets at risk that do not justify crossing the nuclear threshold.

I support ongoing Department efforts to mature hypersonic boost-glide vehicles and non-nuclear warhead technologies through ground and flight-testing, as well as modeling and simulation efforts—we foresee an operational need for a CPS capability by the mid-2020s. While the next CPS flight test, scheduled for the 4th quarter of 2017, will demonstrate operationally representative flight components, our adversaries are developing similar long-range hypersonic strike weapons.

CONCLUSION

USSTRATCOM is a global warfighting command. Today's deterrence forces remain safe, secure, reliable, and ready. Nevertheless, the U.S. faces significant challenges in sustaining the required capabilities to continue to provide strategic deterrence on behalf of our nation. Our Nation's strategic capabilities must be a core focus of our national security spending. I am sure that sustained Congressional support, combined with the hard work of the exceptional men and women who support United States Strategic Command, will ensure that we remain ready, agile, and effective in deterring strategic attack, assuring our allies and partners, and addressing both current and future threats.

Chairman MCCAIN. General Hyten, as we discussed and has been made well known, the Russians are in violation of the INF treaty. Is that true?

General HYTEN. Yes, Chairman, that is true.

Chairman MCCAIN. What does this mean for the threat to the United States and our European allies?

General HYTEN. It is a concern that we have to look at across the entire spectrum of what Russia has been doing. Russia has been modernizing their entire nuclear force. They started an aggressive effort in 2006. They continue that to this day. This breach of the INF Treaty that caused the deployment of a ground-launched cruise missile is a concern to us because we have not seen that for quite some time. It is another element we are going to have to consider as we look forward to how we deal with Russia.

Chairman MCCAIN. How would we deal with the ground-launched cruise missile itself?

General HYTEN. A single ground-launched cruise missile is not a significant threat to the United States or our allies. It shows the beginning of a deployment of a structure that could be a threat in the future.

Chairman MCCAIN. If it is deployed in a significant number, what does that do?

General HYTEN. We have no defense for it, especially in defense of our European allies. That system can range and threaten most of the continent of Europe, depending on where it is deployed. We will talk about that in detail in the closed hearing tomorrow, Senator. But it is a concern, and we are going to have to figure out how to deal with it as a Nation.

Chairman MCCAIN. There is certainly a compelling argument for Vladimir Putin's disregard for most norms of behavior that Russia,

post Soviet Union, used to adhere to or even during the Soviet Union times.

General HYTEN. I believe that the United States has only effectively dealt with Russia over the years from a position of strength. I think the only way we can deal with them in the future is from a position of strength. I think the work of this committee and the work of my command can help that strength be established so we are in a good position to have future discussions with the Russians.

Chairman MCCAIN. It seems to me to regain that position of strength, we need to give you some help. Is that right?

General HYTEN. Yes, sir. I am asking for help on modernizing our entire forces and making sure we have the force structure that is needed to make sure we can deter not only today but in the future.

Chairman MCCAIN. What would be your priorities?

General HYTEN. Senator, my priorities are, first, to modernize the platform elements of the triad. I think when you look across the force—

Chairman MCCAIN. Which are?

General HYTEN. The platform elements of the triad are, first, the submarine, the *Ohio*-class replacement program, the *Columbia*. That is number one. The next is the GBSD, the ground-based strategic deterrent, the replacement for our Minuteman ICBMs. The third piece is the B-21 bomber, which the long-range standoff weapon associated with that. That is the replacement to the air-launched cruise missile.

The second piece of the puzzle is the modernization of the nuclear weapons. The nuclear weapons themselves have to be modernized so they can last well into the coming decades.

Finally, a very important piece that I am probably most concerned about right now is the nuclear command and control modernization that we have to have as we move into the coming decades.

Chairman MCCAIN. Under the present circumstances of sequestration, do you see any way of achieving all those goals?

General HYTEN. Senator, if we do not get stable budgets—when I spread all those programs out across the table—and I have—and I look at when they all deliver, they all deliver just in time. Take one example. The *Columbia* submarine. Every year that that program—if it slips 1 year, then the future commander of STRATCOM is down one nuclear submarine. Two years, two nuclear submarines. We know that because there is a certain time in the future where the *Ohio*-class submarine just will not go under the water anymore. Just the pressure on the vessel itself will not allow it to go down. That has to stay on time. If each of those programs delivers just in time and we do not have stable budgets, we know we already have a broken program. I am very concerned about the ability to have stable budgets to support those programs.

Chairman MCCAIN. What does a continuing resolution do to you and your plans that you just outlined?

General HYTEN. A continuing resolution makes it very hard to start new programs, which many of these programs will be new program starts. Each of these programs will ramp up in terms of funding over the years as we move from the development phase

into a production phase. Every time you have a continuing resolution, you cannot ramp up the funding you need in order to do that. Every time that happens, you have a delay to the program. Every time that happens, you have a break to a contract. It is a very significant issue in terms of cost to the taxpayers, as well as risk to our national security.

Chairman MCCAIN. The men and women who are serving under your command?

General HYTEN. Yes, sir. I talked a while ago about the improved morale. One of the great things I saw when I came back to U.S. Strategic Command was the morale in the submarines and the missile fields and the bombers and the space capabilities, the cyber capabilities. They understand how important it is what they do, but they also are dealing with very old equipment. We have a commitment to them as a Nation that we need to give them the tools that they need in order to do their job. Their enthusiasm can only last a certain amount of time. If we do not follow through on that commitment, that morale will be brought into question.

Chairman MCCAIN. Senator Reed?

Senator REED. Well, thank you very much, Mr. Chairman.

Again, General, thank you for your service.

In last year's National Defense Act, we asked for a review of all the options against our potential threats left-of-launch and right-of-launch. One of the issues that I think you will talk about in detail tomorrow but in public is the very little short time between a warning and a launch in many of our adversaries. The left-of-launch is something we have to look at. Right-of-launch, the first issue is boost phase.

Can you give us an idea here of where we are with respect to boost phase interceptors?

General HYTEN. I can give more information in the closed hearing tomorrow. But at a general level, we do not have a significant or really any boost phase intercept capability. It is a very challenging technology because you basically have to be properly positioned with the right kind of weapons capability in order to respond to an immediate launch. If you look at the North Korean launch on February the 11th, out of a new location, a new capability, a new transporter, erector, launcher, all those things bring the time of warning down to a very small number. Therefore, you have to be properly positioned.

Now, I will talk tomorrow about some new technologies that are becoming available that I think can begin to address that for the first time. But it is not in the near term, Senator.

Senator REED. But if we can pursue these technologies successfully, it would provide a significant advantage given the current deterrence we have.

General HYTEN. Yes, Senator. I cannot think of a better thing than if somebody launched a threat missile, to drop it right back on their head.

Senator REED. The nuclear posture review, as we both noted, is underway. Can you give us kind of an overview of the significant threats that this review will deal with and illustrate for us?

General HYTEN. The nuclear posture review just kicked off a 6-month timing asked for by the administration and the Secretary of

Defense. We are going at that. The first thing we will look at is the threat scenario. We will look at Russia, China, North Korea, and Iran in particular to make sure we understand what those threats are. Iran is in compliance with JCPOA [Joint Comprehensive Plan of Action Iran] right now, which is keeping that nuclear capability down, but they still have aggressive missile programs that we need to look at. We will look across that spectrum of the threat. We will look at what Russia is doing in terms of violation of the INF treaty, and then we will look at military options in order to respond to what we see in the threat. That is the basic structure of the nuclear posture review.

Senator REED. One of the disconcerting comments that the Russians continue to make is that they have a strategy now of escalate to deescalate with nuclear weapons. I think you quite succinctly describe that escalate to deescalate is not that. It is escalate to win, which forces us to escalate to stop them from winning. You know, no pun intended, but it is an escalator to catastrophe in my view.

Can you comment upon that statement? You know, how do we deal with that?

General HYTEN. I think it is one of the most challenging military questions you have. The good news is that we are addressing it with our geographic combatant commanders in large-scale exercises. We just did one with the European Command. We will do one with the Pacific where we actually address what those situations really would look like. It is important that we look at them seriously, understand what those pieces are. When we say escalate to win, what does that really mean? In order for us to win, we have two choices: one, to prevent that escalation; or two, respond in such a way after that escalation that they would want to stop any aggression that they have going on. Both of those are challenging situations, and we have to walk through the various options, which we are.

Senator REED. It would seem to me also that there has to be some means to communicate to avoid sort of the misstep, if you will. Is that part of the gaming you are doing, kind of how do we communicate our intention not to accept this but to engage again? Is that part of it?

General HYTEN. I continue to advocate engagement. I know Secretary Mattis has said we have had a long history of engagement, not a long history of success. I certainly agree with that statement. But, nonetheless, I would like to have an aggressive State Department engagement, an aggressive Department of Defense engagement that includes mil-to-mil engagements with my counterparts in Russia, China in particular. I think it is always better to be able to pick up the phone and talk to somebody before something bad really happens to have some kind of relationship. Also I want to look across the table and make sure they understand I am very serious about this business.

Senator REED. Thank you very much, General.

General HYTEN. Thank you, Senator.

Chairman MCCAIN. Senator Inhofe?

Senator INHOFE. General Hyten, I think we would all ask about the same questions that have been asked by the previous two members, and it is always a surprise when people find out that there

is some question as to whether or not we have the capability that we know around this table and that you know we do not. You have said, of course—you made it very clear we have the oldest nuclear arsenal in the world, warheads and bombs produced 30–40 years ago, B–52 and all of that.

The last time the 10-year posture review took place, there were assumptions. The chairman mentioned this in his opening statement. One of the assumptions—and this was for the 2010. Number one, Russia is no longer an adversary, and number two—and this is kind of disturbing—though the role of nuclear weapons in the United States national security and U.S. military strategy has been reduced significantly in recent decades, further reductions can and should be taken. How do you respond to those two assumptions? Bring that forward to the current day.

General HYTEN. From a military perspective, I think it is always important that anybody that has the threat to fundamentally destroy your nation, which is what Russia and China both have, they have to be considered an adversary. I think not considering them an adversary causes you to make decisions that could put the Nation at risk. Therefore, I have always considered Russia to be an adversary, a strategic competitor. I think it is important for us to look at Russia that way.

The second piece of the equation. If you look back not just to the 2010 nuclear posture review, but if you look back 20 years—and that is across multiple administrations, multiple Congresses, change of leadership in the military—you see a fundamental de-emphasis of nuclear weapons in our national security strategy. Then look at what our adversaries have done in response to that.

I think the assumption would be if we lower the reliance on nuclear weapons and our adversaries do the same thing, they did just the opposite. Russia in 2006 started a huge, aggressive program to modernize and build new nuclear capabilities. They continue that to this day. New ballistic missiles, new weapons, new cruise missiles, significant air-launched cruise missile capabilities, now the ground-launched cruise missile capabilities. China has done the same thing. Hypersonic glide vehicles on both sides that bring new threats to bear. Our adversaries have taken the exact opposite view of our de-emphasis and have emphasized those nuclear capabilities once again.

Senator INHOFE. That is right. They say further reductions can and should be taken. That is where we have been. It is very disturbing. I think tomorrow in a closed session, you might be thinking about an answer to the question because you say that Russia has always operated from a position of strength. We need to talk about the relative strength between us and Russia.

The last thing I would mention is we have not spent quite as much time that I feel would be justified with North Korea. Admiral Gortney said it was prudent to assume—now this is a year ago—that North Korea could conduct a nuclear strike on the United States despite assessments of a very low probability of success. Well, that has changed now I think. They have advanced a long ways.

I think in your statement, North Korea are actively developing ballistic missiles that could range the continental United States,

conducted a nuclear test in September of last year, and appeared to be preparing to conduct another test in the near future. It is very disturbing.

If you were to look at Russia, China, and North Korea and Iran, what would you believe would be the greatest threat? What bothers you the most?

General HYTEN. I think Russia is the greatest threat. What I am concerned about most nights is North Korea because we do have an effective deterrent today that I believe deters our adversaries, and if you watch the way Russia acts, every step is slow, but they are taking steps forward. China. They are acting, but every step is measured. North Korea. I am not sure exactly what they are going to do tonight. Every time there is a launch, February 11th, March the 5th this year, the whole network comes up. We bring the entire power of my command to bear on the problem, the power of Northern Command. We are looking at what we have to do. The Pacific. They are all involved. Those are very concerning moments to me because every time they launch, we are not sure if this is a threat missile or not.

Senator INHOFE. Well, yes. I think you could probably say that North Korea is different from the rest in that they are totally unpredictable. Is that accurate?

General HYTEN. They are. I guess totally unpredictable would be a fair statement, sir, because every time they launch, I am not sure what that launch is going to be. That would be the definition of unpredictable.

Senator INHOFE. Thank you, General.

General HYTEN. Thank you, Senator.

Chairman MCCAIN. Senator Shaheen?

Senator SHAHEEN. Thank you, Mr. Chairman.

Thank you, General, for being here today.

I want to follow that line of thinking because in your statement, you have been clear with us that our nuclear capabilities are the foundation and the bedrock of our defense. Certainly we saw that deterrence model during the Cold War, and you talked about it just now in terms of China and Russia. But do we have any reason to believe that North Korea is deterred at all by our nuclear armaments?

General HYTEN. I would have to say that they are deterred to a certain extent because fundamentally the existence of their nation is threatened by our strategic deterrent capability. There is a deterrent value.

But their actions clearly show that the deterrent is fundamentally different when we think about North Korea. What impacts Kim Jong-un, what impacts the North Korean actions is a very difficult thing to understand, to get after. But the thing about North Korea is that given where it is on the globe, it is very important that our actions are in line with our allies, especially South Korea and Japan, because talk about in your back yard, it is in the back yard of South Korea and Japan.

Senator SHAHEEN. As we look at what options we have to respond to what North Korea is doing, clearly sanctions are one, and we have imposed those and there is an effort to look at even strict-

er sanctions. What other options do we have in response to what North Korea is doing?

General HYTEN. I think any solution to the North Korean problem has to involve China. I am a military officer. My job is to provide military options to the President, and along with the other combatant commanders, I will always have military options ready for the President if he deems, in association with Congress, that there is something that we have to do. I will provide those military options. That is my job.

But I look at it from a strategic perspective, and I cannot see a solution that does not involve China.

Senator SHAHEEN. But China has suggested they do not have as much influence as we think that they do. Do you think that is accurate?

General HYTEN. Again, if you talk about in your back yard, China is the definition of North Korea's back yard. The trade that North Korea has really goes north across the Chinese border and south from China into North Korea. That is a significant element. But I am a military officer, not a State Department official or an economic expert. But I just look at the world and it is hard for me to see a solution without China.

Senator SHAHEEN. You briefly touched on cybersecurity in your opening statement. More and more we are seeing that cyber is being used as a weapon by our opponents. I have asked this question to several generals and have not gotten a very clear answer about how we better coordinate our cyber activities and whether we have a cyber strategy that involves not just responding but also being aggressive about how we use cyber. How should we be thinking about that? Do you think that is an accurate assessment, or am I missing something?

General HYTEN. I think it is still an element that is the subject of significant discussion. I will try to clarify it from my perspective, and hopefully that is helpful to you.

From my perspective, there are two elements of cyber. One is the military element, and the other is the broader civilian use of cyber. They require two different sets of authorities. But when I look at the cyberspace domain, the authorities that I think we need as a nation are no different than any of the authorities that we have in space, and air and land and maritime. We need to have the authorities that if there is a bad actor, a bad guy that is in the cyberspace domain, the focus of our military has to be to attack and eliminate the bad actor. But we cannot do that in a way that impacts the domain that we are operating in. But we should not be restricted on following that actor, wherever that actor goes.

Senator SHAHEEN. Well, in fact, do we not have blurred lines when it comes to cyber today because we have—or at least based on what I have read, it appears that we have cyber actors that are doing the work for nation states, but they may not be in the military. How do we address those kinds of threats?

General HYTEN. To me, if the question is what effect are they trying to create, if the effect they are trying to create is a military effect, then it is the responsibility of U.S. Cyber Command to be able to respond to that. If it is a criminal effect, it is not the responsibility of Cyber Command. It is the responsibility of the De-

partment of Homeland Security, working with the FBI [Federal Bureau of Investigation] and other elements to work with those kind of pieces. We need to draw those lines clearly and focus on the effect and the target not on the domain itself. When we just focus on the domain itself, that is when we get all the confusion because cyber is everywhere. Why should we stop a military action because a server happens to be located in a specific territory, including the United States? We have to look at it as an operating domain. The effect and the target are the key.

Senator SHAHEEN. Thank you very much.

General HYTEN. Thank you, ma'am.

Chairman MCCAIN. Senator Wicker?

Senator WICKER. General Hyten, thank you for your service and for your testimony today.

Mr. Chairman, I would like to add into record at this point an article in DOD [Department of Defense] News by Jim Garamone, published March 31st of this year.

Chairman MCCAIN. Without objection.

[The information referred to follows:]

STRATCOM COMMANDER MAKES CASE FOR MODERNIZING NUCLEAR TRIAD

March 31, 2017

News

By Jim Garamone

DOD News, Defense Media Activity

ROSSLYN, VA—Nuclear capabilities are the bedrock of American defense and will remain so, the commander of U.S. Strategic Command said at the Military Reporters and Editors annual meeting here today.



Air Force General John E. Hyten, commander of U.S. Strategic Command, and members of his staff depart a 37th Helicopter Squadron UH-1N Huey near a missile alert facility on the F.E. Warren Air Force Base, Wyoming, missile complex, February 22, 2017. Hyten toured the facility, giving him insight into the responsibilities of the airmen executing the nation's nuclear deterrence mission. Air Force photo by Staff Sgt. Christopher Ruano

Air Force General John E. Hyten said the United States has about the right numbers of nuclear weapons, but they need to be modernized.

SALUTING STRATCOM'S PEOPLE

Hyten saluted the sacrifices of the servicemembers under his command who stand watch as they maintain America's nuclear deterrent and other missions.

"Deterrence will always be cheaper than war, and there is nothing more expensive than losing a war," the general said, quoting from Air Force Chief of Staff General David L. Goldfein.

Hyten said it will take roughly 6 percent of the defense budget to modernize the country's nuclear arsenal. Right now, nuclear arms take about 3.5 percent of the budget.

"We have to increase [spending] somewhere between 2.5 and 3 percent," he said. "That leaves 94 percent of our defense budget to do the things we have to. When you think of the survival of our nation—and I think that is the most important reason we have a military ... the backstop of all of that is the nuclear enterprise."

NUCLEAR DETERRENT: BACKBONE OF HOMELAND DEFENSE

The general said it would irresponsible to not fund nuclear modernization, as the nuclear deterrent is the backbone of Homeland defense.

Hyten said people often ask him if it is possible to eliminate nuclear weapons. They want to know if he can imagine a world without nukes. "And the answer is yes, I can imagine a world without nuclear weapons," he said. "In fact, I know what a world without nuclear weapons looks like, because we had a world without nuclear weapons until 1945."

He asked the reporters to imagine what the world was like in the 6 years preceding the atomic bombings of Hiroshima and Nagasaki. "In those 6 years, the world in conflict killed somewhere between 60 million and 80 million people," he said. "That's about 33,000 people a day, a million people a month."

As horrible as the world is today, he said, there is nothing remotely resembling this situation. The world has seen bloody conflicts—Korea, Vietnam, Desert Storm, Enduring Freedom and Iraqi Freedom were awful, but nowhere near the level of carnage the world had experienced, he said.

What changed in 1945, Hyten said, was the reality of nuclear weapons. Nuclear weapons, he added, prevented the major power conflict that had plagued the world in previous centuries.

"They prevented the kind of wanton destruction that you saw in World War II, and somehow the world has stayed that way," the general said.

NECESSITY TO MODERNIZE NATION'S NUCLEAR TRIAD

Hyten said nuclear weapons undergird the motto of Strategic Command and its predecessor organization, the Strategic Air Command: Peace is our profession.

Deterrence has changed in the 21st Century, Hyten said, and the command must modernize the nuclear triad and the command-and-control systems that are part of them.

"The submarines are the most survivable element of it; the ICBMs are the most ready; the bombers are the most flexible," he said. "When you put those pieces together, it gives our nation the ability to withstand any attack and respond if we are attacked, which means we won't be attacked."

Senator WICKER. General, in this article, you state that we need to spend roughly 6 percent of the defense budget to modernize our country's nuclear arsenal. That would be an increase from 3.5 percent currently. Over what period of time do we need to increase from 3.5 percent to 6 percent of the defense budget?

General HYTEN. In broadest terms, it is 30 years, but that is not perfectly accurate because there will be a peak and a valley. It will peak as we go into significant production levels. That will happen in approximately 10 years. That production peak will continue for roughly another decade as we deploy the new capabilities across each of the platforms I discussed earlier. Then it will drop off again over the last. But roughly, it is a 30-year time frame.

Senator WICKER. Well, how about for the next few years?

General HYTEN. For the next few years, there will be a significant plus-up, but it will not grow to 6.5 percent until we actually get into the development programs, which are a couple years away.

Senator WICKER. You quote approvingly the Air Force Chief of Staff General Goldfein in this article. Is this a position of General Goldfein?

General HYTEN. That is the position of the United States Air Force and General Goldfein and the Acting Secretary Disbrow.

Senator WICKER. Is it the position, to your knowledge, of the Secretary of Defense?

General HYTEN. To my knowledge, the Secretary of Defense supports—I know he supports modernizing the triad. He testified in front of this committee to that effect. But we will address all those issues in the nuclear posture review with the new administration. Just to emphasize that point again, I think it is a point to remember. The new administration will take a look at the entire threat posture, the entire modernization plan, but the Secretary of Defense, the Air Force leadership, and the Navy leadership have all pledged support to modernizing the triad.

Senator WICKER. Now, in mentioning your priorities in response to an earlier question, you mentioned five priorities in modernization, and the first one you mentioned was submarines, the *Ohio* replacement or the *Columbia*-class. I was interested to see that you listed that first. Would it be correct to say that not only is the first thing you mentioned, but it is your first priority?

General HYTEN. The first priority is the triad. Inside the triad, the first priority is the submarine. But it is important to note that the triad as a whole has to be modernized. Nonetheless, if we do not get after the submarine, then we run a very precipitous risk in about a decade as the *Ohio*-class reaches end of life.

Senator WICKER. That was going to be my next question. You painted a pretty grim picture of the future of the *Ohio*-class if we do not start moving. I think you said that it will be dangerous to actually put it under the water.

General HYTEN. You can probably tell from my uniform I am not a naval officer.

Senator WICKER. I do see that.

General HYTEN. But I do have good friends who are naval officers, who are submariners, and they have gone through the analysis with me in detail, including my deputy, Vice Admiral Chas Richard. We have gone through that in detail, and they can tell me that each submarine is built to go down under pressure a certain number of times, and once you reach the end of life, you know when that is and you can predict very accurately when that is. Once you reach the end of life, it cannot go down anymore. A submarine on the top of the water is not an effective deterrent.

Senator WICKER. That end of life might occur as soon as when?

General HYTEN. It starts towards the end of the next decade. I can go into the details of when that would be in the closed hearing tomorrow, but it is towards the end of the next decade.

Senator WICKER. What can you tell us in this venue today about the modernized features of this new *Columbia*-class submarine?

General HYTEN. I think the most significant element of the modernized feature is the actual nuclear reactor. The nuclear reactor

on the *Ohio*-class systems basically required refuel and refit mid-way through its service life. The *Columbia*-class will have a 42-year reactor. Once it goes in service, besides the normal maintenance and routine servicing, it will not have to come back for a refueling of the reactor, which will allow us to operate with 12 *Columbia* submarines versus 14 of the *Ohio*-class.

Senator WICKER. What about advanced materials in these new subs?

General HYTEN. There will be significant advanced materials, but I cannot talk about that in detail in this hearing. But it will be materials that will increase the survivability and performance of the submarine in a threat environment.

Senator WICKER. Thank you, sir.

Chairman MCCAIN. Senator Kaine?

Senator Kaine. Thank you, Mr. Chair.

Thank you, General Hyten.

For the hearing last year, this posture hearing, the written testimony had this quote in it. There is continued adherence to the new strategic arms reduction, New START, by both nations. That is a quote, and that meant the United States and Russia. Is that still the case?

General HYTEN. That is still the case, Senator. The next key date is 2018. That is when we have to meet the New START limits. We are on track to do that. As far as we can tell, the Russians are on track to do that. But that 2018 date, early 2018, we will watch that very closely.

Senator Kaine. That testimony was also in the testimony from last year. We are on track to achieve New START limits of 1,550 deployed warheads and 700 deployed delivery systems by February 2018. As far as you know, we are on track and the Russians are on track for their obligations as well.

General HYTEN. I know we are on track, and the reports I get from the intelligence community and from the State Department is the Russians are on track as well.

Senator Kaine. Have you been directed to review the agreement or in any change our plans for compliance with the agreement?

General HYTEN. I have not been directed to review the New START agreement. I am reviewing the INF agreement based on the recent—

Senator Kaine. Russian activity.

General HYTEN. Russian activity.

Senator Kaine. But in terms of compliance with the New START agreement, you have not been directed to review or offer advice about changing strategies on compliance with New START.

General HYTEN. No specific direction on that, Senator.

Senator Kaine. In your opinion, would it be in the U.S.'s strategic interests to increase our nuclear weapons stockpiles?

General HYTEN. I have stated on the record multiple times—I will state it on the record again today—I support the limits that are in the New START. I also look out to the future and understand there are non-accountable weapons especially in the Russian side that we need to start addressing. But from a strategic weapons perspective, I support the limits that are in the New START.

Senator KAINE. Senator Wicker was asking you about the *Columbia*-class. Will the *Columbia*-class require a change in the design and plans for the Trident missile, kind of a design change?

General HYTEN. It will not require a design change. We will be able to walk into that. But Admiral Terry Benedict, the Director of Strategic Programs in the Navy, has begun to look at the Trident to make sure that we have a plan for how we would modernize that capability sometime in the future. But that is not on the near term list or on my priority list to worry about right now.

Senator KAINE. Thank you for that.

You have a brief section of testimony at page 13 of your written testimony about cyber. I applaud the direction signed into law in the fiscal year 2017 National Defense Authorization Act and remain committed to the elevation of U.S. Cyber Command to a unified command as soon as possible.

Could you talk a little bit about what is the status of efforts to do that? Are there milestone dates that have been set, and what is our progress towards those milestones?

General HYTEN. Admiral Rogers, the Commander of U.S. Cyber Command—we have submitted our plan to the administration. It is now going through their evaluation. The administration gets a vote. The Secretary of Defense gets a vote. I will just say that both Admiral Rogers and I would like that to happen sooner rather than later just to normalize that command and make sure that we can kind of develop normal command relationships between Cyber Command and all the combatant commanders, including U.S. Strategic Command.

Senator KAINE. This is a consensus set of recommendations that you have delivered to the administration.

General HYTEN. We have.

Senator KAINE. The last question is this. Anti-access/area denial systems are more commonplace now. Does that render weapons like the B-61 sort of becoming obsolete, and is there a need for additional systems like gravity bombs as part of a future deterrent to take care of the A2/AD [Anti Access/Area Denial] systems?

General HYTEN. I think from the air perspective of the triad, the three elements: a stealth bomber, which is the B-21 that can penetrate air defense systems; a gravity bomb that could provide flexible options because that provides the most flexible element of the triad because that gives the President the most time to make a decision; and then the air-launched cruise missile, which basically improves the flexibility of the B-21 because really the last thing you want to do is have a bomber that is only able to attack a target right below it. You want it to be able to reach out. Those three elements together create the most flexibility in the air leg of the triad, and that is our recommended program that the Congress has supported.

Senator KAINE. Thank you.

Thank you, Mr. Chair.

Chairman MCCAIN. Senator Fischer?

Senator FISCHER. Thank you, Mr. Chairman.

Welcome, General. It is a pleasure to see you again.

We have had some discussion on this in previous questions about the different geopolitical landscape that we are living in today, and

some describe it as a return to the great-power competition. Russia and China are deploying far more capable nuclear systems than they were in 2010.

What implications do you think that this has on our nuclear forces? Specifically, do you believe it increases their importance and the need to modernize them? You have touched on this, but I would like to hear your firm answer.

General HYTEN. The key element is always having a ready, reliable strategic deterrent. We have that today. Even though our adversaries have modernized their nuclear capabilities, we still have an effective deterrent. The question will we have an effective deterrent 10 years from now and 20 years from now. The answer to that has to be yes. That is why we have to modernize, and that is why it has to be a significant priority for this country.

Deterrence is going to be expensive, but war is always more expensive than deterrence.

Senator FISCHER. The chairman asked you about the platforms and the need to modernize those. You were referring to the B-1 and the GBSD [Ground Based Strategic Deterrent], the LRSO [Long Range Stand-Off], the *Columbia*-class, and the need to continue on and meet those deadlines and meet them in a timely manner to make sure that we do have the resources necessary.

When we look at the new posture report that is going to be coming out, do you believe that that report should validate those programs?

General HYTEN. I do, and I have stated that to the administration. I have stated that to my boss. But the nuclear posture review should look at the entire enterprise. It should also look at things beyond what is in the triad. We should look at what do we have to do to respond to the INF breakout. What do we have to do to respond to now a ground-launched cruise missile? Hypersonic glide vehicles are threats that both Russia and China are building now. They are very significant in terms of our ability to see them and provide warning. We need to figure out how to deal with those. But I think the baseline is the triad, and the baseline is modernizing the triad.

Senator FISCHER. In response to Senator Inhofe, you were talking about the escalate/deescalate in our relationship with Russia. A former Secretary of Defense Harold Brown said in 1979 that the Soviet spending has shown no response to United States restraint. When we build, they build. When we cut, they build.

From your comments, I would assume that you agree with those remarks from Secretary Brown.

General HYTEN. Well, I look at the evidence, and the evidence is when we de-emphasize nuclear weapons, both our primary adversaries, Russia and China, have both increased their focus on nuclear weapons. Advanced capabilities. They also looked at now threatening space and threatening cyberspace. They went a significant direction and a different deterrent element than we did. I believe you always have to look at your adversaries and understand what they do and then make sure you are in a position of strength relative to your adversaries. That is what deterrence is all about.

Senator FISCHER. The chairman also asked you about Russia's violation of the INF treaty. Do you believe that we need to respond

to that violation? The previous administration talked about counterforce options and countervailing capabilities, active defenses, but ultimately took no action to develop those. Do you think that we need to now?

General HYTEN. I think every step that Russia takes has to be responded to. This is just the next step, and we have to figure out as a Nation how to respond. It is not necessarily a military response, but the Nation has to figure out how to respond.

Senator FISCHER. In this setting, can you tell us which options you believe would be the most effective?

General HYTEN. No, ma'am, not in this setting. Those choices are my boss' choices as well. But I will be glad to talk to that in a closed hearing tomorrow.

Senator FISCHER. Thank you.

In your opening statement, you note the unauthorized flights of unmanned aerial systems over Navy and Air Force installations. Can you discuss this in greater detail? Are these incidental activities, or do you believe they are deliberate actions?

General HYTEN. I think so far they have been incidental activities, but the fact that they are occurring and then if you watch what is happening overseas in the CENTCOM [Central Command] theater with the use of lethal UAVs [unmanned aerial vehicles] and the use of UAVs for surveillance on the part of a terrorist adversary, I am very concerned that those same kind of UAVs could be employed against our weapon storage facilities, especially on the nuclear weapon storage facilities.

Just in the last week, I have signed out guidance to my forces to give them kind of parameters on how they should respond if they see a threat UAV or a surveillance UAV and to give them specific guidance. A young marine at King's Bay or an airman at F.E. Warren does not have to worry about what should I be doing when I see that. I provided very specific guidance that is classified guidance, but I would be glad to share that with the committee.

Senator FISCHER. Thank you, sir.

Chairman MCCAIN. Senator Warren?

Senator WARREN. Thank you, Mr. Chairman.

Thank you, General Hyten, for your leadership and for your generosity with your time yesterday visiting my office.

I just quickly want to ask you about the importance of our non-military foreign assistance and other civilian instruments of national power to your mission. General, is it accurate to say that you work with the State Department and other civilian partners on nuclear nonproliferation and other efforts to detect and deter strategic threats to the United States?

General HYTEN. We have a very active role with the State Department not just on the nuclear side but on space and cyber as well because each of those is a very international set of issues, and the State Department has been very aggressive in working those issues along with U.S. Strategic Command and the other combatant commands as well.

Senator WARREN. Thank you.

The budget proposal put out by the Trump administration calls for about a 29 percent cut to the State Department and significant cuts to other agencies with international responsibilities.

General, I want to ask you a narrower question. Would funding cuts to agencies that conduct diplomacy and other civilian functions make your job easier or more difficult?

General HYTEN. I am not an expert on the budgets——

Senator WARREN. I am not asking you to be one.

General HYTEN. But I can tell you that I feel I desperately need and all the military commanders need an active foreign engagement process that uses the Department of State. We need that kind of partnership. We need the State Department reaching out into the international community. It cannot be left to the military to do those kind of pieces. The State Department does. I have had great relationships with men and women in the State Department that have helped us significantly over the years. We need to have that continue into the future, as well as other departments that reach out.

Senator WARREN. I take it from what you are saying—I am sorry to interrupt, but I just have limited time here—that significant cuts would make it more difficult for you to do your part of your job.

General HYTEN. I would have to look at where the cuts are, and I have not looked at where the cuts are. But I need that support.

Senator WARREN. You need that support.

Let me ask you another question, General. As you know, the nuclear command, control, and communications, NC3 [Nuclear Command and Control], system is critically important to providing secure and agile communications between our field forces and the President in case of a nuclear attack or other nuclear-related emergency. You expressed concern before this committee last year about the aging capabilities of the NC3 system and the need to modernize it. As Chairman McCain noted earlier, you publicly said just last month that, quote, any delay, deferment, or cancellation of NC3 modernization will create a capability gap potentially degrading the President's ability to respond appropriately to a strategic threat.

I assume you still feel that way. Is that right?

General HYTEN. I do. It is my biggest concern on the modernization effort.

Senator WARREN. Biggest concern.

Let me ask you, are you confident that the Department is providing the funding and staffing necessary to keep NC3 on track?

General HYTEN. I am confident that the Department has taken the right steps. The funding is now rolling in the right place. The staffing is not quite there yet, especially on the Air Force side. We had a hiring plan that was delayed slightly by the hiring freeze. We were given authority to waive that for critical nuclear missions. We have done that through the Air Force. The Air Force is now beginning to hire those folks.

But the challenge is once you start hiring those people, it is not like overnight that all of a sudden the problem is solved. They have to come on board, become experts. That takes a matter of time. Even though the funding is flowing, we have a good plan, people are coming, it is not an overnight solution to the problem which is why it requires constant attention.

Senator WARREN. I appreciate that.

We need to have a secure and reliable NC3 capability, which is why I agree that NC3 modernization without delay should be a top priority. We have the most potent nuclear triad on earth, but it becomes much less useful if NC3 ages out and does not work effectively.

I have just under a minute left, but I would like to ask you very briefly about the resiliency of the satellite constellations that we rely on for civilian and military communications. Do you have confidence in the ability of our communications satellites to withstand jamming? How are you thinking about integrating our satellites into the Department's overall operational plan?

General HYTEN. I have not been happy with how we are structured from a resilient perspective with satellite communications. There are two elements. Number one, I think we need to change our architectures and build a more resilient architecture so that we can more effectively fight in the future. The second piece of that is that we have to figure out how to use the capabilities we have today in a better way. We have actually built significant anti-jam and warfighting capability into many of our satellites, but we do not have the means to effectively command and control it at the time of a fight. We need to work both of those things, Senator, in the future.

Senator WARREN. Thank you, and we can do more follow-up on this later. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Rounds?

Senator ROUNDS. Thank you, Mr. Chairman.

General Hyten, first of all, thank you for your service to our country.

In the Defense Science Board's February of 2017 task force report on cyber deterrence, two recommendations are provided to improve the cyber resilience of the U.S. nuclear forces. One recommendation was that the Secretary of Defense direct you to conduct an annual assessment of the cyber resilience of the U.S. nuclear deterrent, including all essential nuclear components. These would include nuclear command, control, and communications, as Senator Warren was alluding to, the platforms, the delivery systems, and the warheads. Specifically, you would be directed to state your degree of confidence in the mission assurance of the nuclear deterrent against a top tier cyber threat.

What do you consider to be a top tier cyber threat to our Nation's nuclear systems?

General HYTEN. I see a top tier cyber threat being Russia and China in particular because they have the ability to threaten the existence of this Nation. One of the reasons you have to be able to protect the nuclear command and control capability is that is fundamental to deterrence. If that is ever brought into question, that lowers our deterrent posture to top tier threats, and we have to make sure we never allow that to happen.

Senator ROUNDS. What can Congress do to help you mitigate this threat to our nuclear systems?

General HYTEN. I think the Congress can be very demanding of the services to make sure that as we modernize our nuclear command and control capability, we just do not modernize a 20th cen-

tury architecture, in other words, move from 8½-inch floppy disks to 5-inch floppy disks. That is really not of interest. We have to modernize the entire architecture. As you see the modernization plans coming in, make sure, number one, it is a 21st Century information architecture, and number two, make sure that we are cyber secure as we go through that because we will introduce cyber vulnerabilities as we walk into that. But if you work it right from the beginning, you can make sure that that threat is mitigated as we go forward.

Senator ROUNDS. The Defense Science Board also recommended that the DOD acquisition executive oversee immediate establishment of a program of action with milestones to support cyber certification of U.S. nuclear forces, as well as nuclear command, control, and communications. This certification process would assume considered adversary attack against nuclear systems based on extensive preparation. Examples are attacks via the supply chain, insider threats, and physical sabotage or attack, in addition to remote cyber attacks.

Are you confident that the timeline for initial and full operational capability of the cyber mission teams that are tasked to support your command are proceeding at a pace that would enable you to meet such a certification? I noticed that you indicated that perhaps the Air Force is a little bit behind in their time frame.

General HYTEN. The answer is yes and no, Senator. Yes, I am happy with where the cyber mission force is going right now, but the no part is that I do not think the cyber mission force currently has the capacity necessary to meet all of the requirements that we have across the Department.

We have also divided the cyber mission force, you know, assigned to different combatant commanders. I have certain assigned elements of the cyber mission force. General Scaparrotti does. Admiral Harris does. I think we have to start looking at cyber like we look at special operations, as a high-demand, low-density element that we need to allocate to the highest priority, and we have to look at that from the top level down. I will work inside the Department to advocate for those kind of capabilities because the demand signal is going to go nowhere but up and the capacity is not sufficient to meet all of the demand.

Senator ROUNDS. As you know, until now, DOD has envisioned a force of up to 100 combat-coded B-21 bombers. I am very concerned this number may be a budget rather than strategy-driven determinative. Also I have heard discussion within the Air Force circles of the need for a larger number of these aircraft based purely on operational requirements. Do you think we may need more than 100 of these aircraft?

General HYTEN. I have not seen the bomber vector road map yet from the Air Force. I put a demand signal out from my command to the Air Force to let me see that plan because I want to be able to support that plan, but I have to see it. I have to see the details to understand it.

From the top level, I think 100 is sufficient from an operational perspective, not a budget perspective. The reason I think it from a top level is that I have a certain requirement in the New START for a certain number of nuclear capable bombers, and then we have

an additional capacity on the conventional side. When you put that together, you come to about 100.

Nonetheless, I have not seen the details yet from the Air Force. I will see the details shortly. I know it is done. General Rand and General Goldfein have both told me it is about done. But I need to see that so I can better answer that question, Senator.

Senator ROUNDS. Thank you, General.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Peters?

Senator PETERS. Thank you, Mr. Chairman.

General Hyten, thank you for being here. Thank you for your leadership as well.

General Hyten, in your response to advance questions that you submitted to this committee last September, you agreed that additional analysis is needed before making a decision on whether to deploy an additional missile defense site, including an analysis of the missile threat specifically from Iran. You have also indicated that you believe the response to missile threats must consider, quote, the entire package of capability from additional interceptors to supporting sensors and command and control.

In your testimony today, you identify three necessary missile defense upgrades including upgrading the kill vehicle of ground-based interceptors, continued development of long-range discriminating radar, and improving regional missile defense capabilities. I understand that some of these investments would improve a potential additional missile defense site. It would also be a part of that package and may make sense to make that investment.

But in a March of 2015 briefing to the Subcommittee on Strategic Forces, Lieutenant General Mann, former Commander of the U.S. Army Space and Missile Defense Command, affirmed that the ground-based mid-course defense system remains our Nation's only defense against an ICBM attack.

Without making a judgment—the question is without making a judgment on deploying an additional missile defense site—I do not expect that today. But if the decision is to deploy a new missile defense site, how long do you expect that construction would take? How long would it take to come online?

General HYTEN. The specific question is once you make a decision on an additional site, you are many years, 5 to 10 years, away from that site being able to come online.

Based on my confirmation hearing and my lack of full depth into it, I met with Admiral Sering, the Director of the Missile Defense Agency a few times now. We have gone through his programs. We can talk about that in a little more detail in the closed hearing. But fundamentally I see a need to have a reliable kill vehicle, a multi-object kill vehicle, better sensors, including a space-based layer for the mid-course discrimination, and then additional capacity.

But I want to make sure that those priorities are understood to the committee because those priorities are important to me because if we just go for the additional capacity, I am not sure we are going to be making the right architectural decisions about how we deal with the pending threat in the future. I want to make sure we do that right. We have some time, not a lot of time, but we have some time to make those decisions.

We will have a ballistic missile defense review in this administration in addition to the nuclear posture review. That will be another 6-month study that is not yet to kick off but will soon.

Senator PETERS. I want to expand a little on the 'some time.' As you mentioned, you have to make the decision first to go forward with the site, but then you are looking to anywhere from 5 to 10 years before that site actually becomes operational. My concern is that if we wait until a country like Iran, for example, develops missiles that threaten the Homeland, we may be too late given that long timeline. That is why I know the work on an environmental impact study for potential sites is already underway.

But maybe your assessment—are you confident that even if we started today, over 5 years or the 10 years, we would be able to construct these sites, that the missile threat from Iran and elsewhere will not continue to grow or eventually outpace our ability to bring these defenses online?

General HYTEN. I am always concerned about timelines because our acquisition system has not been very effective in the last 10 years in delivering things on time. When I give broad statements like 5 to 10 years, it is broad because the acquisition system is not very reliable in terms of defining what those pieces are. It is broad because there are policy debates that have to happen. But I think we are going to have to make that decision pretty soon about where we are going to go.

I think we have the data we need, and we will feed that into the ballistic missile defense review. I would expect coming out of the ballistic missile defense review some very specific recommendations about what we have to do that will probably come from the Missile Defense Agency.

Senator PETERS. Thank you, General.

General HYTEN. Thank you.

Chairman MCCAIN. Senator Ernst?

Senator ERNST. Thank you, Mr. Chair.

Thanks for your testimony today, General Hyten. I appreciate your candid comments, the comments that we had in our discussion yesterday in the office. I am grateful that we can have an open session so the folks in the Midwest can hear how important STRATCOM is to our global safety. The fact that STRATCOM is only 45 minutes from my hometown of Red Oak makes it even that much more important to the folks living in southwest Iowa. I look forward to hearing more on your answers today.

We did talk a little bit about the Emerging Threats and Capabilities Subcommittee that I chair. I do appreciate your comments about STRATCOM and its contribution to developing the third offset strategy. That is very important in our discussions in that subcommittee.

Yesterday in the meeting, you highlighted the need to also incorporate the concept of operations associated with the third offset strategy as we look towards defining it. From our nuclear triad to the stealth capabilities, it is vital to national security that the United States continues to stay ahead of its adversaries. You have talked about a number of those today.

Can you explain the importance of developing a third offset strategy specifically as we watch our adversaries develop capabilities that match our own?

General HYTEN. I think the third offset strategy in its most simple terms is what is the next fundamental step that we have to take as a Nation to jump ahead of our adversaries. That is what the first two offsets basically were when you look back in time. I think the opportunity we have right now is how do we fundamentally change the human-machine interface. How do we change the whole command and control structure? How do we actually get to new capabilities?

But as we look at these technologies and we look at the technologies both in Silicon Valley and Cambridge and a number of places where the Department of Defense is engaging, we have to put that in an operational context. You just cannot take a commercial technology and say, boom, there is your magic third offset. You have to figure out what is the operational construct that we are going to use in order to do that.

In space, the Deputy Secretary of Defense has said that the interagency space operations center, which we just renamed the National Space Defense Center, so that everybody can understand finally what it is—it is a national space defense center—was the first operational element of that because basically we put a bunch of smart people in the room with a bunch of capabilities and said figure out how to go faster. It is amazing how fast they have been able to go when you break down all the barriers. This Nation can go fast. That is what the third offset is really about.

But our acquisition process likes to go slow. That will be the challenge. How do we go fast in defining what the third offset is? How do we define those things and build them quickly, how to deploy it in the force to stay ahead of our adversaries and not become too bureaucratic about the next step?

Senator ERNST. I appreciate that.

You mentioned breaking down the barriers. We had a great conversation, a little off topic, but a great conversation about acquisition yesterday in the office. Do you think our failing acquisition system is impacting our ability to develop and procure the new technologies that are necessary for that third offset?

General HYTEN. I think the challenge that we have is it is not the people that do the acquisition. They are still spectacular people. But we have not delegated them the authority and responsibility, and we do not hold them accountable for making the decisions to deliver capabilities. All those decisions are brought up into this town into the Pentagon, into the Capitol, and it hurts the ability of a program director to actually make the decisions, work with the industry, and deliver those capabilities. They spend all their time trying to get a program through the Pentagon, not trying to deliver the capability we need as a Nation. I think fundamentally we have to change that focus to let those great people that do that business every day focus on delivering those capabilities and then hold them accountable because I grew up in that business as a young lieutenant and a captain and my bosses were held accountable. There were some spectacular failures. But I always remember there are

10 people in line to step and take those jobs because they wanted the authority and responsibility.

Senator ERNST. I absolutely agree, and I think that is something that this committee should work on. Thank you, General Hyten, for your time.

Thank you, Mr. Chair.

Chairman MCCAIN. Senator Blumenthal?

Senator BLUMENTHAL. Thanks, Mr. Chairman.

I know that you recently toured the 37th Helicopter Squadron at Warren Air Force Base, and my question really concerns the fleet that protects the ICBM fleet and the national capital region. In early February, the Air Force announced their anticipated request for proposal for the Huey replacement program—as you know, that was to be released at the end of February—would not occur until this summer because none of the companies offering a replacement helicopter were able to meet all the threshold requirements. The Huey replacement program has been discussed in some form or fashion since, I think, 2001. The most recent acquisition strategy had the first operational helicopter delivery scheduled for the first quarter of fiscal year 2020, and it is now another year delayed by Air Force estimates to the second quarter of fiscal year 2021.

In my view, we can ill afford this kind of delay. I have written numerous letters to the previous administration urging that they expedite this replacement.

Do you have any opinions as to what can be done to expedite this program? Do you agree that it should be expedited I guess is the first question.

General HYTEN. Of all the things in my portfolio, I cannot even describe how upset I get about the helicopter replacement program. It is a helicopter, for gosh sakes. We ought to be able to go out and buy a helicopter and put it in the hands of the people that need it, and we should be able to do that quickly. We have been building combat helicopters for a long time in this country. I do not understand why the heck it is so hard to buy. I wrote the requirements document for that helicopter when I was Director of Requirements at Air Force Space Command in 2007, and now it is 2017, 10 years later, and we are still arguing about a helicopter.

We had a request for forces in to provide a temporary replacement. I pulled that request for forces from STRATCOM because I want all hands on deck to get a new helicopter into the force that we should—as soon as possible. All I can tell you, Senator, as the Commander of Strategic Command, I will put every influence I can on the United States Air Force to deliver that capability sooner rather than later. I cannot tell you how upset I was when I pulled the RFF and shortly thereafter was told that there would be a delay in the program. That is just unacceptable to me.

Senator BLUMENTHAL. Well, your very forthright and valuable response has just eliminated a whole line of questions that I was going to have for you.

[Laughter.]

Senator BLUMENTHAL. But I do have one more question which concerns the *Columbia*-class.

By the way, very seriously, I welcome your focus on this issue, and if there is anything I can do or I hope the committee can do—

I do not mean to speak for the committee, but it is a simple but profoundly important problem to safeguard the ICBMs in the north capital region.

General HYTEN. Hugely important.

Senator BLUMENTHAL. Thank you.

On the *Columbia*-class, are you satisfied with the pace of development of the *Columbia*-class, which is so important, as you mentioned earlier, to the triad program?

General HYTEN. I am. I am very appreciative of the United States Navy for making it the number one program in the United States Navy. I certainly agree with that priority. But there are a lot of challenges in the Navy portfolio, and the fact that they have made that the number one priority and the fact that the Chief of Naval Operations, Admiral Richardson, is going to be looking at that very closely gives me confidence that we will get there.

Nonetheless, we require a stable budget, stable funding, aggressive approach by the United States Navy in order to do that. All those things are challenging in today's environment. But I am comfortable with where the Navy is right now.

Senator BLUMENTHAL. Thank you very much.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Cotton?

Senator COTTON. I would like to associate myself with the remarks of Senator Blumenthal on the helicopter program. I appreciate that you take the issue so seriously, General.

Some claim that the long-range stand-off cruise missile, a new air-launched cruise missile, would be destabilizing. Do you believe the LRSO would be destabilizing, and if so, why? If not, why not?

General HYTEN. Senator, I do not believe it is destabilizing. I believe it is a critical element of our architecture. We have had air-launched cruise missiles, nuclear cruise missiles since 1960. The current fleet was first declared operational in 1981. An element of our architecture that our adversaries have significant numbers of like and modernized air-launched cruise missiles that can bring a threat to the United States tells me that we have to be able to have that capability as we look to the future. I do not believe it is destabilizing. I think it is a critical element of the architecture, and it has been an element of the architecture for many, many decades.

Senator COTTON. Your recommendation is that we proceed with an LRSO program.

General HYTEN. I think it is essential to the modernization of the triad.

Senator COTTON. You touched briefly earlier on the concept of having a stealth aircraft that has to be directly over the target. You are referring to the B-21 I presume.

General HYTEN. Yes, sir.

Senator COTTON. Without a new air-launched cruise missile, you foresee a future in which that B-21 might have to penetrate into advanced air defenses rather than being able to use a stand-off cruise missile?

General HYTEN. I can show you the details tomorrow. I will bring a map tomorrow to show you why we need a mix of capabilities, B-21, gravity bombs, as well as the air-launched cruise missiles, so you can see the details. But those three elements are a critical part

of the architecture. You want a bomber to be able to range beyond single point targets. It is not the survivability of the bomber. It is the ability of the bomber to access targets.

Senator COTTON. But in an unclassified setting, it stands to reason if you do not have an air-launched cruise missile and the bomber has to be essential over the target, which means——

General HYTEN. It has to be over the target.

Senator COTTON.—over the air defense systems.

General HYTEN. Which is over the air defense systems in many cases. But it also means that I am limited to the number of targets I can access.

Senator COTTON. Stealth technology has advanced considerably over the last 30 years. Are our adversaries' radars advancing as well to counteract our advances in stealth technology?

General HYTEN. They are, and it is a game of point and counterpoint. We make an advance; they make an advance. The B-21 will stay ahead of those advances. We have to continue to stay ahead of those advances. That is another reason why the B-21 is an important element of the architecture.

Senator COTTON. Another reason why the long-range stand-off cruise missile is an important development because we have to expect our adversaries' radars will continue to improve?

General HYTEN. There is always the opportunity of a breakout too. You do not want to be stuck in a one-solution game when you have the opportunity to have multiple solutions.

Senator COTTON. I want to turn to the Intermediate-Range Nuclear Forces Treaty. You touched on that briefly earlier. General Selva has stated to the House Armed Services Committee that now Russia has deployed in operational mode a ground-launched cruise missile that violates the INF Treaty.

How destabilizing is it to Europe and how threatening is it to our citizens and troops and interests in Europe for Russia to have that capability?

General HYTEN. The single missile is—and I will show you were it is deployed tomorrow. A single missile is not that destabilizing. The action of breaching that treaty and moving into that area and if they deploy large numbers and they move them into the west of Russia, that creates a very significant threat to our European allies. That is why I believe we need to address it right up front. As a whole-of-government, how do we respond to that decision by the Russians to break out of that treaty?

Senator COTTON. Is it fair to say the INF Treaty is a treaty that is more beneficial to the United States than it is to Russia or was for the Soviet Union since we do not have many enemies on our borders who want to fire ground-launched cruise missiles at us?

General HYTEN. We have notified Congress and the administration that we are going to do a detailed assessment of the INF Treaty from all military aspects. We will do that as part of the nuclear posture review. But we are also going to do that as a—provide our military judgment to the political leadership of what that INF Treaty really means to the United States.

Senator COTTON. When you say a whole-of-government effort, your point there is that the Department of State and the various international and economic agencies and organizations in our gov-

ernment have some role to play as well in determining what the American response to these INF Treaty violations will be?

General HYTEN. Especially the Department of State.

Senator COTTON. From a military standpoint, is it threatening to U.S. interests to have potential Russian ground-launched cruise missiles counteracted only by 30-year-old aircraft and aging warheads in Europe?

General HYTEN. It is a concern to the European theater, a concern to NATO [North Atlantic Treaty Organization]. We have to work it as well inside the NATO alliance. Again, I am not in NATO. I do not have a NATO hat. I am not a diplomat. But fundamentally all of those elements have to look at the problem of a ground-launched cruise missile again which we have not seen in that part of the world for quite some time.

Senator COTTON. Thank you, General. My time has expired.

General HYTEN. Thank you, Senator.

Chairman MCCAIN. Senator King?

Senator KING. Thank you, Mr. Chairman.

I would appreciate it, General, if you scientists could figure out a way that we could be in two places at once. This morning ironically there is a hearing upstairs in the Energy Committee where I just went and came back on cyber and our vulnerability.

Let me ask a couple of questions. CYBERCOM is being elevated to a full combatant command, and you have talked about how that is proceeding. The next question is splitting CYBERCOM and NSA [National Security Agency] of the dual hat role. What has to happen for that to occur? In other words, where is the benchmark where we can start to talk about it? Because a full combatant command in CYBERCOM is a big responsibility.

General HYTEN. I will describe that in kind of two levels. We can have a more detailed discussion in the closed hearing tomorrow.

But at the broadest level at the unclassified side, before we separate Cyber Command from the National Security Agency, we need to have Department of Defense service-owned cyber platforms to operate on. Again at the broadest unclassified terms, one of the reasons that Cyber Command and the National Security Agency are combined today is because they use the same platform. We need to have a different set of platforms.

Now, there are acquisition programs of record being instituted to build those capabilities. Once those capabilities are built, I would be supportive of separating the two. But I will not advocate separating the two until we have a separate platform in the services that Cyber Command can operate on.

Senator KING. I appreciate that, and we can go into that in more detail.

This is an interesting hearing because we are talking about cyber. We are also talking about nuclear. When we talk about nuclear, all the discussion is about a deterrent. That is what you have been talking about all morning. As near as I can tell—I have been going to these hearings for 3 or 4 years now—there is no coherent cyber deterrent strategy or doctrine. Do you agree that that should be a priority for our country to develop that strategy and doctrine and to make it public so our adversaries know that there will be consequences to results from a cyber attack?

General HYTEN. I think what is missing is a broader discussion of what 21st Century deterrence really means. That involves the nuclear capabilities as the backstop, but fundamentally space, cyber, conventional, all the other elements as well.

When we talk about deterrence, we tend to fall back 50 years ago to the deterrence model of the 1960s, 1970s, and 1980s when it was a very broad nuclear deterrence discussion where we had mutually assured destruction—

Senator KING. It was a binary analysis.

General HYTEN. It was a binary analysis. Now it is a multi-variable analysis. Each of those has to be put in context. The context has to be the fact that we are actually not deterring cyber. We are not deterring space. We are deterring an adversary that wants to operate and do damage in those domains. That is what we have to deter.

Senator KING. We are deterring aggression, which may come in a variety of forms, one of which could be cyber.

General HYTEN. Yes, Senator. That is exactly right. At STRATCOM, we have created an academic alliance now with 35 academic FFRDC partners to look at what 21st Century deterrence really means and trying to stimulate that debate in the Nation because I think it is an important discussion to have inside this Nation. What do we really mean by deterrence in the 21st Century? I think it is fundamentally different, but we have not fully defined it, thought through it, and had that public date.

Senator KING. I agree with you, but I agree that we need to have that public debate sooner rather than later.

General HYTEN. Yes, sir.

Senator KING. These attacks are occurring virtually daily.

General HYTEN. Yes, sir.

Senator KING. One other point on the CYBERCOM elevation. When you are talking about EUCOM [European Command] or NORTHCOM [Northern Command], you are talking about bombers and tanks and submarines and aircraft carriers. One of the different parts of cyber, it seems to me, is the interrelationship with the private sector, and that a cyber attack most likely will come on the private sector. The hearing we are having upstairs is about cyber in the energy sector. CYBERCOM cannot be simply military. There has got to be some, it seems to me, structural relationship to the private sector, particularly critical infrastructure. Would you agree?

General HYTEN. I think when it comes to cyber, we need to focus on the effect that is being created. There has got to be a common shared situational awareness in the cyber domain of what is going on. But the action to respond to whatever the issue happens to be has to be what the threat is and what that threat is trying to create in terms of harm to the United States. If it is criminal, then that is the Homeland Security side. If it is a military action against the United States, then it is the Cyber Command side. But the situational awareness has to be common.

Senator KING. But the defensive side of it may often take place within the private sector.

General HYTEN. The defensive side may be in the private sector. It may be in the private-public sector. It may be in a number of different places. But the situational awareness is the key.

Senator KING. I am just suggesting that the new CYBERCOM, when it is elevated, needs to think more broadly than simply within the Pentagon. It has to think in terms of relationships to these private sector critical infrastructure. It is not a typical guns and tanks analysis because you are dealing with so many of these—the threats are in the private sector.

The nuclear posture review that is going on—I am looking forward to the results of that. Are there things we could and should be doing now on nuclear command and control? That seems to me one of the most serious vulnerabilities.

General HYTEN. It is. We have been a little slow in stepping up the hiring for the NC3 center inside the United States Air Force. That is now proceeding. But we have the resources going to the right place. We are hiring the right people, but it is not going to be an overnight solution because once you hire new people, they still have to figure out what they are going to do so they can move forward.

But we need to be aggressive and have very tight oversight of what is going on there to make sure that that does not slow down. I think both the Air Force and the Navy have taken it seriously now, but it is building up from a very deficient state.

Senator KING. I just do not want command and control to be lost when we are talking about submarines and bombers.

General HYTEN. Absolutely. It is my number one concern from a modernization perspective.

Senator KING. Thank you, General.

Chairman MCCAIN. Senator Perdue?

Senator PERDUE. Thank you, Chairman.

General, thank you for being here.

I want to echo Senator Blumenthal's comments about your forthrightness. It is very refreshing. Thank you, sir.

I want to pursue the nuclear development in Russia just a little bit. General Robinson in February of this year told the Toronto Star—and I quote—today Russian cruise missiles can reach us from ranges we are not used to. No longer do they have to enter or come close to North American airspace. That is a game changer. Do you agree with that observation, sir?

General HYTEN. I do agree with that.

Senator PERDUE. Sir, in 2012, the National Intelligence Council report stated, quote, nuclear ambitions in the United States and Russia over the past 20 years have evolved in totally opposite directions. Reducing the role of nuclear weapons in the United States strategy is a United States objective while Russia is pursuing new concepts and capabilities for expanding the role of nuclear weapons in its security strategy.

Do you identify with that observation, sir?

General HYTEN. I do, and I cannot help but look at history and say when we started to de-emphasize nuclear weapons, our adversaries, not just Russia, but all our adversaries, started to modernize and build up their nuclear capabilities.

Senator PERDUE. There is some correlation to the North Korean development and Iran and China.

General HYTEN. China.

Senator PERDUE. Yes, sir. What we have seen in Russia then, by 2020 it is projected, I think, that Russia's nuclear triad—70 percent of its nuclear forces will be replaced by new systems. Sir, if we continue on the current path without a major radical change, what percentage of our triad will be supported by new systems?

General HYTEN. By what date?

Senator PERDUE. By 2020, which is the estimate in Russia. 2020, 70 percent of their triad will be new.

General HYTEN. We will not be modernized by 2020.

Senator PERDUE. Right.

General HYTEN. Then I look at the INF Treaty to develop nuclear—these are all things they are doing just in the last 4 years. They violated the INF Treaty. We talked about that. Their expanded deployment of air- and sea-launched nuclear cruise missiles not limited by the New START—you know, what they did in Crimea. They are threatening our allies with nuclear attack. They are actually using it in rhetoric openly now about intermediate-controlled nuclear acceleration to—accelerated to get a deceleration in aggressive posture. But they have also developed things in the sea, the underwater nuclear drone, the new nuclear submarine.

My question is all of this rhetoric, the buildup in cruise missiles, intermediate-range nuclear-tipped cruise missiles, and their modernization of their nuclear force—what does all this suggest about the role of nuclear weapons in Russia's nuclear or their total national security strategy?

General HYTEN. It suggests that the nuclear weapons are a primary element of their overall national security strategy. You have to look at their investment. You look at their finances and how much money they are spending in this capability and the vast majority of their capability is going at strategic forces. That is primarily nuclear but also space and cyberspace to a smaller amount. But when you put those pieces together, you cannot help but say that that is their strategy for national security.

Senator PERDUE. What does that say to us in terms of our strategy of de-emphasizing this deterrent that we have had for 70 years?

General HYTEN. Well, I believe that the last 20 years we have de-emphasized nuclear weapons, and that has created an imbalance in the approach of our adversaries that we have to address. That is why we need to modernize our capabilities across the board. We have to meet strength with strength. I never want to be able to have to sit down with a potential adversary and have a negotiation from a position of weakness.

Senator PERDUE. I agree, sir.

General HYTEN. Ever.

Senator PERDUE. Given that, how long will it take us, given the current procedures of acquisition and development to modernize the ICBMs over the entire triad?

General HYTEN. Sir, we are talking about a 30-year modernization program. We are talking about 15 years of development and production, and then modification and support as we go into—

Senator PERDUE. What we are really saying—I know that we are not in a classified environment, and I look forward to that conversation. What we are saying is from the reality today, given our past practice, is that from 2020 going forward, Russia is in a much more modernized position of acuity than the United States, and that will occur over the next 20 to 30 years. Is that correct?

General HYTEN. Then we will modernize and then we will have a modernized capability.

But the thing about a deterrent capability is it does not matter how old it is. It just matters whether it works.

Senator PERDUE. You are confident today that the triad is—

General HYTEN. The stuff that we have today will work. The question is will it work 10 years from now, 15 years from now, 20 years from now. That is where the risk comes in. That is why modernization has to be a priority. But we are ready today. The force is ready today. The force is motivated and understands they are the critical element of our Nation's security.

Senator PERDUE. That is comforting.

I have one last question in my time remaining. You addressed it earlier about the helicopter, and I appreciate your anger about that, to be candid, sir.

But we have also got a situation where in modernizing, you have to go through 60 stakeholders basically. I think that has been documented. You have said we do not move fast enough from concept to capability. What can we do to help you? What can you do to help us accelerate our ability to be fast?

General HYTEN. To me, the fundamental change that has to be is we have to put somebody in charge and just hold them accountable and let them go do their job. If they fail, get somebody else to go do that job. But we have so many people that make decisions. That takes forever to get through the process and get everybody to dot the I's and cross the T's and make sure everything is okay. It is almost impossible with the structure that we have created to go fast.

That structure was created because of problems in the acquisition business. It was created because we had overruns and problems in the past. The way we fixed the problem is we did not hold somebody accountable. We created a new oversight mechanism to make sure that whether it is test or development or whatever it is, we have an oversight mechanism to look at everything and make sure that it is right. We have got to get back to the point where we put somebody in charge and hold them accountable.

Senator PERDUE. Well, that is very refreshing, General. Thank you for your testimony and your service.

Thank you, Chairman.

Chairman MCCAIN. I would point out we made some progress in that direction by putting the service chiefs in the position of responsibility, but we certainly have a lot more to do.

Senator HEINRICH?

Senator HEINRICH. Thank you, Chairman McCain.

Welcome, General Hyten.

For starters, I want to ask, given the very real budget pressures that we find ourselves in, in your professional opinion should our priority at this point be modernization of our nuclear forces

through completion of our life extension programs or should we be prioritizing the expansion of our nuclear forces with brand new weapon designs at this juncture?

General HYTEN. Are you talking about the nuclear weapons themselves or the—

Senator HEINRICH. Not the personnel. The weapons themselves.

General HYTEN. The weapons themselves. I think the focus has to be always ready, reliable weapons. The priority has to be the service life extension before we get to new weapons. But fundamentally at some point in the future, we have to be able to transition to those new weapons. The labs are very engaged in making sure we know exactly what the status is. I think the lab directors are some of the most incredible people that I have probably ever met, and they give me very good advice about how to do that. But the priority has to be the life extension first because you always have to be ready, and then when and if do we have to modernize and change the structure.

Senator HEINRICH. Well, I share your sentiments about the lab directors. We had a good briefing with them recently.

Do you want to say anything else about the sort of sequence of the LEPs [Life Extension Programs] to ensure that we continue to have the near-term risk mitigated, or would you rather save that for another setting?

General HYTEN. I think I would like to save that for a closed session.

Senator HEINRICH. That is fine.

Let us go on to talk a little bit about New START. What are the defense and intelligence benefits of the inspections, the database, the unique identifiers of Russia's strategic nuclear forces that we have secured through that arrangement? What would be the implications if those provisions went away?

General HYTEN. I cannot give you the details of what we learned in this forum, but what I can say at an unclassified level is that we get huge value from a bilateral verifiable treaty that allows us to see exactly what our adversaries are doing from a strategic weapons perspective. Now, the thing about a bilateral verifiable treaty is they also get that kind of insight from us. That always has to be part of the calculation as you go through.

But we have an understanding of exactly what those capabilities are. They have those understandings of what our capabilities are. I think when they look at them, they get an assessment of the readiness of our force and the ability to provide a deterrent. I think that is a powerful message, and we get a message in return.

Senator HEINRICH. Do you think that both sides obviously get a little bit of a window into intent and posture that mitigates risk so that unintended consequences do not lead to an unnecessary escalation?

General HYTEN. Absolutely. I think every time that—well, I will just say when you walk in and you see a nuclear weapon for real and you see the readiness of the force to do that, you do not want that to be employed against you. That is an element of deterrence that is I think one of the most powerful elements of deterrence there is. You actually have to see it to embrace it. When the Rus-

sians see it, when we see it when we go there, that helps the deterrent posture across the globe.

Senator HEINRICH. Yes. I have to say I think that is a very insightful comment, and I would encourage all of my colleagues to make the effort to see our deterrent up close and personal. It is a very sobering impact that that has, and as somebody whose father lived through some of the test phases, I think the closer people can come to seeing the reality of that, I think the better their decisions will be made down the road.

I want to ask you one last question before my time expires. Los Alamos Lab is the designated center of excellence for plutonium research. In your view, does our current strategy maintain the critical facilities and the capabilities for plutonium technology? Are we on schedule to meet the required production of plutonium pits by the late 2020s?

General HYTEN. The answer is yes, but I have concerns about the requirement in the late 2020s. I cannot remember if the number is classified. I just will not say the number.

Senator HEINRICH. That is fine.

But the focus on those facilities needs to be acute.

General HYTEN. The focus on that facility has to be there all the time. In the near term, I am very comfortable with where we are. It is really 10–15 years from now that I have concern about maintaining the necessary capability to generate what we need for weapons.

Senator HEINRICH. Thank you, Mr. Chairman. I will yield back. Chairman MCCAIN. Senator Tillis?

Senator TILLIS. Thank you, Mr. Chairman.

General Hyten, thank you for being here, and thank you for wearing that Carolina blue shirt. The Tar Heels wore it last night when they won the national championship or a similar color.

General HYTEN. I am glad I could help you out, Senator.

Chairman MCCAIN. It is breaking news.

[Laughter.]

Senator TILLIS. I wanted to really follow on to some questions that I think Senator Perdue got to at the end of it and it really made me think about asking you when you responded to the question from Senator Blumenthal regarding the helicopters. You know, we have got an acquisition environment now across all of DOD that thinks it is okay to take 10 years and 700 pages to spec the next generation handgun, fairly simple. The kind of weapons you are talking about are slightly more complicated.

I would like to talk more about things that you would like for us to consider in terms of authorities or constraints that we have placed on you or the Department to really get to the root causes of some of these problems and delays that are very costly and, at the end of the day, threaten our national security.

General HYTEN. It is interesting for me. I started off in the acquisition business and then I went into operations, and I was happily an operator for almost 2 decades. Then the Air Force called me back in to be in acquisition again as a two-star.

I came back in, and there were all these things that were broken. The first thing I did is I read the federal acquisition regulations. I actually read them. It was quite painful, but I read them. Then

I read the JCIDS process for requirements, the DOD instruction that talks about—the chairman’s instruction that talks about how you do requirements.

What struck me as interesting is the law, the regulations, and the policy that has been put in place for requirements and acquisition actually allows you to be as streamlined as you want to be. It is all written right there. It is legal. You can do all those things. We just have chosen to implement a process that is not responsive.

Senator TILLIS. How do we fix that?

General HYTEN. I think what we have to do is you have to eliminate a lot of the bureaucracy that is in the middle.

Senator TILLIS. Who is that on?

General HYTEN. I think most of it is in—well, I will just describe from my perspective the way it was built. The way it was built was first we said we are going reform acquisition with the Defense Acquisition Workforce Improvement Act, and that was about 25 years ago. We said we are going to have a streamlined authority from a program director to a program executive officer to a service acquisition executive to a defense acquisition executive. At that time, those staffs were very small. In fact, the PEO staffs, the program executive officer’s staffs, were in some cases 9 to 14 people.

But then the OSD [Office of the Secretary of Defense] staff grew, and then the service staff had to grow to match the OSD staff. Then the PEO [Program Executive Office] staff had to grow to match the service staff. Then the program office had to grow in order to match those pieces.

To me, you have to take every one of those and cut it out and go back to what was the intent of the law 25 years ago, which is the chain of command is the program director to the PEO, to the SAE [Service Acquisition Executive], to the DAE [Defense Acquisition Executive], and nobody else can get in between.

Senator TILLIS. Do you see any evidence that that is being addressed seriously?

General HYTEN. No, sir.

Senator TILLIS. Without that, then our modernization, the things that we are doing for service extension, they all suffer because there is an inherent cost in delay in new capabilities. Is that correct?

General HYTEN. That is correct.

Senator TILLIS. Somebody needs to own that. Actually somebody somewhere in these organizations—they need to own it. It is remarkable to me in just the 2 years that I have been here that we are having the same circular discussions at the expense of you being able to do your job even better than you are already doing it.

General HYTEN. The other thing I will point is we also need stable budgets.

Senator TILLIS. Well, I agree. That is where I think we have become the root cause of the problem because if you are making long-term investments and we are living paycheck to paycheck through 1-year CRs and we consider that success, we are a part of that problem.

But it would really help us I think to get some incites into exactly what you talked about. We will follow up with your office.

The last question I had—and it just reminded me based on something you said earlier about you have certain weapons that have reached their end of life or appear to. There were some people in the prior administration who were concerned that that maybe we were moving too quickly to decommission certain weapons. I thought I heard from you all that in fact they had reached their usable life, and if you did not decommission them, that there was just going to be additional cost and risk in maintaining them. Is that still a problem?

General HYTEN. I do not think it is a problem. We have a significant weapons inventory. When we get down to 1,550 accountable warheads, we have significant warheads in the inventory to allow us to do that now and for the foreseeable future. I supported the decommissioning of those weapons. My predecessor did as well just because we have a number that we have to meet and we have the capabilities that were needed to meet it. We do not have to walk down any further.

Senator TILLIS. Thank you. I look forward to the hearing tomorrow.

Chairman MCCAIN. Senator Sullivan?

Senator SULLIVAN. Thank you, Mr. Chairman.

General, thank you for your testimony and your service and your frank assessment on some of these issues.

I appreciate your written testimony focusing on missile defense, and I would like to dig into some of those issues this morning.

It is when, not if that North Korea is going to be able to range the continental United States with an intercontinental ballistic nuclear missile. Is that not correct?

General HYTEN. I believe it is, sir. I think they already have the capability to deploy an intercontinental ballistic missile. The question is when will they be able to mate a nuclear weapon to it.

Senator SULLIVAN. It is going to happen. We have classified estimates of when it is going to happen, but you can say publicly that is going to happen.

General HYTEN. Yes. I will show you the dates the intelligence community predicts that it will happen when we talk tomorrow. It is fairly broad, but I will show you those dates.

Senator SULLIVAN. One of my concerns has been if we know that that is going to happen, which we do, and the day that that does become public that they can do that, I think there is going to be a big demand that will be on the front page of all the newspapers and magazines that the leader of North Korea can range Chicago or Miami or New York City with a nuke. There will be a lot of demands to do something immediately because of that.

If we know that is happening, it is my view that we should be focusing a lot on missile defense to make sure that we will have a 99.9 percent chance of shooting one or two or three of those down and be able to say publicly if you do do that, we will retaliate massively. That will buy whoever is in the White House some time.

We talk about sooner. I think it is sooner rather than later. Can you give the committee a sense of why the date, February 11th, was so important in terms of this very troubling issue?

General HYTEN. Thank you, Senator. I am a big supporter of missile defense. I have been for my whole career.

But February 11th was a very important date because that is the date——

Senator SULLIVAN. February 11th of this year.

General HYTEN. Of this year. The North Koreans launched a new, solid, medium-range ballistic missile off a new transporter-erector-launcher. They published pictures for the entire world to see out of a place we had never seen before. That showed a new technology, a new North Korean capability to employ a very challenging technology for us because a liquid missile has——

Senator SULLIVAN. Liquid fuel you are talking about.

General HYTEN. A liquid fueled——

Senator SULLIVAN. Versus solid fuel.

General HYTEN.—versus solid has to be stacked, fueled. It takes time and we can watch. A solid rocket can be rolled out and launched at a moment's notice. If you noticed our history of building ballistic missiles, in the early days we built liquid fueled rockets, and we had some challenges because liquid fuel is a dangerous thing to try to keep ready and on alert. A solid is a much better solution. All of our inventory now is solids.

Senator SULLIVAN. That was a major advancement by North Korea.

General HYTEN. It was. They moved what was demonstrated at sea onto land, onto a new launcher, and did it in a very quick way.

Senator SULLIVAN. Let me ask you a related question. You talked about the history of our programs in terms of rockets. Do you think there is a culture that we have now with regard to missile defense? We had a provision in the NDAA last year that required the Missile Defense Agency to test at least once a year—try to test at least once a year. Do you believe we have a culture that focuses too much on always having successful operations in terms of testing? Why is it important to also allow us to fail?

General HYTEN. I think I have become part of that problem too because when Admiral Sering tests, I am either on the phone or waiting for that email that said did it work, did it work, did it work. That fundamentally creates the wrong kind of test environment.

If you look at what North Korea is doing, test/fail, test/fail. I look at what I did when I was a younger officer in the space business. That is how you go fast. Von Braun in the early days of the rocket business—he had a 60 percent failure rate, maybe the greatest rocket scientist of all time. Can you imagine, if Admiral Sering in the Missile Defense Agency had a 60 percent failure rate, what the newspapers would say? In reality, we should be asking was that a successful test. Did we learn what we needed to do to advance the system? Are we testing fast enough? Because North Korea is going fast, test/fail, test/fail, test/succeed, and they are learning. You can see them learning because that is the way you do the rocket business.

Senator SULLIVAN. You think we should be doing at least testing once a year? Can we help with regard to that narrative and culture to make sure you are learning but not always having to make sure it is, quote/unquote, a successful test? Can a test that does not hit the target still be a successful test?

General HYTEN. In many case, we will create conditions where we do not want to hit the target, and then somehow it will still be portrayed as a failure. But we need to understand how long the interceptor can fly. We need to understand various things about a test. A test program is not just about hitting the target. Ultimately, the system is about hitting the target, and we have to learn fast as we go through that.

Senator SULLIVAN. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Cruz?

Senator CRUZ. Thank you, Mr. Chairman.

General, it is good to see you. Thank you for your service. Thank you for being here. I enjoyed our visiting last month about the priorities for strategic deterrence and how to improve our capacities going forward.

I want to focus a few minutes on questions involving space, which is one of the topics you and I discussed. Last week, your deputy, Vice Admiral Richard, testified before a Space Security Conference about offensive space capabilities and weapons that are being developed by China and Russia. He said that, quote, while we are not at war in space, I do not think we can say we are exactly at peace either. With rapidly growing threats to our space systems, as well as the threat of a degraded space environment, we must prepare for a conflict that extends into space.

General, in your judgment, how significant is the threat to our space-based assets, and what would the impact be to our operations if they were degraded?

General HYTEN. It is significant and it is growing. You have to ask yourself why we have adversaries that are building weapons in space, weapons that can deploy into space, weapons that can jam our satellites, weapons that can jam GPS [Global Positioning System]. Why are they building that entire infrastructure? It is not because they are interested in the peaceful use of outer space. It is because they are looking to threaten the United States, and they have watched us for the last 20-plus years, ever since Desert Storm. They have watched us employ space to create a fundamental asymmetric advantage on every battlefield we are in. They understand if they are ever in a conflict with us, if they cannot challenge that advantage, they have a significant potential to lose. That is why they are committing such a huge amount of their national treasure to building those kind of weapons and capabilities.

Our job is to make sure that we can always respond, always defend ourselves, always make sure that the asymmetric advantage that we have built over the years can be maintained in any conflict. We have to do that.

Now, we hope to deter that conflict by demonstrating that to our adversaries, but nonetheless, if it does extend into space, we have to be ready to fight it.

Senator CRUZ. To what extent does our weapons targeting and navigation depend upon active GPS and live satellites?

General HYTEN. You know, it is interesting. The first space war is often referred to as the Desert Storm, the first Gulf War. But in that war, very few precision munitions—in fact, no precision munitions were dropped with GPS guidance. The only precision muni-

tions were laser-guided munitions. Everybody remembers the video on television from that.

But now almost every weapon we drop is a GPS-guided weapon. Almost our entire force structure is built on GPS guidance as we go through that. Our dropping of logistics off of aircraft are GPS-guided air drop systems now. The timing system for many of our weapons is GPS. Our artillery systems are guided by GPS. The guided multiple launcher rocket systems, the MLRS [Multiple Launch Rocket System], is a GPS-guided system in the Army. The Navy systems are GPS-guided. We have basically taken that huge advantage.

In the future, we have to look at precision navigation and timing as a mission and build a resilience into that architecture, as well as defending GPS on orbit.

Senator CRUZ. What failsafes are there in the event of GPS or other satellite systems going down for our weapon systems still being able to operate, or for that matter, to what extent are our troops drilling in a no-satellite environment regarding navigation or weapon systems or otherwise?

General HYTEN. About 6 years ago, the Air Force did a study called a Day Without Space, and in that, they basically went to Nellis and on the range took GPS and satellite communications away from the aviators. It was not good. We were not ready to do that.

But since that time, we have basically relearned how to operate in a GPS-denied environment, in a SATCOM-denied environment. We actually have a lot of those capabilities built in. We have the ability to use inertial navigation systems. We have the ability to use a compass and a map. Maybe we were spoiled because space was a benign environment. GPS was always there, and so we just assumed that it was going to be there.

We cannot assume that anymore. We have to train for that. We have to train in all services and then build resilient systems to make sure that we have the capability to fight in any situation.

Senator CRUZ. Russia's aerospace forces are potentially working to deploy an anti-satellite weapon on its interceptor aircraft. A VKF [Russia's Aerospace Forces] squadron commander was quoted as saying, quote, a new missile is being developed for this aircraft capable of destroying targets in near space.

General, how realistic is the threat to our satellites from Russia, and how should the United States respond to that threat?

General HYTEN. The threat from China is actually more near-term than Russia. I will show you the specifics tomorrow in the closed hearing of what those threats are.

But I can tell you that it is real and they would not be committing resources to building that if they did not have some intent to use it in a conflict. When you see statements by Russian officers and Russian leaders about building capabilities to do that, I mean, why would they do that unless they were sending a message?

Senator CRUZ. What should we be doing about it?

General HYTEN. Number one, we have to always defend ourselves. We have to build the ability to defend ourselves against any of those threats. Number two, we have to build an offensive capability to challenge their capabilities in space as well. We will talk

about what we are doing in that in the closed hearing tomorrow as well, Senator.

Senator CRUZ. Very good. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. General, thanks very much, and we look forward to tomorrow. Thank you for a very informative and helpful and important hearing. Thank you.

We are adjourned.

[Whereupon, at 11:26 a.m., the committee adjourned.]

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR RICHARD BLUMENTHAL

UK SUBMARINES

1. Senator BLUMENTHAL. General Hyten, in 2014, Scotland held an independence referendum in which they voted to remain in the UK. When the Brexit referendum was held last year, the majority of Scotland did not support leaving the EU. Just last week, the Scottish Parliament held a non-binding vote in favor of holding a second independence referendum. Although the actual independence vote may be some time off, the leader of the Scottish Parliament would like to hold a vote between fall 2018 and spring 2019, while Prime Minister Theresa May would like to postpone until after Brexit in 2019. Scotland will need Westminster's consent to hold the independence vote. Scotland has expressed its desire to be a nuclear weapons-free state if it becomes independent. Currently, all four of the UK's *Vanguard*-class ballistic missile submarines are based in Scotland and there is no other base able to home port these boats in the UK. The *Vanguard*-class boats are a critical element of NATO deterrence, particularly when we are seeing increased Russian submarine patrols. Could this issue have any potential implications for the operations of our own ballistic missile submarines?

General HYTEN. We do not foresee a decision on Scottish independence and/or a nuclear free state impacting U.S. ballistic missile submarine operations.

2. Senator BLUMENTHAL. General Hyten, have you engaged with EUCOM or the UK regarding the basing of the UK's ballistic missile submarines or discussed contingency operations to address this potential issue?

General HYTEN. Yes, my staff and I conduct regular dialogues with the UK Ministry of Defense with respect to a wide range of contingency operations.

INF TREATY VIOLATION

3. Senator BLUMENTHAL. General Hyten, Russia has deployed two brigades of ground-launched cruise missiles that United States officials say violate the INF Treaty (Intermediate-Range Nuclear Forces Treaty). The INF Treaty was signed in 1987 to eliminate land-based intermediate and short-range ballistic and cruise missiles (310–3,400 mile range). The Obama Administration claimed since 2014 that Russia had been developing this ground-launched cruise missile in violation of the INF Treaty, and Russia has continued to deny wrongdoing. By not voluntarily withdrawing from the treaty, and violating it instead, Russia's actions put the United States in a precarious predicament. Does the United States remain bound by the treaty when Russia is clearly not abiding by the terms, do we withdraw, or do we respond with sanctions or other countermeasures? Last month at the EUCOM hearing, GEN Scaparrotti told me that he agreed that Russia had violated the INF Treaty and had provided internal recommendations to DOD. This past Friday at a joint news conference with the British Defense Secretary, Secretary Mattis said, "On the INF issue, we're in consultation with our allies and we are still formulating a way ahead. In fact, it will be addressed, I think, very, very soon as a matter of highest-level concern." In what ways can the United States pressure Russia to return or come into compliance? How can we convince Russia that violating this treaty is not worth the cost?

General HYTEN. We have no doubts that Russia possesses and is deploying weapons in direct violation of the INF Treaty. Russia shows no signs of coming back into compliance with its obligations. The status quo is untenable and the United States must consider all possibilities including a world without the INF Treaty. Our nuclear modernization efforts are central to minimizing any advantages Russia seeks

through violation of the INF Treaty The United States is also pursuing a strategy to improve coordination and integration among NATO states, while USSTRATCOM and USEUCOM work collaboratively to enhance integration and planning to mitigate any threats posed by this INF violation.

4. Senator BLUMENTHAL. General Hyten, how can we best protect our troops and allies from these deployed missiles without escalating the situation and while staying in compliance with the INF Treaty?

General HYTEN. The Department is examining this issue and potential response options within the series of ongoing strategy reviews. In January, the President ordered a Ballistic Missile Defense Review to identify ways of strengthening missile-defense capabilities, rebalancing Homeland and theater defense priorities, and highlighting priority funding areas. How to best protect U.S. equities along with those of our allies from emerging threats such as these missiles will be considered in the review.

5. Senator BLUMENTHAL. General Hyten, how does Russia's violation of the INF Treaty impact efforts to renew New START (New Strategic Arms Reduction Treaty), which reduces Russia and our strategic nuclear arsenals? Do you believe we should continue to implement this treaty?

General HYTEN. It is too early to consider extending New START. We are focused this year on completing our reductions under the Treaty and ensuring Russia meets its obligations by February 2018 when the Treaty's limits go into effect. Russia remains in compliance with New START and I support continued implementation. New START continues to provide predictability of, and transparency into, Russia's strategic forces. However, I anticipate Russia's violation of its international commitments such as the INF Treaty will be a consideration in any future arms control discussions.

HUEY REPLACEMENT

6. Senator BLUMENTHAL. General Hyten, at the hearing you testified that STRATCOM had a request for forces in to provide a temporary replacement. You pulled that request from STRATCOM because you wanted "all hands on deck to get a new helicopter into the force as soon as possible." You went on to note, "I can't tell you how upset I was when I pulled the RFF and shortly thereafter was told there would be a delay in the program. That's just unacceptable to me." Can you please explain why this request was rescinded?

General HYTEN. My rescission of the Request For Forces (RFF) was not intended to diminish the need for a replacement helicopter, but to support a focused effort on fielding a replacement aircraft as soon as possible. As I stated in my hearing, this should be a simple and straight forward acquisition; I will continue to monitor this closely.

QUESTIONS SUBMITTED BY SENATOR JOE DONNELLY

CONVENTIONAL PROMPT STRIKE (CPS)

7. Senator DONNELLY. General Hyten, you dedicated a significant portion of your written testimony to efforts by both the U.S. and our adversaries to develop hypersonic capabilities. Is the United States leading the way in the development of hypersonic glide vehicles, or are we behind the curve relative to countries like Russia and China?

General HYTEN. [Deleted.]

8. Senator DONNELLY. General Hyten, the conventional prompt strike activity is developing a non-nuclear capability for U.S. forces to hit highly defended, time-critical targets. In your testimony for this hearing, you wrote, "Having a hypersonic strike capability enhances our overall deterrent posture by providing the President additional options to hold targets at risk that do not justify crossing the nuclear threshold." Do you see value in addressing conventional prompt strike in the upcoming nuclear posture review or other similar dialogues on deterrence?

General HYTEN. It would be premature for me to comment on the issues or scope of the Nuclear Posture Review (NPR). However, I see utility in the role conventional prompt strike (CPS) capabilities provide towards enhancing U.S. deterrence or influencing strategic stability. Ongoing Departmental discussions on CPS policy and operations will continue and may be informed by the NPR or broader strategy reviews.

9. Senator DONNELLY. General Hyten, you stated in your written testimony that STRATCOM foresees an operational need for CPS by the mid-2020s. What factors are driving that timeline from your perspective?

General HYTEN. Proliferation of advanced air defense systems, development of long-range strike weapons, coupled with a long standing Combatant Command requirement to hold time sensitive targets at risk necessitate delivery of an operational CPS capability as soon as practical.

10. Senator DONNELLY. General Hyten, would a sea-based CPS capability meet STRATCOM's operational needs?

General HYTEN. Yes.

11. Senator DONNELLY. General Hyten, what are the advantages and disadvantages from your perspective of a sea-based versus land-based CPS capability?

General HYTEN. A flexible mix of sea and land-based capabilities offers important deterrent and warfighting attributes. Land-based weapon systems provide a responsive, visible and persistent capability to address challenging targets. Sea-based option allows global presence and an ability to operate in a contested environment to hold additional targets at risk.

QUESTIONS SUBMITTED BY SENATOR MAZIE HIRONO

PARTNERING WITH INDUSTRY FOR SPACE TECHNOLOGY

12. Senator HIRONO. General Hyten, we continue to see rapid growth in both the commercial and government space sector. U.S. Strategic Command has been successful in developing a cooperative research and development agreement with six commercial industry satellite systems and services operators to develop new space technologies. What additional ways can the DOD leverage the commercial sector capabilities in the growth of space technologies and advanced resources?

General HYTEN. To ensure our military can dominate in all phases of conflict, we need to think bigger and go faster to address rapid improvements in space and we can best do this by harnessing industry. Low cost / rapid launch services, big data analytics, visualization tool and algorithm development, artificial intelligence, self-protecting networks, space debris removal, and satellite servicing are all areas ripe for further commercial sector partnering opportunities.

MAUI SPACE SURVEILLANCE SITE

13. Senator HIRONO. General Hyten, the Maui Space Surveillance Site combines operational satellite tracking facilities with a research and development facility. It is a unique facility with state-of-the-art electro-optical capabilities. How does this facility impact national security objectives and how important is it to keep this facility modernized and capable can this facility grow and modernize to retain the military advantage in the ever changing threat picture?

General HYTEN. The Maui Space Surveillance Site (MSSS) is an integral part of the Space Surveillance Network (SSN) designed to detect, identify, catalogue and track on-orbit man-made objects to facilitate safety of flight operations and/or provide warning of hostile actions in space. MSSS hosts a unique mix of operational and research assets provisioned with visible and infrared sensors, adaptive optics, and telescopes to collect imaging and signature data on objects ranging from near-earth to deep space. The geographic location and unique SSN capabilities provided by MSSS mandate continued sustainment and modernization of the facility.

THREAT OF NORTH KOREA

14. Senator HIRONO. General Hyten, it is clear that North Korea is committed to developing long-range missile technology. Most recently North Korea tested a solid-propellant SLBM variant. These types of weapons have very few indications and warnings. How well is the United States protected from the North Korean threat? What future requirements would you identify as necessary to defend the United States and in particular Hawaii from these types of threats?

General HYTEN. I believe we are postured to defeat a limited ICBM threat from North Korea with our current sensor architecture and Ground-based Midcourse Defense System. In the future, as threats from North Korea evolve and grow more complex, continued and predictable funding is needed for persistent sensor tracking and advanced discrimination improvements; improved Ground Based Interceptor capacity; and programmed production of next generation Aegis BMD capable ships and interceptors, such as the Standard Missile (SM) IIA & SM-6. Finally, we need to

continually invest in all pillars of missile defense (including passive defense, offensive operations, and command and control) to holistically address the evolving ballistic missile threats. Our priorities are improved sensors, improved kill vehicles, then increased capacity.

RELATIONSHIP WITH ALLIES

15. Senator HIRONO. General Hyten, relationships with allies in the Asia Pacific are important to our overall national security in that region. Both Japan and Korea have Aegis equipped ships and the SM-3 Block II missile is being developed in cooperation with Japan. How important are cooperative efforts such as this to improve missile defense capabilities? As space becomes more and more important to the United States and our allies, how important is cooperation in this arena?

General HYTEN. These activities are very important; one of the best ways we can mitigate potential adversary missile programs is to establish cooperative air and missile defense efforts with our partners and allies. Moreover, improved cooperation in the space domain with foreign nations and commercial companies will preserve the space environment for the responsible, peaceful, and safe use for all.

QUESTIONS SUBMITTED BY SENATOR ELIZABETH WARREN

NEW START

16. Senator WARREN. General Hyten, Russian President Vladimir Putin is reported to have raised the idea of extending the New START beyond its current end date. But some have called for the United States to build and deploy new nuclear weapons, potentially even above New START levels. Do you believe that this would adversely affect United States national security and strategic stability with Russia?

General HYTEN. It is too early to consider extending New START. We are focused this year on completing our reductions under the Treaty and ensuring Russia meets its obligations by February 2018 when the Treaty's limits go into effect. Russia remains in compliance with New START and I support continued implementation. New START continues to provide predictability of, and transparency into, Russia's strategic forces. However, I anticipate Russia's violation of its international commitments such as the INF Treaty will be a consideration in any future arms control discussions.

17. Senator WARREN. General Hyten, the United States has said that it will retain no more than 60 nuclear-capable deployed bombers in order to comply with New START. Yet the Air Force plans to acquire 100 B-21 bombers. Will only 60 of them be nuclear-capable, or are we planning for a fleet that will violate New START?

General HYTEN. Fielding of a nuclear capable B-21 does not represent a violation of New START. The planned fleet of 100 B-21s will be both conventional and nuclear capable. The New START provides each side with the flexibility to alter its force mix of strategic offensive arms to stay within applicable treaty limits. The United States will adjust its force structure as necessary to meet its arms control obligations.

LRSO

18. Senator WARREN. General Hyten, you testified that the proposed new nuclear-armed cruise missile, the Long-Range Stand-Off weapon (LRSO), is not destabilizing because it replaces an existing weapon system. However, the current nuclear-armed Air-Launched Cruise Missile (ALCM) was only deployed on the B-52, not the B-2. In contrast, the Air Force plans to deploy LRSO on both its stealthy and non-stealthy bombers. Will our adversaries consider the deployment of a new stealthy bomber with a new stealthy nuclear-armed cruise missile to be a new and potentially destabilizing development?

General HYTEN. No, this development does not represent a significant change to an adversary's strategic decision calculus. Air-launched cruise missiles are not destabilizing because they do not pose the threat of disarming first strikes against Russia or China, regardless of whether they are deployed on penetrating or non-penetrating bombers. The AGM-86B Air-Launched Cruise Missile, which has been deployed since 1982, and the low observable Advanced Cruise Missile in-service from 1990-2012, significantly complicated adversary air defense problems and posed a key element of the unsolvable dilemma essential to maintaining strategic stability. Failure to recapitalize our bomber and cruise missile fleet in the face of continued advancements in integrated air defense systems (IADS) negates the effectiveness of the air leg of the Triad and simplifies the adversary's problem set. This, in turn,

would incentivize a potential adversary to develop capabilities to degrade or defeat our remaining legs—an outcome which could be viewed as destabilizing on the face.

19. Senator WARREN. General Hyten, if China was developing a new, stealthy long-range bomber in combination with a stealthy long-range nuclear-armed cruise missile, would the United States consider that development destabilizing?

General HYTEN. Such a development would not impact strategic stability because it would not provide China the capability to conduct a disarming first strike against the United States.

20. Senator WARREN. General Hyten, the Air Force plans to produce LRSO cruise missiles in numbers roughly equal to the size of the current ALCM arsenal. The ALCM was fielded in the early 1980s when there was little conventional long-range standoff capability for bombers. Since then, several conventional standoff weapons have been introduced, and others have been significantly enhanced. Given these developments, can some of the LRSO scenarios be covered by conventional systems?

General HYTEN. The nuclear cruise missile force is sized to meet enduring strategic deterrence requirements; the unique contributions provided by a nuclear cruise missile (range, penetrating capability and destructive power) cannot be replicated using conventional weapons. LRSO provides flexible options across the full range of threats, provides the ability to respond rapidly to technical challenges in other legs of the triad, and is a visible United States signal to deter adversaries and assure allies.

STRATEGIC STABILITY

21. Senator WARREN. General Hyten, last week, you indicated that Strategic Command programs have made the world more stable. Do you believe that State Department and other international programs also contribute to international stability?

General HYTEN. Yes, military commanders rely on a whole-of-government approach to achieve national security objectives, including active foreign engagement from the Department of State.

**DEPARTMENT OF DEFENSE AUTHORIZATION
FOR APPROPRIATIONS FOR FISCAL YEAR
2018 AND THE FUTURE YEARS DEFENSE
PROGRAM**

THURSDAY, APRIL 6, 2017

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

**UNITED STATES SOUTHERN COMMAND AND UNITED
STATES NORTHERN COMMAND**

The committee met, pursuant to notice, at 9:32 a.m. in Room SD-G50, Dirksen Senate Office Building, Senator John McCain (chairman of the committee) presiding.

Committee members present: Senators McCain, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Perdue, Graham, Sasse, Reed, McCaskill, Shaheen, Gillibrand, Blumenthal, Donnelly, Hirono, Kaine, King, Heinrich, Warren, and Peters.

SENATOR JOHN MCCAIN, CHAIRMAN

Chairman MCCAIN. Well, good morning.

Since there is going to be a vote starting at 11:00, I believe we will try to expedite the process here, and I will forgo my opening statement except to welcome the witnesses and ask Senator Reed if he has an opening statement so we could get right through the witnesses after he completes that.

Senator REED. I am tempted to say yes, but smart enough to say no.

Would you please include my opening statement in the record, Mr. Chairman?

Chairman MCCAIN. Both moving and important opening statements will be made part of the record.

[The prepared opening statements of Chairman McCain and Senator Reed follows:]

PREPARED OPENING STATEMENT BY SENATOR JOHN MCCAIN

Washington, D.C.—U.S. Senator John McCain (R-AZ), Chairman of the Senate Armed Services Committee, delivered the following opening statement today at a hearing on the posture of U.S. Northern Command, U.S. Southern Command and U.S. Strategic Command:

“The Committee meets today to receive testimony on the posture of U.S. Northern Command, Southern Command, and Strategic Command to inform its review of the Defense Authorization Request for Fiscal Year 2017. I’d like to extend our apprecia-

tion to the witnesses for their many years of distinguished service and to the men and women of our military who defend our Nation every day.

“Admiral Tidd, this is your first time testifying before the Committee as the Commander of U.S. Southern Command. After nearly two months in command, I look forward to your assessment of the challenges within your area of responsibility as well as your strategy to confront them. It’s clear that you face a daunting array of security and governance challenges in the region, yet SOUTHCOM continues to suffer from persistent resource shortfalls that undermine efforts to confront these challenges. I hope you will outline for the committee where you are being forced to accept the greatest risk as a result of these shortfalls.

“Of particular concern is the deteriorating situation in Central America, where feeble governance, endemic corruption, and weak security institutions are allowing transnational criminal organizations to operate with impunity. We of course must improve and adequately resource our drug interdiction strategy to combat these groups, but we must also renew our efforts to combat the real driver of drug trafficking—the demand here at home. The demand for the drugs that these groups traffic—heroin, methamphetamine, and cocaine—is too high and the profits too great to dissuade these criminals from their illicit actions.

“To be clear, the threat posed by these groups extends beyond the drugs they smuggle into our communities. The smuggling routes they control are also used to traffic weapons, bulk cash, and human beings. And as your predecessor General Kelly testified before this committee, ‘terrorist organizations could seek to leverage those same smuggling routes to move operatives with intent to cause grave harm to our citizens or even bring weapons of mass destruction into the United States.’

“On a more positive note, I am interested in your assessment of the ongoing talks in Colombia, and how you believe the United States can best support our partners as they enter a new and likely more challenging era. Colombia, once on the cusp of becoming a failed state, has emerged from decades of conflict as a stark example of what sustained United States support and engagement can achieve. It’s vitally important that we continue to invest in our relationship during this critical period so as not to squander the extraordinary progress that has been achieved.

“I would like to take a moment recognize the military servicemembers conducting detention operations at Guantanamo Bay. Too often in the course of debating the future of the detention facility we lose sight of the remarkable men and women who serve honorably under extraordinarily difficult conditions. Admiral, please convey our deepest appreciation for their service and the professionalism they display each and every day on behalf of our nation.

“Admiral Gortney, I look to you for an update on the current state of United States-Mexican security cooperation and opportunities for our two nations to strengthen this vital partnership. While Mexico’s efforts to combat transnational criminal organizations have resulted in notable successes by capturing or killing senior cartel leaders such as El Chapo, the security situation remains highly volatile and continues to directly impact the security of our southern border. Heroin, largely produced in Mexico, continues to ravage communities all across the nation and demands a renewed effort to combat this scourge both in our streets and also at its source. I also look forward to your assessment of the increasing threat posed to the Homeland by the development of advanced missiles capable of carrying nuclear payloads by Russia, Iran, and North Korea.

“Admiral Haney, strategic threats to the United States and its allies have increased exponentially in just the few short years since you’ve taken the helm of Strategic Command. While nuclear, cyber, and counter-space threats generally have been on the rise, Secretary Carter’s warning that ‘we’re entering a new strategic era’ has great implications for STRATCOM.

“The ‘return to great power competition’ noted by the Secretary means that deterring Russia and China once again assumes primacy in your planning and operations. Whatever President Obama may have hoped for, the United States can no longer seek to reduce the role of nuclear weapons in our national security strategy, or narrow the range of contingencies under which we would have to consider their use.

“U.S. Strategic Command faces significant near and longer-term challenges. In about 15–20 years, U.S. nuclear submarines, ICBMs, air launched cruise missiles, heavy bombers, and nuclear-capable tactical fighters will have to be withdrawn from operational service, having been extended well beyond their original service lives. Modernization programs are in place to replace these systems, but there is no slack left in the schedule. Today’s Congress supports fully the modernization of the United States nuclear deterrent. Any reduction in funding over the next decade, however, could delay the development of these replacement systems, increasing stra-

tegic risk at a time when Russia and other countries continue to modernize their nuclear capabilities.

“Russia, then, is your near term challenge. Russia’s aggression in Ukraine and destabilizing actions in Syria take place under a nuclear shadow. Russia has threatened our NATO allies with nuclear strikes, is developing a new nuclear ground-launched cruise missile capable of ranging most of Europe, and has fired air- and sea-launched cruise missiles against targets in Syria—missiles that could be armed with nuclear warheads and flown against European and United States targets. So your task, Admiral Haney, is to ensure that Strategic Command is prepared to deter Russian nuclear provocations. This requires better intelligence about Russian nuclear capabilities and plans, a nuclear planning process tied to EUCOM and NATO operations, and a survivable, well-exercised, and ready nuclear force.

“Finally, as this Committee continues its review of the Goldwater-Nichols Act, we are interested to hear your views as to whether our defense enterprise is organized properly to perform the missions that cut across the functional and geographic boundaries we have drawn. We also welcome any ideas on reforms we might consider to make our defense enterprise more effective without minimizing the vital tasks that must be done.”

PREPARED OPENING STATEMENT BY SENATOR JACK REED

Thank you, Mr. Chairman. I also want to welcome our witnesses, General Robinson and Admiral Tidd. Thank you for your many years of service. I also want to thank your families, and the many men and women who serve in your commands for their commitment to our nation.

General Robinson, your mission is to protect the Homeland, to deter and defeat attacks on the United States, and to support civil authorities in mitigating the effects of potential attacks and natural disasters. You are also dual-hatted as the Commander of the North American Aerospace Defense Command (NORAD), which brings unique responsibilities and partnering opportunities with Canada to deter and defend against threats to our nations. I look forward to hearing about your collaboration with Canada, especially as they prepare to unveil their defense review in the coming month.

You are also responsible for the operation of our Homeland ballistic missile defense system. We look forward to hearing about your priorities for further improvements to the ground-based missile defense system. This is particularly important in light of North Korea’s missile launches, which are occurring with increased frequency.

Lastly, your relationship with the military leadership in Mexico, along with your collaboration with Admiral Tidd and other federal agencies, is critical to promoting security across our southern border. A number of problems along that border originate in the SOUTHCOM AOR, and efforts to address those problems require a whole-of-government approach.

Admiral Tidd, I am quite concerned that the proposed cuts to the budget of non-defense agencies would be devastating to SOUTHCOM’s mission, which is primarily a counter-narcotics and threat networks mission. While SOUTHCOM is focused on the supply of drugs, perhaps the larger problem is drug demand in this country. In 2015, more than 52,000 Americans died from drug overdoses—more people than homicides and car crashes combined. We have lost half a million people in the last 15 years to the opioid epidemic. My state, Rhode Island, along with New Hampshire, West Virginia, and Ohio have been particularly hard hit by this epidemic.

If we are serious about the drug epidemic in this country, we need to adequately fund not only fund our crucial military effort in SOUTHCOM, but also Health and Human Services, the FBI, the DEA, the Coast Guard, the FDA, and all the other agencies that are working to ensure the health and safety of the American public. Admiral Tidd, I am interested in hearing about how you work with other government agencies in your AOR.

Finally, Admiral Tidd, we are all observing the humanitarian crisis in Venezuela and would like your perspective on how much longer the regime there can survive and how the crisis might spill over into neighboring countries.

Admiral Tidd, General Robinson, thank you again for your service and appearing here today. I look forward to your testimony.

Chairman MCCAIN. Welcome to the witnesses, Admiral Tidd and General Robinson. Please proceed, General Robinson.

STATEMENT OF GENERAL LORI J. ROBINSON, USAF, COMMANDER, U.S. NORTHERN COMMAND AND COMMANDER, NORTH AMERICAN AEROSPACE DEFENSE COMMAND

General ROBINSON. Good morning, Mr. Chairman, Ranking Member Reed, distinguished members of the committee. I certainly am honored to be here today, pleased to testify with my very, very good friend, Admiral Kurt Tidd.

North American Aerospace Defense Command (NORAD) and United States Northern Command (USNORTHCOM) are two distinct commands, but they are unified in a common purpose. Every day, the men and women of NORAD and USNORTHCOM, soldiers, sailors, airmen, marines, coast guardsmen, and civilians, Americans and Canadians, stand ready to defend two great countries, the United States and Canada.

Today our adversaries are seeking ways to extend their operational reach into North America and to hold us at risk. The men and women of NORAD and U.S. Northern Command stand watch, ready to defend against these adversaries. Today we have a competitive advantage against them.

This advantage will not continue in the future, however, if we continue to operate under continuing resolutions. I echo the Secretary, the Chairman, the service chiefs in saying that developing the joint force we need in the future requires an actual budget this year. Continuing resolutions do not enable continuity of effort. We need an appropriations bill unrestricted by sequestration to upgrade our warfighting capabilities against threats to us here in the Homeland.

These adversaries include North Korea, where Kim Jong-un continues his provocative behavior. He has conducted nearly three times as many ballistic missile tests as his father and grandfather did combined. North Korea uses what they learn from each test to make improvements to their missile capabilities. We are watching them very closely.

We are also watching Iran as it develops a space program with potential dual-use technology.

NORTHCOM is prepared to counter ballistic missiles should North Korea attempt to launch an attack on the United States. While I am confident in our ability to defend the Homeland today, we must keep improving. We are working in close partnership with the Missile Defense Agency to improve our sensors and the reliability of our ground-based interceptors.

Also today, Russian cruise missiles can reach us from greater ranges than ever before. No longer do they have to come close to North American airspace to hold us at risk. But I am also confident in NORAD's layered approach to cruise missile defense. But again, we must evolve and we are doing so as our adversaries' capabilities increase.

Senator McCain, at my confirmation hearing, you asked if I had ever visited the southwest border. 1 year later, I can tell you that I visited our southwest border on foot, by boat, by air, in a tunnel, and yes, sir, even on horseback. I have gained an appreciation for the incredible variety of terrain along the southwest border and how transnational criminal organizations and their networks can exploit that terrain.

I have also stood with my great friend, Kurt, on the Guatemalan soil looking north to see firsthand the network challenges that SEDENA [Secretariat of National Defense] and SEMAR [Secretaría de Marina] face and what they are going to strengthen Mexico's southern border.

To counter these threat networks, NORTHCOM [Northern Command] partners with law enforcement agencies, SOUTHCOM [Southern Command], other combatant commands, the intelligence community, military partners such as SEDENA and SEMAR, all the while supporting Secretary Kelly's requests. The men and women of NORTHCOM stand united in a common purpose, ready to face the threats of the United States and Canada today, and we are evolving to face the threats of tomorrow. Sir, we have the watch.

Thank you again for giving me the opportunity to speak, and I look forward to your questions.

[The prepared statement of General Robinson follows:]

PREPARED STATEMENT BY GENERAL LORI J. ROBINSON

INTRODUCTION

Chairman McCain, Ranking Member Reed, and distinguished members of the Committee, thank you for the opportunity to appear before you to provide my assessment of the posture and future of United States Northern Command (USNORTHCOM) and North American Aerospace Defense Command (NORAD). I am here today on behalf of the active soldiers, sailors, airmen, marines, coast guardsmen, National Guardsmen, Reservists, DOD civilians, and members of the Canadian Armed Forces who are the foundation and the future of the defense of the United States and Canada. Strengthened by robust relationships with our interagency and regional partners, the men and women of USNORTHCOM and NORAD are dedicated to defending the United States and Canada; we accept this obligation as the most fundamental and enduring of our responsibilities.

USNORTHCOM and NORAD operate in a strategic environment that is as ambiguous and dangerous as any in our recent history. Threats to the United States and Canada are increasingly global, transregional, all-domain, and multi-functional in nature. Forged by an indispensable partnership, the Commands operate both independently and synergistically, conducting complementary missions with a shared purpose of common defense. The synergies that exist between the two Commands enable us to conduct our missions expeditiously and seamlessly in the face of very real threats.

As those who would do harm to our two countries develop new capabilities and harden their intentions, we have never had a greater need for agile, responsive capabilities to defend and protect our citizens. In the long term, strained resources, competing priorities, and emerging threats challenge our ability to meet all of our commitments, a dilemma that requires innovative solutions, including new ways of cooperating with allies and trusted partners. I believe our ability to maintain a resilient and flexible force that can respond in a crisis requires prudent and stable funding. As a Combatant Commander, I rely on the Services to provide me with ready and capable forces and equipment to defend the United States and Canada. While I am grateful for the support of this Committee, sequestration and a series of Continuing Resolutions have introduced resource uncertainty and compelled the Services to prioritize current readiness over end-strength and modernization, a decision that translates into risk to our strategic advantage and technological edge in future conflicts.

USNORTHCOM and NORAD—two distinct Commands with a common purpose—remain steadfast in our responsibility to provide for the defense of the United States and Canada. Our Commands are working diligently with fellow Combatant Commands, our North American neighbors, and our interagency partners to defend the United States and Canada in depth.

STRATEGIC ENVIRONMENT

Today, the strategic environment we face is complex, characterized by a growing number of strategically significant actors who represent real challenges and risks to the United States and our regional partners. Russia, China, North Korea, Iran, and non-nation-state violent extremist forces are capable of varied attacks against North America in multiple domains, from multiple approaches, and at increasingly greater ranges. States and non-state actors have devoted significant research and resources to erode our physical standoff and decision space. The Homeland is no longer a sanctuary protected by oceans and other geography.

Globalization and access to advanced technology gives a greater number of adversaries, both state and non-state entities, the ability to reach us conventionally and asymmetrically while obscuring their intentions. I believe a range of competitors will confront the United States and its partners and interests through intimidation, destabilization, and the use of force. The threats to the Homeland remain diffuse, less attributable, and increasingly complex. This outlook is challenging but not insurmountable, and it serves to reinforce the importance of USNORTHCOM and NORAD readiness to adapt and evolve to meet the demands of tomorrow.

RUSSIA

In an attempt to retain a sphere of influence in the post-Soviet era, Russia continues to exhibit increasingly aggressive behavior, both regionally and globally. Despite a declining economy and domestic pressures, Vladimir Putin continues to expand and diversify Russia's long-range strike capability, including land- and sea-based ballistic missiles, cyber weapons, and most recently, a new generation of highly precise, conventionally armed cruise missiles that can reach the United States and Canada. I know that these advanced capabilities provide a range of strike options that Russia could use to hold targets at risk in the United States and Canada in a crisis. Russia has chosen to be a strategic competitor with the United States, and their capabilities present an all-domain threat to USNORTHCOM and NORAD interests.

CHINA

China's efforts to achieve regional preeminence and undermine U.S. influence are a growing concern. Beijing continues to modernize its military and pursue an expansion and diversification of its strategic forces capable of holding the United States at risk. China has added dozens of road-mobile intercontinental ballistic missiles to its longstanding force of silo-based intercontinental ballistic missiles and has begun operating its first viable class of ballistic missile submarines, which adds a long-range, sea-based leg to China's nuclear retaliatory capability.

NORTH KOREA

As part of its decades-long quest for strategic nuclear weapons, North Korea continues its provocative, coercive patterns and aggressive weapons development activity. 2016 was one of North Korea's most active years in terms of nuclear weapon and missile program development in pursuit of weaponizing a nuclear ballistic missile capable of reaching the United States. Pyongyang completed its fourth and fifth nuclear detonations, as well as its second consecutive successful satellite launch using an intercontinental ballistic missile-class booster, and conducted the nation's first successful tests of an intermediate-range ballistic missile and a submarine-launched ballistic missile. In his five years as Supreme Leader, Kim Jong Un has conducted nearly three times as many ballistic missile tests as his father and grandfather did in their combined 63 years in power.

In 2016, North Korea suffered a series of embarrassing test failures, which could lead to some dismissive conclusions about the maturity of their development. However, it is Kim Jong Un's willingness to accept public failure that worries me the most. In contrast to his father, who used missile and nuclear tests primarily to extract diplomatic concessions, Kim is pursuing a systematic program to develop, test, and field a viable weapon system as a deterrent to a regime-ending attack. In many cases, failed tests provide just as much insight, if not more, than a successful test.

Amidst an unprecedented pace of North Korean strategic weapons testing, our ability to provide actionable warning continues to diminish. North Korea's closed society and robust denial and deception capabilities challenge our ability to observe missile and nuclear test preparations, a concern that would be exacerbated in crisis or in wartime and complicate our ability to defend the United States.

IRAN

In contrast to Russia, China, and North Korea, Iran does not possess a nuclear weapon. Iran has committed considerable resources to a space launch program that has achieved technological milestones that could contribute to the development of longer-range missiles including intercontinental ballistic missiles. Iranian officials have announced a self-imposed 2,000 kilometer limit on missile ranges, providing the capability to strike Israel from launch sites in central Iran, but insufficient to threaten Western Europe or North America. However, Iran is developing advanced missile capabilities and conducting flight tests of systems—such as the medium-range missile Iran launched on January 29th—that incorporate technologies that could be used to develop longer range systems. Those advancements could include future intercontinental ballistic missile technology capable of holding the United States at risk.

THREAT NETWORKS

The emergence of adaptive threat networks introduces a range of challenges to the United States and our regional partners. Threat networks tend to operate in the seams of society and may traffic in licit or illicit goods and services. These networks are sophisticated and resilient, joining with other networks around the world and engaging in a wide array of threatening activities. The destabilizing and corruptive influence of these networks creates vulnerabilities that can be exploited by our adversaries and threaten our national security.

I am concerned by an increasing convergence of activity over threat networks resulting in a multi-layered and asymmetric threat to our national security. The nexus between transnational criminals and transnational terrorists is not an operational one—the two groups do not appear to be actively collaborating today to conduct attacks in the United States. What concerns me more are the ways the transnational terrorists may be able to leverage the pathways established by threat networks, especially as their capabilities are diminished from operational setbacks overseas.

USNORTHCOM AND NORAD

USNORTHCOM and NORAD, in collaboration with key stakeholders, defend the United States and Canada from threats and aggression through an adaptive, flexible, and resilient defense enterprise underpinned by strong relationships, ready Commands, and responsive capabilities to fulfill the Commands' roles in the shared responsibility of the defense of our nations. Our combined and complementary USNORTHCOM and NORAD defensive capabilities must counter threats across all domains and be able to adapt and outpace evolving threats. We are proud of the histories of our Commands, but we will not rest there. Looking to the future, we will continue to adapt and evolve to meet ever-changing threats.

HOMELAND DEFENSE

Ballistic Missile Defense

One of the prominent aspects of my role as the Commander of USNORTHCOM is our Ballistic Missile Defense mission. North Korea's unprecedented level of nuclear testing and ballistic missile development offers a sobering reminder that the United States must remain vigilant against rogue nation-states that are able to threaten the Homeland. I am confident in our ability to employ the Ground-based Midcourse Defense element of the Ballistic Missile Defense System to defend the Homeland against a limited long-range ballistic missile attack from North Korea. As adversaries continue to pursue credible and advanced capabilities, we too must evolve our missile defense capabilities to outpace increasingly complex threats. The relationship between USNORTHCOM, supporting Combatant Commands, and the Missile Defense Agency is the cornerstone of our ability to outpace these evolving threats.

Today's Ballistic Missile Defense System's Ground-based Midcourse Defense is designed to intercept incoming threats in the midcourse phase of flight, a strategy which provides the largest window of intercept and maximizes the use of our interceptors. Synergistic and comprehensive improvements across the entirety of the Ballistic Missile Defense System, including advanced sensors and enhanced interceptors, are foundational to maximizing system performance. I support the Ballistic Missile Defense System development path set by Vice Admiral Jim Syring and his team at the Missile Defense Agency, whose priorities include, improving our persistent sensor architecture, operational effectiveness of our interceptors, lethality of our kill vehicles, and robust sustainment and testing.

Modernization of our sensor architecture is essential to maintaining our strategic advantage and confidence in our ability to defeat evolving, more complex threats. Thanks to the men and women at the Missile Defense Agency, and the support of this Committee, we are on track to deploy the Long Range Discrimination Radar. This critical midcourse sensor will improve persistent coverage of the United States and improve our target tracking and discrimination capability against potential countermeasures, thereby improving the effectiveness of our ground-based interceptors.

The Missile Defense Agency is in the final phase of fielding additional ground-based interceptors, which will result in a total inventory of 44 by the end of calendar year 2017. This robust inventory is essential to our ability to engage multiple threats, but it alone is not sufficient to address evolving future threats. In addition to continued modernization of the current Exo-atmospheric Kill Vehicles, I believe it is imperative we continue with the engineering, design, and test work currently underway on the Redesignated Kill Vehicle. Furthermore, we need to explore innovative technical solutions such as the upgraded tactical ground-based interceptor booster with a 2- or 3-stage selectable mode designed to increase battlespace and, as we learn more from the Redesignated Kill Vehicle, explore the development of interceptor variants like the Multi-Object Kill Vehicle.

Foundational to our confidence in the Ballistic Missile Defense System, and how we operationally employ it, are robust test and sustainment programs. I support the Missile Defense Agency's efforts to maintain a regular ground-based interceptor flight test cadence and a vigorous ground test program. With every flight and ground test, we learn more about the system's capabilities and discover new ways to optimize its performance.

Our ability to defend the United States against ballistic missile threats is underpinned by the dedication of Missile Defenders like Staff Sergeant Caroline Domenich. Staff Sergeant Domenich is a member of the Alaska Army National Guard assigned to the 49th Missile Defense Battalion. She has served as a communications officer, is now a weapons officer in the Fire Direction Center at Fort Greely, Alaska, and was recently named the Missile Defender of the Year. I am grateful for the professionalism and proficiency of Staff Sergeant Domenich and her fellow Missile Defenders who stand ready to engage inbound threats when called upon to protect the United States.

Aerospace Warning and Aerospace Control

NORAD's Aerospace Warning and Aerospace Control missions are a vital component of the defense of the United States and Canada. Through the execution of Operation NOBLE EAGLE, NORAD defends our Nations' airspace around the clock and accomplishes this critical mission with a combination of armed fighters on alert, air patrols, aerial refueling, Airborne Warning and Control System surveillance platforms, the Integrated Air Defense System in the National Capital Region, and our ground-based Air Defense Sector surveillance detection capabilities. These assets allow NORAD to respond to both symmetric and asymmetric air threats to the United States and Canada.

Since 9/11, more than 70,000 sorties have been flown in support of Operation NOBLE EAGLE. Continuous improvement of air domain awareness and intercept capabilities will ensure that NORAD forces can protect our most critical national infrastructure and maintain a basing architecture that defends key terrain and our most critical national infrastructure.

With almost 58,000 general aviation aircraft registered within 250 miles of the National Capital Region, we continue to look for ways to ensure we are using our Operation NOBLE EAGLE assets efficiently and effectively. In the years after 9/11, NORAD was frequently launching Operation NOBLE EAGLE assets to intercept general aviation aircraft that unintentionally violated restricted airspace around the National Capital Region. In an effort to reduce preventable intercepts, we started working with our interagency partners on a proactive outreach campaign to educate the general aviation community about restricted airspace and notify aircraft owners and pilots of upcoming airspace restrictions. The foundation of our ability to conduct meaningful community outreach is the tenacity of airmen such as Major Andrew Scott, a Public Affairs Officer assigned to our 601st Air Operations Center. Major Scott has been a member of the Florida Air National Guard since 2005 and is a key leader in our combat information cell. Major Scott and the 601st team have fostered strong relationships with our interagency partners, including the Federal Aviation Administration, the U.S. Coast Guard, and the Civil Air Patrol. As a result of the community outreach program, we are seeing a significant decrease in accidental airspace incursions, which lead to an 80 percent reduction in unnecessary launches of intercept aircraft and other tactical actions.

In the late 1950s, when NORAD was established to defend North American airspace, the Soviet Union was the only nation-state capable of striking North America militarily. We were able to maintain physical standoff from our adversary by keeping Russian bombers out of missile range of North America. Today, that physical standoff has eroded due to technological advancements by our adversaries. Commanders today have much less decision space, in part because hostile actions can occur from greater ranges with little or no warning.

Russia continues to use heavy bombers, surface vessels, and submarines to demonstrate its ability to launch advanced, long-range, conventionally-armed cruise missiles. These emerging capabilities constitute a real challenge to our air defense architecture, and NORAD faces an increased risk to our ability to defend the United States and Canada against Russian cruise missile threats. The increased standoff capability, low altitude, and small radar signature of cruise missiles make defending against them a technical and operational challenge. I am confident in the layered approach provided by our family of systems to conduct cruise missile defense. We continue to work with the Joint Integrated Air and Missile Defense Organization, the Missile Defense Agency, and other stakeholders to pursue improvements to our indications and warnings, surveillance, and engagement capabilities to meet the evolving challenges posed by advanced threats.

We are nearly finished with the first part of our three-phase Homeland Defense Design effort, which is intended to enhance our ability to detect, track, and investigate suspicious aircraft, cruise missiles, and unmanned aircraft systems, and when necessary, cue our defense systems against the full spectrum of air threats. This year, we will continue to integrate advanced sensors in the National Capital Region and are on track to begin the second phase of the Homeland Defense Design in FY18 to expand aerospace surveillance capabilities. Phase 3 of our Homeland Defense Design is in concept development and is intended to validate and incorporate emerging technology and explore scalable and deployable options for the rest of North America.

Our ability to find, fix, and finish air threats is largely dependent on the capability of the fighter aircraft that conduct NORAD's Aerospace Control Alert mission. Fundamental to the aircrafts' detect and track capability is the modernization of its radar systems. We are working with the U.S. Air Force to procure and field Active Electronically Scanned Array radars for our Aerospace Control Alert fighters, starting with the aircraft that defend the National Capital Region.

In recent years, Russia's Long Range Aviation Command has assumed an increasingly significant role in Russia's military assertiveness, starting with regular out-of-area patrols in 2007 and spiking in 2014 with more out-of-area patrols than in any year since the Cold War. Russian heavy bomber activity in the approaches to North America declined sharply in 2016, but a closer look reveals troubling new capabilities. Russia's strategic air forces spent much of the year cycling bombers through a modernization program that enables their aircraft to carry an advanced family of cruise missiles capable of holding the United States and Canada at risk.

With our Canadian teammates, we continue to capitalize on existing synergies and identify opportunities to evolve NORAD into a more agile Command capable of outpacing the full spectrum of threats. We will continue to prioritize investments in detection and surveillance through advanced indications and warning technology to ensure we are able to deter and, if necessary, defeat the full spectrum of aerospace and other attacks on the United States and Canada.

The Arctic

The harsh Arctic environment and polar icecap have long enhanced North American security by providing a physical barrier in the northern approaches to the United States and Canada. Today, receding sea ice and growing interest in Arctic economic prospects are increasing human presence and activity in the region. I consider the foundation for defense, security, and safety in the Arctic to be whole-of-government cooperation and collaboration with our trusted partners. In 2016, USNORTHCOM and NORAD supported the development of the 2016 DOD Arctic Strategy and we will continue to focus on ways to ensure the Arctic is a secure and stable region where U.S. national interests are safeguarded, the U.S. homeland is defended, and nations work cooperatively to address challenges. For USNORTHCOM and NORAD, the Arctic remains a strategic avenue of approach and a region with evolving challenges. I believe it is important that USNORTHCOM and NORAD be prepared to operate in the this harsh environment for missions such as search and rescue, patrolling, or maintaining Aerospace Warning and Aerospace Control along the Alaskan and Canadian coastlines.

In the near term, increased human activity in the region will demand close maritime coordination and unity of effort between international, interagency, and indus-

try partners in response to an emergency. Last year, the U.S. Coast Guard and USNORTHCOM sponsored the Arctic-focused search and rescue exercise ARCTIC CHINOOK, a partnership field training exercise based on a maritime mass rescue scenario involving an adventure-class cruise ship operating in the Arctic that is forced to abandon ship after a catastrophic event.

One of my roles is to be the DOD advocate for Arctic capabilities. I am responsible for collaborating with Arctic stakeholders to enable a holistic view of Arctic capabilities. Our Arctic Capabilities Advocacy Working Group provides a forum for DOD, interagency, and trusted international partners to identify requirements, capabilities, and shortfalls across the spectrum of DOD Arctic operations. Constrained budgets and demands from competing global priorities compel us to identify prudent opportunities to invest in material and non-material capabilities that enable us to ensure security and support safety in the Arctic.

We are primarily focused on improving fundamental operational capabilities that support domain awareness, communications, infrastructure, and sustainable presence in the Arctic. For instance, with the support of the working group, we successfully advocated for the construction of an open-bay barracks in Utqiagvik (formerly known as Barrow), Alaska. This 40-person facility opened in January and is supporting Alaska Army National Guard exercises and training. In addition, through NORAD's collaboration with the Department of Defense and the Canadian Department of National Defence, we facilitated the release of the Mobile User Objective System to Canada, which will provide better communications commonality among the bi-national NORAD enterprise.

DEFENSE SUPPORT OF CIVIL AUTHORITIES

As the Commander of USNORTHCOM, I provide DOD assistance to federal, state, local, territorial, and tribal authorities. Defense Support of Civil Authorities is a unique mission in that we facilitate DOD support in response to requests for assistance from civil authorities for a range of needs, including domestic emergencies, law enforcement support, man-made incidents, and natural disasters. Our civil partners are charged with the direct responsibility to respond to these crises and we work hard to develop and maintain the relationships necessary to deliver responsive capabilities when our partners request assistance.

NATURAL DISASTERS

Our disaster response actions are most often in support of the Federal Emergency Management Agency, with whom we plan and train to be ready to provide timely and tailored DOD capabilities for a spectrum of contingencies.

One of our key DOD partners in this endeavor is U.S. Transportation Command, on whom we rely to provide timely support of Federal Emergency Management Agency requirements. In addition to the transportation support they provide, their Joint Enabling Capabilities Command provides a trained and ready cadre of key subject matter experts to augment our Headquarters and deployed command and control forces with specialized transportation planning and communications capabilities.

In 2016, we partnered with the Federal Emergency Management Agency and a host of other federal, state, local, and Canadian provincial authorities to conduct Exercise ARDENT SENTRY, our annual Tier 1 disaster response exercise. The exercise simulated a 9.0-magnitude earthquake occurring in the Cascadia Subduction Zone, followed by a tsunami and several aftershocks along the coast of Washington, Oregon, Northern California, and British Columbia. This complex, integrated training environment offered USNORTHCOM an opportunity to practice our procedures and validate our processes with our federal, state, local, and multinational emergency responders.

This year, our ARDENT SENTRY exercise will give us an opportunity to plan and exercise a bilateral and whole-of-government response to an improvised nuclear threat in the New York City region and in Halifax Canada. The scenario will enable Canadian and United States forces to practice collaboratively rendering safe several devices near Halifax. The next phase of the exercise will challenge our consequence management procedures with Canada, our Federal Emergency Management Agency Region II partners, the Department of Justice, and our interagency partners in response to two subsequent improvised nuclear device detonations and the resulting counterterrorism crime scene.

DOD capabilities are only useful if they are accessible and responsive to emergent relief requests. Our rigorous training regimen was put to the test in October, 2016 when Hurricane Matthew was developing in the eastern Caribbean. To provide ready support to the Federal Emergency Management Agency's response plan,

USNORTHCOM coordinated with the Services to provide six DOD installations as incident staging bases to facilitate the deployment of commodities (e.g. water, food, blankets, cots, and generators) by staging these items closer to the expected impacted areas, thereby reducing response time.

THREAT NETWORKS

In my first eleven months as Commander of USNORTHCOM and NORAD, I have invested highly productive time visiting our southwest border and Mexico, garnering an increased appreciation of the threats to our borders. Transnational Criminal Organizations and their networks continue to affect conditions in Mexico and Central America, which introduces instability and creates challenges for our U.S. law enforcement partners responsible for securing our borders.

The threat is fueled primarily by Transnational Criminal Organizations which function through vast networks that transcend physical, geographic, and societal boundaries. These networks are able to operate in legitimate society, which increases the likelihood of their survival despite the best efforts of law enforcement professionals. This challenge exists in the seams among U.S. institutions and far exceeds the ability of any one agency or nation to confront it. The global nature of these networks necessitates an unprecedented level of cooperative effort among federal, state, local, international law enforcement, and intelligence community partners and combatant commands. I believe countering threat networks is a long-term proposition that will require continuous effort, creative solutions, and a strengthening of the unified network of law enforcement, DOD, intelligence community, and international partners.

USNORTHCOM continues to develop strong strategic security partnerships and foster opportunities to support to our domestic law enforcement partners. Our subordinate command, Joint Task Force North, recruits and employs Title 10 units to provide support to federal, state, and local law enforcement agencies. When requested, DOD assets are employed in support of an intelligence-driven, counter-network approach that simultaneously enhances unit readiness by allowing units to train on their mission essential tasks in a setting that approximates the environment common to many forward-deployed locations. In 2016, USNORTHCOM supported more than 150 all-domain, multi-agency domestic law enforcement operations, providing detection and monitoring capabilities, ground sensor platoons, unmanned aerial systems, mobility support, and analytical services. Our support contributed to law enforcement interdiction of \$150M in illicit goods.

The support we provide to our law enforcement partners is enabled through the determination and expertise of patriots like Sergeant Tanner Richie, a U.S. Marine Corps maintenance chief assigned to the 2nd Ground Sensor Platoon at Camp Lejeune, North Carolina. Originally from Santa Cruz, California, Sergeant Richie is a trained ground sensor operator and sensor system maintainer who has deployed on four Joint Task Force North missions in support of the U.S. Border Patrol. As the maintenance chief for the platoon, Sergeant Richie identified a way to leverage satellite communications infrastructure to provide expanded sensor capability in areas along the border that were previously unreachable by Very High Frequency radio employment. Through Sergeant Richie's ingenuity, USNORTHCOM is now able to provide increased ground sensor support to our law enforcement partners. The technical solution he tested along the border will have a lasting positive impact on ground sensor employment in the future.

We continue to pursue opportunities to mature synchronization and interoperability among all the stakeholders operating on both sides of the U.S.-Mexico border. What began as an annual Border Commanders Conference to conduct senior-leader dialogue has developed into monthly cross-border coordination engagements, facilitated by USNORTHCOM's component command, United States Army North, to enable collaboration among U.S. law enforcement agencies and Mexican Military Region and Zone Commands. These engagements are an opportunity to share best practices and bilateral solutions designed to disrupt Transnational Criminal Organizations along the border. This bilateral collaboration further matured into concurrent patrols conducted by U.S. law enforcement and Mexico's Secretariat of National Defense (SEDENA) on respective sides of the border. The information sharing conducted through these concurrent patrols resulted in a recent seizure by SEDENA of 10,000 pounds of marijuana at the border.

I see the DOD support role in this highly complex problem as critical, and I intend to improve the relationships and strengthen the support USNORTHCOM is able to provide to domestic law enforcement agencies and our international partners. In the near term, we will continue to explore options for enhancing our support to our law enforcement partners at the ports of entry who work tirelessly to

stem the flow of illicit trafficking into the U.S. In addition, we will pursue synchronized planning and coordinated operations with our partners to illuminate the networks that threaten our National security.

THEATER SECURITY COOPERATION

Canada

The United States and Canada share the longest international border in the world, and our collaborative relationship is one of the closest and most extensive in history. This relationship reflects a unique friendship, underpinned by common values, that has evolved over the course of the last century. Our bi-national command, NORAD, is the gold standard for military collaboration providing for the common defense of our nations and people.

A critical component of our operational defense framework is the tri-command relationship between USNORTHCOM, NORAD, and the Canadian Joint Operations Command. This steadfast relationship extends beyond our integrated USNORTHCOM and NORAD headquarters at Peterson Air Force Base to the Canadian commanders who have established relationships with U.S. counterparts across the border to ensure our countries can support each other when needed. Together, we are working to further integrate our operational framework into an adaptive continental defense arrangement that can function across multiple domains to defend the United States and Canada, while preserving each nations' unilateral ability to conduct national missions.

As NORAD approaches our 60th year defending the United States and Canada, we need to evolve our bi-national defense to deter, and if necessary, defeat potential future attacks. We will continue to prioritize interoperability and all-domain command and control through regular operations, combined training and exercises, combined planning, information and intelligence sharing, and personnel exchanges to ensure we are capable of conducting operations together, across the spectrum of conflict.

Mexico

The relationship USNORTHCOM enjoys with Mexico's Secretariat of National Defense (SEDENA) and the Secretariat of the Navy (SEMAR) continues to evolve as a strategic institutional partnership. We routinely collaborate with the Mexican military as it seeks to prepare for and respond to internal security crises, contribute to regional security, and assume greater global responsibilities. They share our concerns over the negative impact of illicit flows on both sides of the border, and we are on a path toward a common military-to-military vision and strategy to address the mutual challenges that impact the security of both Nations.

USNORTHCOM continues to pursue opportunities to build interoperability with our Mexican military partners through combined training and exercises. We focus on ensuring the timely delivery of a record Foreign Military Sales of over a billion dollars in UH-60 Black Hawk helicopters and High Mobility Multipurpose Wheeled Vehicles. We work closely with the U.S. interagency community and Mexican interagency organizations to support the Government of Mexico's Southern Border Strategy to improve security on their border with Guatemala and Belize.

USNORTHCOM's ability to provide focused engagements, professional exchanges, and military training with Mexico is dependent on the many warrior-diplomats who build trust and confidence with their military counterparts. Master Gunnery Sergeant Cesar Huevo, is a U.S. Marine Corps Reserve liaison officer assigned to the Theater Security Cooperation Detachment at Marine Forces North. Master Gunnery Sergeant Huevo draws upon his personal experiences as an infantryman, light armored reconnaissance section leader, and intelligence Marine—as well as his civilian career as a trauma nurse—to develop a cadre of combat-skills instructors who provide focused training to the Mexican Marines. Since 2012, Master Gunnery Sergeant Huevo has developed instructional material and overseen training programs that enhanced the capacity of nearly 8,000 Mexican Marines.

Today, we are witnessing an evolution of the Mexican military from an internally focused force to one that is willing and increasingly capable of providing security leadership in Latin America. Recently, and for the first time in their institutional history, Mexico agreed to co-host the April 2017 Central American Security Conference with U.S. Southern Command and USNORTHCOM. This forum will reinforce Mexican Armed Forces regional leadership throughout Central America, and I am confident it will serve as a catalyst for greater involvement in strengthening regional security. In the near term, both SEDENA and SEMAR are actively preparing to become force providers in United Nations Peacekeeping Operations.

The Bahamas

The U.S. and The Bahamas share a strong bilateral relationship founded on common interests in security, trade, and disaster response. Like many nations in the region, The Bahamas suffers from a surge in human and narcotics trafficking that contribute to a corresponding rise in violent crime. The Bahamian government is committed to close cooperation with the United States on law enforcement and maritime security concerns, as well as ways to counter illicit trafficking. This past December, we conducted our annual bilateral security cooperation table-top exercise with the Royal Bahamas Defence Force and mission partners in the Government of the Commonwealth of The Bahamas. The exercise challenged command and control structures, validated plans and procedures, and improved the Royal Bahamas Defence Force capability to provide maritime domain awareness, interdiction, and military assistance to civil authorities. We will continue our security cooperation efforts with the Royal Bahamas Defence Force with a priority focus on emphasizing maritime domain awareness, interdiction capabilities to counter illicit flows, and increasing disaster response capabilities.

CONCLUSION

The men and women of USNORTHCOM and NORAD remain diligent and undeterred as we stand watch. The evolving nature of global, transregional, all-domain, and multi-functional challenges have erased the lines on the map, necessitating an integrated and synchronized approach to defending the United States and Canada. To meet the challenges ahead, we actively pursue opportunities to strengthen our relationships with fellow combatant commands, our North American partners, and the interagency community. We will emphasize precision, agility, and resilience to ensure we are ready to execute in the ambiguity of a crisis.

We defend our countries by remaining ever vigilant, ever watching, and ever training as we fulfill our Commands' roles in the sacred responsibility of defending the United States and Canada. I am grateful for the support this Committee has provided our Commands and am truly honored to serve as the Commander of USNORTHCOM and NORAD. I look forward to your questions.

"We have the watch"

Chairman McCAIN. Thank you.
Admiral Tidd?

**STATEMENT OF ADMIRAL KURT W. TIDD, USN, COMMANDER,
U.S. SOUTHERN COMMAND**

Admiral TIDD. Chairman McCain, Ranking Member Reed, members of the committee, thank you for the opportunity to address you today.

I am pleased to be here with my NORTHCOM teammate, General Lori Robinson. Although we focus on distinctly different mission sets, our teams work together to keep our Nation safe from a range of challenges. While General Robinson and her team are directly responsible for defending our Homeland, SOUTHCOM extends that defense well beyond our borders throughout our southern approaches.

Now, I want to do something a little bit different today with my opening remarks. I want to tell you a story. Picture this. We gain information on a group of individuals who are planning to make their way to the United States. They are carrying a weapon that will kill dozens of people and put hundreds more in the hospital. This powerful weapon will drain millions from our economy in terms of health care costs, crime, and lost productivity. It is neither high-tech nor new. We know exactly how dangerous it is. This weapon passes freely through our defenses as do hundreds more just like it.

Chairman, members, I tell you this true story to point out an uncomfortable fact. Those people are members of a threat network,

and the weapon that they move today is drugs. On average, 1 metric ton of cocaine will kill 10 Americans every year and harm hundreds more. Last year, we watched almost 450 tons pass freely towards our country. What made it through translates into American lives lost and illicit profit that fuels instability and violence.

Now, I tell you this story focused on drugs today because it is the scenario on which we have the best information, but these adaptive threat networks can move anything. What keeps me up at night is the potential for even more deadly cargo moving through these networks and directly into our cities. ISIS has encouraged its followers to exploit the vulnerability of the pathways leading directly into the United States in order to move weapons of mass destruction.

To address this challenge, we are changing our approach to better understand and disrupt the immediate threats. We are working with our partners to reduce the vulnerabilities that allow these networks to exist in the first place, and we are expanding information sharing and building the capacity of our partners so that they can better secure their territory against these challenges.

Now, today I also look forward to talking to you about other issues that we are addressing. Extremist networks like ISIS are radicalizing and recruiting individuals, and they are encouraging them to conduct attacks on U.S. and partner interests in our region. Russia, China, and Iran are actively engaging in Latin America. While most of their activities are not military threats yet, some do warrant examination.

Even seemingly benign activities can build malign influence. With the peace accord now final in Colombia, a firm anchor for regional stability and one of our most trusted partners, Colombia still faces a challenging road ahead. We continue to stand together in defense of our shared interests.

Lastly, detention operations at Joint Task Force Guantanamo remain a sensitive and a demanding mission that our men and women continue to execute with discipline and professionalism. Now it is time to address the infrastructure requirements that we have been putting off. The safety and the security of our troops depend on it.

Finally, I would like to thank this committee for its unwavering support to the men and women both in uniform and out who serve our country. I look forward to answering your questions. Thank you.

[The prepared statement of Admiral Tidd follows:]

PREPARED STATEMENT BY ADMIRAL KURT W. TIDD

INTRODUCTION

Chairman McCain, Ranking Member Reed, and distinguished Members of the Committee, thank you for the opportunity to address you today. On behalf of the men and women of U.S. Southern Command (USSOUTHCOM), we appreciate your support to our team and to our partners in Central America, South America, and the Caribbean. I look forward to providing an update on our work defending the southern approaches to the U.S. homeland and promoting regional security and stability.

Although other regions may figure more prominently on U.S. foreign policy and national security agendas, Latin America and the Caribbean is the region most connected to our own society, prosperity, and security. We are inextricably linked by

our shared values, cultures, and the rapid flows of goods, services, people, and information throughout our hemisphere. Coupled with geographic proximity, these interconnections mean there's no such thing as a purely "Latin American and Caribbean problem." Simply stated, security challenges in the region are likely to become security challenges to the U.S. homeland.

Just consider the following. Threat networks aggressively operate across borders (including our own), moving anything and anyone and fueling violent crime on the streets of Tegucigalpa and Tucson. Individuals from across the world—some fleeing conflict and insecurity, some seeking economic opportunity, and some with possible ties to terrorism—can exploit the region's security vulnerabilities to attempt illegal entry into the United States. A mosquito-borne virus crosses an ocean and causes a regional and domestic health crisis. China, Russia, and Iran seek to expand their influence and challenge the international order and democratic principles of transparency, good governance, and rule of law abroad—and much closer to home.

Although USSOUTHCOM has a tradition of excellence in interagency and regional cooperation, we believe 'business as usual' is no longer sufficient to address these types of transregional challenges, or to embrace transregional opportunities. Higher-level guidance also demands we adjust our approach; the National Military Strategy directs the entire Joint Force to work in a more integrated manner to address the increasingly transnational, transregional, multi-domain, and multifunctional nature of today's security challenges. In response, USSOUTHCOM is becoming a more agile organization and redoubling our commitment to—and integration with—our partners. This isn't a matter of altruism; it's a matter of our national interests, because in this uncertain world our security partnerships are more important than ever before. Trust and understanding can't be surged when crisis hits, and complex threats can't be addressed by any one nation or agency. Mr. Chairman, it's simple, really: our security partnerships help create a layered defense of our homeland by keeping our shared home stable and secure.

OUR APPROACH

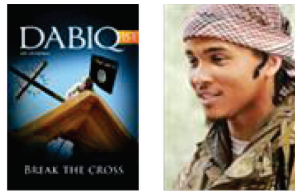
USSOUTHCOM's main effort is countering threat networks. We also prepare for and respond to disasters and crises; and we build relationships to meet global challenges. We employ a networked approach that stops threats before they reach our nation's borders, destabilize our partners, or undermine the security of the Western Hemisphere. Our components and task forces—U.S. Army South, U.S. Air Forces Southern/12th Air Force, U.S. Naval Forces Southern Command/U.S. Fourth Fleet, U.S. Marine Corps Forces South, U.S. Special Operations Command South, Joint Interagency Task Force (JIATF) South, Joint Task Force (JTF) Bravo, and JTF Guantanamo (GTMO)—are often at the forefront of these efforts, and we appreciate the Committee's continued support to the entire USSOUTHCOM team.

SECURITY ENVIRONMENT (THE CHALLENGES)

Threat Networks. Mr. Chairman, Members, if I were appearing before you in 1987, 1997, or even 2007, I would tell you that drug trafficking is the most significant security challenge in Latin America and the Caribbean. But it's 2017, and drugs—or any of the illegal commodities that move through our hemisphere—are not the only thing we have to worry about. The illicit flows of goods and people, and the violence and corruption these flows fuel at home and abroad, are the visible manifestations of complex, adaptive, networked threats. Transregional and transnational threat networks are now the principal threat to regional security and stability. These networks operate unconstrained by legal and geographic boundaries, unimpeded by morality, and fueled by enormous profits. Their interests, influence, capabilities, and reach extend beyond the responsibilities of any one Geographic or Functional Combatant Command, undercutting our national interests in multiple domains and many regions. They prey on weak institutions and exploit the interconnected nature of our modern financial, transportation and communication systems and the seams in our organizational boundaries.¹

Threat networks engage in a range of destabilizing illicit activities that further dangerous ideologies or generate profit. Violent extremist organizations like ISIS seek to radicalize and recruit vulnerable populations in the Caribbean and parts of Central and South America. Hezbollah members, facilitators, and supporters engage in licit and illicit activities in support of the organization, moving weapons, cash, and other contraband to raise funds and build Hezbollah's infrastructure in the region.

¹ *Convergence: Illicit Networks and National Security in the Age of Globalization*. Center for Complex Operations, National Defense University, 2013.



A recent DABIQ article featured an interview with a Trinidadian foreign terrorist fighter, Shane Crawford, who encourages ISIS supporters to attack the U.S. and Trinidadian governments and civilians, citing potential targets in California, Florida, and France.

Criminal networks, in contrast, are motivated by wealth and power. Some are globally-integrated enterprises with worldwide reach—and profit margins that rival Fortune 500 companies. Some smuggle precursor chemicals and fentanyl from China into Central America and Mexico, where they produce extremely potent heroin that is driving overdose epidemics across the United States. Other networks move large shipments of cocaine to markets in the United States, West Africa, Europe, and Australia, while some reap enormous profits by illegally mining gold in Guyana, Peru, and Colombia. Many dabble in poly-crime activities, including kidnapping, money laundering, and extortion. Still other networks have diversified into the smuggling of weapons and people, including individuals who pose a potential threat to national security—through the region and into the United States.

Although each of these activities undermines regional security, the most dangerous scenario is that terrorist organizations will exploit criminal capabilities or human smuggling routes to enter the United States. The most chilling manifestation, of course, is the possibility that terrorists with chemical or biological weapons—or the knowledge of how to build and employ them—will move through the region and attempt to infiltrate our Southwest border. This potential threat raises the question of criminal-terrorist collusion, which has been a topic of significant debate within the U.S. Government. I'd like to share my view on the subject.

Conventional wisdom downplays the possibility that criminal and terrorist networks would actively collaborate in this part of the world. Observers are correct when they say that drug traffickers are likely reluctant to work with terrorists, and vice-versa. But here are the shortcomings I and many of our interagency partners see with this view: it presumes criminal networks exercise absolute oversight and control over their smuggling routes. It presumes they conduct thorough background checks and screen everyone and everything that moves along the region's illicit superhighways. It presumes that just because witting collaboration might not take place, unwitting collaboration couldn't. While this scenario may be unlikely, we and our partners know it is also not totally impossible.

Mr. Chairman, I think about those smuggling routes that thread through our southern approaches and into our Homeland. Despite the heroic efforts of law enforcement, these are highly efficient systems that can move just about anything and anyone into our country. And what keeps me up at night is knowing I'm not the only one thinking about those routes—extremist networks like ISIS are thinking about them too, and how to use them.



ISIS dedicated an article in DABIQ to discussing a scenario in which ISIS followers could exploit already established trafficking networks to make their way to our Southwest border.

Ultimately, the argument about whether criminal and terrorist networks collaborate or keep their distance from one another in Latin America distracts from the most important point. Both groups inhabit the same illegal orbits. They both seek to circumvent or subvert the rule of law. They both exploit the same permissive environment and could use the same key facilitators (money launderers, document forgers, and corrupt officials) to support their operations. By affecting the permissive environment, functions, and enabling activities that both types of networks rely on, we can help degrade criminal and terrorist networks alike.

Regional Stability. In addition to the challenge posed by threat networks, Latin America and the Caribbean are also vulnerable to disasters, including earthquakes, hurricanes, droughts, and the outbreak of infectious diseases with the potential for mass protests in the United States. Varying prevention, management, and response capabilities in the region—coupled with underlying challenges like chronic poverty and economic insecurity—can amplify the impact of disasters, contributing to other ‘push factors’ that drive illegal migration.

Apprehensions and Interdictions
Source: Customs and Border Protection

	Fiscal Year 2015	Fiscal Year 2016
Cubans (land and sea)	48,549	60,311
Haitians (land and sea)	3,435	7,932
Unaccompanied Children (from Northern Triangle)	28,396	42,405

Overall the region is stable, although the gap between public expectations and government performance manifests itself in social protests, most often against corruption and mismanagement of public resources. Bolivian citizens have engaged in mass protests to demand resolution to a severe water shortage, while Venezuela faces significant instability in the coming year due to widespread food, and medicine shortages; continued political uncertainty; and a worsening economic situation. The growing humanitarian crisis in Venezuela could eventually compel a regional response.

Activities of China, Russia, and Iran. While threat networks and potential crises are immediate concerns, we also face strategic challenges. Over the past decade, China, Russia, and Iran have established a greater presence in the region. These “external actors” require separate and serious consideration, especially as it relates to the broader global security environment. Knowing the political establishment in China, Russia, and Iran will likely scrutinize this testimony—and in the case of Russia, attempt to distort it—I’m going to choose my words with care.

Mr. Chairman, I’ll speak plainly: if we care about what’s going on in the South China Sea, Eastern Europe, and the Middle East, it’s worth keeping an eye on Chinese, Russian, and Iranian activity in this part of the world, too. For Russia, China, and Iran, Latin America is not an afterthought. These global actors view the Latin American economic, political, and security arena as an opportunity to achieve their respective long-term objectives and advance interests that may be incompatible with ours and those of our partners. Their vision for an alternative international order poses a challenge to every nation that values non-aggression, rule of law, and respect for human rights—the very same principles that underlie the Inter-American system of peace and cooperation. Some of what they’re doing—while not a direct military threat—does warrant examination. Even seemingly benign activities can be used to build malign influence.

Now the region’s number two trading partner, China has courted Latin America through economic diplomacy, importing more and more raw materials, offering loans, and pledging billions in investments in infrastructure development. It sees its own development as contingent on the development of other countries, including those in Latin America and the Caribbean.² Beijing cooperates with Latin America on space, potential nuclear power projects, and telecommunications networks, which could pose security concerns to the United States. China’s military soft power lies in its ability to engage through offers of all-expenses-paid training, no-strings-attached defense sales and financing to regional militaries, and donations of equipment and humanitarian aid. China prioritizes engagement with regional organizations like the Community of Latin American and Caribbean States (CELAC) that

²The People’s Republic of China, *Policy Paper on Latin America*. November 24, 2016.

exclude the United States, and seeks to leverage regional relationships to reshape international economic and financial institutions to its advantage.³

As part of the Kremlin's aim to regain its status as a global power and prove its prowess to domestic audiences, Russia uses soft power tools in an attempt to challenge United States leadership in the Western Hemisphere and displace traditional U.S. Goodwill initiatives. Examples include the construction of an international police training facility in Nicaragua that will be used to provide regional counter-narcotics training and the funding of a vaccine production plant that will supposedly make drugs accessible and affordable throughout Central America. Additionally, Russia seeks to discredit the United States through state-owned media like RT-Español and SputnikMundo, which spread misinformation to create doubts and distrust about U.S. intentions and policy towards the region and other parts of the world. The Russians are also engaging in some disquieting behavior, such as providing battle tanks to Nicaragua, which impacts regional stability and could cause its neighbors to divert vital resources (needed to fight threat networks and address developmental challenges) to maintain parity.

As a continuing state sponsor of terrorism, Iranian involvement in the Western Hemisphere is always a matter of concern. With the easing of economic sanctions, Iran may be seeking to rebuild its relationships in the region. Tehran uses cooperative technological, economic, and diplomatic interests as the centerpiece of its regional diplomacy. Although on the surface it portrays its actions as innocuous, Iran could exploit its cultural centers to build networks, which could be leveraged to extend its influence and advance its interests.

Broadly speaking, some of this outreach is concerning, especially to those of us who care about advancing human rights and promoting regional peace and stability. Keep in mind there's no Chinese, Russian, or Iranian equivalent of a Leahy Law, no comparable conditions on security assistance, no independent domestic media that carefully scrutinizes their activities. Their arms sales aren't tied to international protocols or human rights vetting. Their loans don't come with requirements to follow strict environmental or anti-corruption standards, or even clear terms and conditions for repayment. Their unscrupulous business practices and disregard for rule of law facilitates corruption, reduces trust in governments, and poses challenges to the norms and values that have brought prosperity and security for millions of people across our hemisphere.

It's also worth noting that in recent years these actors have capitalized on the perception that the U.S. is disengaging from the region. Our partners plainly see that we are conducting fewer engagements; holding smaller and less frequent exercises; and that we have smaller U.S. military presence in regional embassies and fewer forces and platforms than ever before. When budget constraints limit our ability to engage with our regional partners, it sends a message that others can, and do, exploit.

And while we should work harder to understand the true intentions of these actors, whatever they intend, in most cases our best response is to strengthen our own security relationships, rather than focus on "countering" or "competing" with the likes of China or Russia. At times—when it supports our interests and those of our partners—we should follow avenues for cooperation. At others, we might find we need to work with our partners to address negative influence or destabilizing actions. At all times, we should focus on being the best possible partner to the region.

So it's on us to demonstrate our commitment by being an equal and principled partner; it's on us to earn, and keep, the region's trust. It's on us, because we lose relationships not as a result of any Chinese or Russian actions; we lose them, in large part, by not demonstrating the depth of our commitment to the region. Our leadership is weakened not because China or Russia offer compelling alternatives, but because it's not always clear to our network of allies and partners what's important to us. American (and Inter-American) principles are undermined not because they no longer matter, but because we and our partners don't do everything we can to protect and promote them. Mr. Chairman, it comes down to this: we have a choice. Success or failure in this region depends on us, what we stand for, and what we do, much more than it depends on anyone else.

DEFENDING OUR SOUTHERN APPROACHES (WHAT WE'RE DOING ABOUT IT)

To address many of these security challenges, we work with our network of inter-agency, regional, and non-governmental partners. I look forward to describing how our networked approach keeps our southern approaches defended, our nation safe, and our shared home secure.

³ Ibid.

Countering Threat Networks. To keep pace with the challenge of threat networks, we must do more than just stop illicit commodities, and our Southwest border must be our last—not our first—line of defense. To that end, we are working with our interagency and regional partners to pressure threat networks along multiple fronts. We aim to degrade threat network capabilities, disrupt their operations, and affect the underlying conditions that allow them to flourish.

Strengthening Interagency Partnerships. We have stood up communities of interests (COIs), meetings that bring together stakeholders from across the U.S. Government to share information and intelligence, expand understanding and awareness about networks and our activities to counter them, and predict how our efforts will affect their illicit operations. Last year, information sharing and support to tactical operations through our Central America COI—which is hosted by Joint Task Force (JTF) Bravo and includes over 700 participants from various U.S. Government agencies—helped dismantle major threat networks by targeting their leadership structure. While we’ve always supported our interagency partners, what’s changed is how we’re supporting them—and the combined effect we’re having, together.

Last year, our Countering Weapons of Mass Destruction (CWMD) COI, hosted the first of its kind regional conference on non-proliferation and WMD.

By sharing information in the Central America COI, interagency participants are better prepared to enable one another to apply pressure across threat networks, forcing them to adapt on our terms—not theirs. As we put pressure on these networks, they are forced to move their operations and change their tactics, exposing them and their vulnerabilities. As law enforcement is able to arrest individuals, the group quickly analyzes and predicts the expected reaction across the entire network, which leads to a better understanding of how members of one network interact with each other and with other networks in the region.

In 2016, the CENTAM COI supported a multinational intelligence-driven operation that resulted in the arrest of Wilter Blanco (the head of the Atlantic Cartel who reportedly plotted the assassination of the U.S. Ambassador and the Honduran President) by Costa Rican law enforcement.

Building on this COI success, we are establishing a permanent counter-threat network team inside our headquarters. In support of U.S. Government and regional partners, this team will analyze, fuse, and synchronize intelligence and operations to illuminate and affect threat networks. Through network mapping and outreach, elements of this team will also provide an amplifying capability to efforts by U.S. country teams, U.S. and partner nation law enforcement, U.S. Special Operations Command (USSOCOM) and other Combatant Commands to disrupt the flow of SIAs and the potential return of foreign terrorist fighters to the region. As part of this effort, we’re partnering with the Intelligence Community to pursue innovative approaches to integrate unclassified open source, social media, and publicly available information (PAI) to better characterize the regional security environment and facilitate increased information and intelligence exchanges with regional and interagency partners.

We also collaborate with the Department of State to encourage our partner nations to define and develop legal instruments against terrorism. Such legislation is critical to addressing radicalization and the return of battle-hardened ISIS fighters with combat experience. These individuals pose a significant threat, as they will be well-positioned to spread an extremist message and potentially execute acts of terror against our partner nations and U.S. citizens in the region. As this Committee knows, ISIS is emphasizing external attacks in response to increasing pressure in Syria and Iraq, and some of our partners have expressed concerns over the potential for ISIS-directed or inspired attacks in this part of the world. I share these concerns.

To complement these efforts, we are expanding our coordination with U.S. Northern Command (USNORTHCOM) and USSOCOM to support the Department of Homeland Security (DHS) as they target the smuggling operations of individuals who may pose terrorist risks. Last year we expanded our support to Homeland Security Investigation’s (HSI) Operation CITADEL, a multi-year, multi-agency effort to dismantle human smuggling networks and identify migrants that may represent security threats while undertaking protection screening for those who may have a credible fear of persecution. Our planning support, intelligence capabilities, and air-

lift are enhancing HSI's ability to prevent persons of interest from transiting the region, reaching our borders, and potentially gaining entry into the U.S. Homeland.

As this Committee knows, JIATF South is the gold standard of interagency cooperation. They were doing counter-threat network operations (if by a different name) long before the term existed. JIATF South supports interdiction operations that are force multipliers for evidence collection, grand jury proceedings, indictments, and extraditions, all of which lead to the eventual dismantlement of threat networks. While JIATF South's core detection and monitoring mission continues to support law enforcement efforts to stem record detected flows of cocaine and other illicit drugs, the task force is also broadening its support to interagency operations targeting global money laundering, bulk cash smuggling, and counter proliferation.

In FY16, JIATF-S operations resulted in the detention of 780 drug traffickers and the disruption of 282MT of cocaine valued at over \$5.5 billion.

Enabling partner nations. One key to addressing the illicit pathway and threat networks in the region is to help improve the capability of partner nations in the region to investigate, interdict and dismantle the networks. Enabling partner nation capacity is essential if we hope to address the permissive environment that permits these networks and pathways to operate.

In 2016, USSOUTHCOM's DOD Rewards Program enabled our Colombian, Peruvian, and Panamanian partners to bring 26 members of terrorist organizations to justice.

Cooperation with Colombia remains essential as the National Liberation Army (ELN) and criminal networks seek to move in on former Revolutionary Armed Forces of Colombia (FARC) held zones to fill the power vacuum and take over the lucrative global cocaine market. With coca cultivation and production in the Andean region approaching all-time highs, these networks could jeopardize recent Colombian security gains. To help Colombia contain this threat, we will continue to train, equip, and sustain key specialized units with Department of Defense authorities as well as via our partnership with the Department of State's Bureau of Political Military Affairs and Foreign Military Financing. We're also leveraging the U.S.- Colombia Action Plan for Regional Security (USCAP) to synchronize the delivery of counter-network capacity building efforts to confront the effects of transnational criminal networks and drug trafficking in the region. This program helps deepen the partnership between USSOUTHCOM, the State Department, the Colombian Ministry of Defense, and the six Central American and Caribbean recipient countries⁴ to improve interoperability against criminal networks.

Elsewhere, USSOUTHCOM and the Defense Threat Reduction Agency (DTRA) joined the Department of State and the Federal Bureau of Investigation in cooperating with Brazil during the Rio Olympics. This successful partnership has provided new opportunities to work with Brazil in the areas of threat networks, CWMD, cyber, space, and information sharing. In the Caribbean, we are partnering with the Caribbean Community's Implementing Agency for Crime and Security (CARICOM IMPACS) and the Regional Intelligence Fusion Center (RIFC) to facilitate greater information sharing and close our capability gaps in addressing illicit flows of drugs, people with potential ties to terrorism, and foreign fighters. Along with the State Department, we are also supporting the Caribbean Community (CARICOM) in their development of a regional counterterrorism strategy and working with key partners like Trinidad and Tobago to illuminate and degrade extremist networks with global ties to ISIS and other dangerous groups.

With the help of this Committee, our counternarcotics (CN) programs in Central America—including train and equip, infrastructure, and building partner nation capacity—play an important role in stabilizing the sub-region from the effects of threat networks. Our maritime capacity building efforts in the region have better enabled us to meet our detection and monitoring statutory obligations while ensuring the layered defense of the U.S. homeland. Central American partners are increasingly capable, playing a significant role in almost a quarter of JIATF South's maritime interdiction operations and conducting operations on their own, and with one another.

⁴The six USCAP recipient countries are Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, and Panama. To date, the USCAP program has trained 4,008 partner nation personnel (3,095 military and 912 public security forces).



A pair of UH-60 Blackhawk helicopters assigned to Joint Task Force-Bravo's 1st Battalion 228th Aviation Regiment provide aviation support during Operation Serpiente, a joint air assault training mission led by members of the U.S. 7th Special Forces Group and Naval Special Warfare, Dec. 2, 2016 at Ilopango Airport, El Salvador. (Photo by Master Sgt. Kerri Spero)

We've also helped enhance their land interdiction capabilities through training, essential infrastructure, and mobility and communication equipment. As a result, we've seen significant improvements across Central American security and military forces. Guatemala's Interagency Task Forces (IATFs) combine the best of military and law enforcement authorities and capabilities, helping control Guatemala's borders and stopping the illegal flow of people, drugs, and other threat network activity. Honduras has also made a concerted effort to dismantle threat networks, extradite suspected drug traffickers to the U.S., and eliminate corruption. Panama is coming off a record year disrupting threat network operations. As we seek to intensify combined operations, Panamanian efforts to counter a wide spectrum of threats showcase them as an increasingly capable partner and force multiplier at a critical geographic chokepoint. In the coming year, we will expand our support to Panama and Costa Rica to deter threat networks from moving into the southern portion of Central America's isthmus.

Empowering public-private collaboration. Since threat networks are enabled by exploiting socio-economic vulnerabilities in the region, we seek to integrate the efforts and expertise of the private sector, NGOs, and civil society to mitigate those vulnerabilities and help create communities less vulnerable to criminal exploitation. We routinely conduct community support activities in Central America, South America, and the Caribbean as part of our humanitarian assistance program. Rather than the U.S. Government repairing schools, wells, and improving local hygiene and sanitation on its own, we instead work alongside our partner nations and NGOs, business, and academic partners to expand the reach and effect of these programs. This also supports our partner nations in acquiring these skills, which they can use to demonstrate state presence and reduce the influence of criminal networks.

Preparing for and Responding to Disasters and Crises. Given the inevitability of natural disasters in Latin America, we work with our partners to improve our collective preparedness and response capabilities. Within our headquarters, we are focused on institutionalizing our own capabilities to provide agile and effective support to our interagency and regional partners. Within the region, we are strengthening our linkages to the very network of regional militaries, civilian agencies, and experts that we will cooperate with in the event of a crisis.

During the early stages of last year's Zika outbreak, the U.S. Naval Medical Research Unit 6 (NAMRU-6) became the only U.S. Bio Safety Level III laboratory capable of testing for the Zika virus in South America, helping the Centers for Disease Control, Health and Human Services, and the Pan American Health Organization quickly track the progress of the virus.

Strengthening Interagency Partnerships. That cooperation starts with trust; it is the lynchpin of our ability to rapidly respond and work seamlessly with our partners. We build this trust during routine exercises and deepen it during crisis response operations. While most of our exercises involve multiple partner nations, INTEGRATED ADVANCE is dedicated to improving our integration with DHS, the Departments of State and Health and Human Services, and the State of Florida in the event of a Caribbean mass migration. This year's exercise stressed our ability

to conduct migrant operations at Naval Station Guantanamo Bay and support inter-agency partners in responding to migrant landings in the United States.

Last year, we deepened our already strong partnership with the U.S. Agency for International Development's Office of Foreign Disaster Assistance (USAID/OFDA). In April, we immediately responded to a request from USAID/OFDA to support the government of Ecuador in the aftermath of a devastating 7.8 earthquake. We deployed an airfield assessment team and a mobile air traffic control tower to increase the flow of humanitarian aid into Manta, one of the hardest-hit areas. In October, USSOUTHCOM stood up and rapidly deployed Joint Task Force (JTF) Matthew to support USAID/OFDA's Hurricane Matthew response efforts in Haiti.

By leveraging forward-deployed forces already in the region, JTF Matthew provided a tailored, rapid response that was critical during the early stages of relief operations. Utilizing our presence at Soto Cano Air Base in Honduras and the U.S. Naval Station Guantanamo Bay, we moved elements from JTF-Bravo and a Special Purpose Marine Air-Ground Task Force (SPMAGTF) to Haiti within 24 hours. JTF-Bravo and the SPMAGTF team—which had previously been conducting security cooperation activities in Central America—provided unique U.S. military capabilities that significantly aided the delivery of humanitarian supplies and alleviated the suffering of hundreds of thousands of Haitians.

Additionally, the immediate deployment of elements from U.S. Transportation Command's (USTRANSCOM) Joint Enabling Capabilities Command (JECC) was absolutely critical to our effective response. U.S.-based forces deployed aboard the USS MESA VERDE and USS IWO JIMA also provided robust relief from the sea. During the relief mission, we also coordinated with our U.S. Coast Guard (USCG) partners to deter potential migration in the aftermath of the hurricane and supported the Department of State's outreach to regional partners seeking to contribute to the response effort.



U.S. service members from Joint Task Force Matthew offload bags of food from the World Food Programme onto a pallet in preparation for delivery to the areas affected by Hurricane Matthew in Port-au-Prince, Haiti, Oct. 12, 2016. By the end of their mission, Joint Task Force Matthew delivered 275 metric tons of supplies and conducted 98 missions in support of USAID/OFDA and the Government of Haiti. (U.S. Marine Corps photo by Sgt. Adwin Esters)

Finally, one of the most important response tools lies in our ability to predict crises and, if possible, avert their onset or mitigate their impact. We are analyzing early-warning signs of latent risks and underlying vulnerabilities to better identify potential instability or crises. This understanding will help us plan and execute activities that align with USAID's Disaster Risk Reduction Strategy and enhance our longstanding partnership to build local, national, and regional response capabilities. We have also partnered with the Pacific Disaster Center to utilize their risk management tool to simplify, integrate, and expedite the flow of information before, during, and after disaster strikes. Our assessments, which we conduct with our partner nations' FEMA-equivalents, civilian ministries, NGOs, and universities, provide a comprehensive understanding of partner nation disaster preparedness capabilities.

Enabling Partner Nations. Exercises like PANAMAX, FUSED RESPONSE, TRADEWINDS, and FUERZAS ALIADAS HUMANITARIAS test multinational responses to an attack on the Panama Canal, the trafficking of WMD, a terrorist act, and natural disasters. Multinational exercises are the most important way we train with our partner nations and Allied military and security forces, helping improve interoperability, institutionalize preparedness and response measures, and building confidence in the United States as a reliable partner. These relationships and trust can help reduce the scope and duration of a crisis and increase the likelihood our partners can respond to crises on their own.

2,500 personnel from 20 nations participated in PANAMAX 2016. Brazil, Chile, Colombia, and Peru played major leadership roles in the multinational and functional commands.

Along with DTRA, we are working with a diverse group of nations—Chile, Colombia, Guatemala, Honduras, Panama, Peru, Dominican Republic, and Brazil—to develop and enable WMD crisis response capabilities for both military and civilian first responders. This year, we look forward to deepening our collaboration with Chile and Argentina in this important effort. These partnerships demonstrate our enduring resolve and commitment to our partners in the face of the worst of potential disasters. We also include Proliferation Security Initiative (PSI) workshops in exercises like PANAMAX and UNITAS to help our partners understand and respond to the growing challenge posed by proliferation of WMD, their delivery systems, and related materials.

Regionally, our health and medical readiness engagements build partner nation capacity—including infrastructure, equipment, and skilled personnel—to prevent, detect, and respond to disease outbreaks. At the early stages of the Zika outbreak, the U.S. Naval Medical Research Unit 6 (NAMRU-6), based in Peru, established research sites in partnership with Colombia, Guatemala, Honduras, Paraguay, Bolivia, Venezuela, and Peru to actively support partner nation Zika response efforts. We also implemented a disease surveillance tool that strengthens Honduras' capabilities to address global health threats, and are working with Guatemala to do the same this year.



*The U.S. Naval Medical Research Unit 6, located in Lima, Peru, prevents, detects and responds to disease outbreaks, in particular, mosquito-borne illness to include Zika, dengue fever and chikungunya.
(Courtesy Photo)*

Many of our capacity-building efforts would not be possible without the dedication of our Active Duty, Guard, and Reserve forces, especially in our Components and the National Guard State Partnership Program (SPP). Last year, the partnership between the Florida National Guard and Barbados strengthened the Barbadian government's ability to respond to natural disasters with a focus on critical infrastructure and interagency collaboration. Massachusetts' partnership with Paraguay allows governmental agencies to access outlying communities that are often far from first responders. We appreciate the support Congress provides to SPP, which enables us to leverage the strength of our National Guard.

USSOUTHCOM is proud of the newest SPP partnership between Argentina and Georgia's National Guard, our 23rd State Partnership.

Empowering public-private collaboration. In addition to collaborating with our interagency and regional partners, we also seek to build a culture of crisis management and trust across our network of non-governmental partners. During the lead-up to the Rio Olympics, we partnered with international cruise lines and law enforcement agencies to share information about potential threats and ensure security protocols were in place. We are beginning work with the College of William & Mary's Violent International Political Conflict and Terrorism (VIPCAT) lab to help predict violence in partner nations, assess deterrence option effectiveness, and forecast tactical successes. We also regularly join chaplains in our partner nation militaries to engage religious leaders in the region about their role in disaster recovery and potential opportunities to work together when crisis hits.

Led by U.S. Army South and U.S. Air Forces Southern/12th Air Force, our Beyond The Horizon and New Horizons humanitarian and civic assistance exercises incorporated more than 2,000 U.S., partner nation, and public/private participants from seven nations. This network treated nearly 30,000 patients, conducted 242 surgeries, and constructed schools and clinics in remote areas. Similarly, our training missions like JTF-Bravo's medical engagements and Continuing Promise bring together U.S. military personnel, partner nation forces and civilian volunteers to treat tens of thousands of the region's citizens. We are also building basic infrastructure like schools, medical clinics, and emergency operations centers and warehouses for relief supplies. These activities provide training opportunities for our own personnel, while also improving the ability of our partners to provide essential services to their citizens and meet their humanitarian needs during a disaster or emergency response, enhancing the legitimacy of regional governments.



USSOUTHCOM coordinated the donation of 600 pairs of shoes from the Shuazz Fund during the 2016 NEW HORIZONS exercise. (Photo by Ms. Tatiana Escudero, USSOUTHCOM)

Building relationships to meet global challenges. Whether we're remaining vigilant of the activities of Russia, China, and Iran, fostering greater regional and multinational cooperation against shared challenges, or reinforcing the rules-based international order, security partnerships are the foundation of everything we do. These partnerships—based on shared values, mutual respect, and principled U.S. and regional leadership—ensure our hemisphere remains a beacon of peace and prosperity.

Last year we integrated 18 different U.S. and regional NGO, private sector, and academic organizations into various exercises and humanitarian missions. In total, these groups provided \$2.5 million in gifts-in-kind donations of services and goods like medicine and food.

Strengthening interagency partnerships. Over the past year we have expanded our support to our interagency partners and fellow Combatant Commands to address the global challenges of Russia, China, and Iran. We work with the Intelligence Community and our diplomatic colleagues to build a better shared understanding of what they intend by their actions and how their activities in Latin America advance their respective global strategies. We routinely share information with U.S. European Command (USEUCOM), U.S. Pacific Command (USPACOM), and USCENCOM on issues of mutual interest and concern. We also contribute to Department of Defense-wide deliberations on our strategic approach to the Russian problem set, and to the USPACOM-led China Strategic Initiative (CSI) to inform whole-of-government efforts. In the coming year, USSOUTHCOM and USPACOM will host a meeting with our Allies and partners in Southeast Asia and South America to share information on Asia-Pacific security and transregional threat networks.

Enabling partner nations. While our capacity building efforts help partner nations address immediate threats, over time we seek to encourage a network of capable partners who contribute to international security and advance shared principles like good governance and human rights. Chile is a regular participant in USPACOM's annual RIMPAC exercise and will assume a greater exercise leadership role in the future. Colombia is leading an effort to integrate a block of Pacific Alliance nations into the Western Pacific Naval Symposium, and is expanding defense cooperation

with South Korea, Japan, and potentially Vietnam. Colombia has entered into a partnership agreement with NATO, and we are working closely together on deepening this cooperation. Brazil is deepening its maritime security cooperation with West Africa, focusing on countering illicit trade between the South American and African continents. Many nations in the hemisphere have joined many other regional leaders in supporting UN peacekeeping operations around the world, including the UN mission in Haiti. Through the Global Peace Operations Initiative (GPOI), we have helped sustain critical partner capabilities for Guatemala and Uruguay peacekeepers in the Democratic Republic of Congo and Haiti; helped El Salvador deploy helicopters to the UN mission in Mali; and supported Peruvian airfield engineers to the Central African Republic.

In Colombia, the 52-year conflict has also left the country among the world's most heavily contaminated by landmines, improvised explosive devices (IED), and unexploded ordnance (UXO), which affect 31 of Colombia's 32 departments. As part of an interagency effort, USSOUTHCOM's Humanitarian Mine Action program provides 'train-the-trainer' courses to instructors at the Colombian military's International Demining Training Center (CIDES), helping meet the Colombian government's goal by training 41 Army Platoons and 5 Marine Platoons. In this effort we are joined by the Department of State and the twenty other countries and European Union that came together as part of the Global Demining Initiative for Colombia. Humanitarian demining will spare thousands of additional victims, facilitate land restitution and resettlement of internally displaced persons, and help lay a foundation for rural economic opportunity—all essential steps for this valued partner to consolidate lasting peace. As they work through this process, Colombia and the Colombian people are counting on our steadfast commitment, and I thank the Congress for its continued support to this important bilateral partnership.



A Colombian demining team conducting demining drills.
(U.S. Army South photo)

We also promote the continued professionalization of regional defense and security institutions. Transparent, accountable militaries and security forces help reinforce good governance by being responsive to civil authority and respectful of the rule of law. They are also better able to resist unwelcome coercive pressure by state (and non-state) actors. We have identified four key military imperatives to enhance professionalism in militaries across the region: respect for human rights; the institutionalization of a culture of enhanced 'jointness';⁵ the development of a professional non-commissioned officer (NCO) corps; and the pragmatic integration of gender perspectives into military operations. We consider these "imperatives," as these interlocking, interdependent, and mutually supporting characteristics are the hallmarks of modern security forces, the foundation for successful coalition operations, and the bedrock of legitimacy with civilian populations.

We advance these four areas in several ways. Now in its 20th year, our landmark Human Rights Initiative brings together representatives of military, security forces, civilian government, and civil society to work together to develop and strengthen human rights programs within the region's armed forces. We continue to see significant progress in this area; Guatemala recently announced its military will begin to withdraw from civilian policing duties, an important step heralded by many human rights NGOs. Educational institutions like the Inter-American Defense College (IADC), the William J. Perry Center for Hemispheric Defense Studies, and the Western Hemisphere Institute for Security Cooperation (WHINSEC) help our part-

⁵ As part of enhanced 'jointness' we encourage our partners to embrace inter-service, inter-agency, and inter-organizational mindsets.

ners institutionalize these concepts and build their own network of civilian and military defense professionals. In Belize, Trinidad and Tobago, Guatemala, Chile, and Colombia, our Defense Institution Building and Defense Institution Reform Initiative programs promote the development of effective institutions that embrace inter-agency, joint, and public-private approaches.

Since its creation, the IADC has graduated 2,732 students from 26 nations. Alumni from the region include 3 presidents, 31 Ministers of State, 11 senior level government officials, and 775 generals and admirals.

Through our NCO development program, we supported the development of a Senior NCO Course in the Dominican Republic; the first designated Sergeant Major of the Army for Brazil and Chile; and joint senior enlisted meetings across multiple countries. We have also brought on a dedicated combat-proven Gender Integration Advisor to promote the inclusion of diverse perspectives in partner nation military operations. As part of this effort, we will host our second Women in the Military Conference in Guatemala, which will focus on effectively integrating fully trained and qualified military women into operational and peacekeeping units.

Empowering public-private collaboration. We routinely engage with U.S. and regional academic centers and the private sector to discuss the implications of Chinese, Russian, and Iranian engagement in the region. This network of experts, economists, and business representatives can also help us, and our partners in the region, better understand potentially exploitative behavior by state and non-state actors alike. We also hold regular dialogues with members of the human rights community, including routine outreach to influential (and often critical) NGOs. This frank exchange of perspectives helps us better understand and address NGO concerns, and has also led to improved NGO awareness and support of USSOUTHCOM's mission and human rights efforts.

Our no-fail mission: detention operations. Although most of our efforts are focused on engaging with our partners in Latin America, we also continue the safe, humane, legal, and transparent care and custody of the remaining detainees at JTF-GTMO. As many members of Congress have witnessed firsthand, the medical and guard force at JTF-GTMO are not merely caring for these detainees; they are providing the best of care. Our troops in close contact with detainees face periodic assaults and threats to them and their families, yet they remain steadfast in their principled care and custody role. Every day they demonstrate the same discipline, professionalism, and integrity as they confront the same dangerous adversaries as our men and women fighting in Afghanistan, Iraq, and elsewhere around the world. I know this Committee, our Secretary of Defense, and our President applaud their commitment and share my pride in these young troops serving in this enormously sensitive and demanding mission, and we thank you for your continued support.



An estimated 580 troops live in containerized housing units manufactured in 2006 and 2008. All units have exceeded their economic life of five to seven years. Common problems with the units are roof leaks, plumbing failures and mold growth. (Courtesy Photo)

INITIATIVES: HARNESSING INNOVATION & TAKING CARE OF OUR PEOPLE

To support our efforts, we've dedicated ourselves to becoming a platform for experimentation and innovation. We actively collaborate with our partner nations and the Services, and the defense technology enterprise, including the Office of the Assistant Secretary of Defense for Research and Engineering and the Defense Innovation Unit Experimental (DIUx), private industry, and academia to test a range of technologies in the region. These collaborations have yielded some promising and ongoing experimentation with unmanned platforms, advanced sensor and communications systems, and small spacecraft technologies.

In addition to embracing a culture of innovation, we're implementing several initiatives to improve how we support our team members. We deeply value the investment made by our partners in strengthening hemispheric cooperation by placing foreign liaison officers in our headquarters and subordinate staffs. We do not take those partnerships for granted, and are doing everything we can to strengthen and deepen them. We now include our partner nation liaison officers in many of our operations and intelligence briefings. Along those same lines, we are also expanding the use of communication platforms in our multinational exercises to improve real-time information sharing with participating partner nations and Allies.

At USSOUTHCOM our people are more than just our most important asset; our people are largely our only assets and they are absolutely essential to our ability to do our mission. Previous reductions have had a disproportionate impact on our ability to engage with the region and within the U.S. Government. As an example, without intervention or staff realignment, we will soon have no liaisons placed with several key interagency partners—something I'm committed to fixing. So while we are not seeking to expand our headquarters staff, we are seeking to strengthen it. In an effort to improve interagency integration, we are committed to finding the right people from within our headquarters to serve as liaison officers across different agencies in the U.S. Government and in regional information-sharing centers. Not only does this improve awareness and collaboration, but also realigns our headquarters staff to maximize effectiveness and efficiency. We're also working to develop an agile workforce by equipping our team with skillsets and technologies needed to address complex challenges.

REQUIREMENTS

As we continue adapting to the evolving security environment and supporting efforts to enhance the defense-in-depth of our Southwest border, I will work with Congress to secure our southern approaches and enable our regional partners to address our common challenges. We appreciate the greater flexibility provided in the FY17 National Defense Authorization Act, as well as this Committee's efforts to codify the counterdrug authorities that are so critical to our efforts in the Western Hemisphere. We are concerned, however about some potential negative impacts these changes may have on our ability to equip our partner nations. We look forward to working with the Committee to ensure we minimize disruption to these effective programs that help build a layered defense of our homeland, and to discussing the best ways to support an effective counter-threat network approach.

As this Committee knows, USSOUTHCOM has historically received minimal allocated and assigned forces. Until capabilities like intelligence, surveillance, and reconnaissance (ISR), maritime support platforms; and analysis of open source/publicly available information (PAI) no longer outpace supply, commercial alternatives will remain the only immediately feasible options available to USSOUTHCOM.

Mr. Chairman, I'd like to provide a more detailed overview of our main requirements.

Countering threat networks. A critical element of dismantling threat networks involves affecting their financial and transportation sub-networks. Cocaine remains a source of enormous profit for many networks operating in the region, but we face significant limitations in stopping the deluge of drugs that reach our shores and streets. As this Committee knows, USSOUTHCOM has traditionally faced significant resource constraints. For the past several years, our Intelligence, Surveillance and Reconnaissance (ISR) and other force requirements have not been met due to competing global priorities. We have felt these impacts most acutely in our Detection and Monitoring (D&M) mission, where we have long received less than a quarter of our maritime and airborne requirements. The consequence is well-known to this Committee: although JIATF South detected a record amount of cocaine moving in the maritime domain last year, they were unable to target 75 percent of validated events due to a shortage of forces. That equates to hundreds of tons of additional cocaine on our streets, and nodes in that network that continue to operate rather than face disruption and prosecution. To that end, we greatly appreciate the additional funding from the Congress that allowed us to work with the U.S. Air Force to purchase contract aircraft to off-set the loss of Maritime Patrol Aircraft (MPA).

Our detection and monitoring challenges are due in part to the low number of U.S. Navy platforms available to support JIATF South's mission. Since 2007, Navy long and medium range ship allocation has steadily decreased. The last time we were above 1.0 was 2014—and not by much. Since 2015, when the Navy's frigates were decommissioned, we have averaged a Navy presence of less than .50. Under the Commandant's superb leadership, our Coast Guard partners are doing everything they can, punching well above their weight by helping us partially fulfill a

portion of our Title 10 detection and monitoring obligations. The USCG, however, cannot be the indefinite bill-payer for our statutory mission. This Committee is well aware of the maritime platform gaps we have experienced for the past few years. In the near term, we are exploring non-traditional alternatives to fill these requirements until more Littoral Combat Ships are in the fleet and available for assignment to USSOUTHCOM.



A biometrics machine, similar to this one used in a board, search and seizure exercise aboard the USS Jason Dunham, is used to confirm identity. This technology catches people using fraudulent passports to travel and exposes criminal records. (U.S. Navy photo by Mass Communication Specialist 2nd Class Deven B. King/Released)

To effectively counter threat networks, we need two types of tools: interoperable, multi-domain, tools that help us understand the environment, capture weak signals, and anticipate change (all-source intelligence capabilities and analysis); and tools that help us conduct sustained engagement and build capacity (Civil Affairs, MISO, medical teams, SOF capabilities, and SCO personnel). We also require biometrics equipment to identify and track individuals who may represent security threats; biometrics analytical capability to process, exploit and disseminate biometric collected data; and visualization technology to better coordinate and integrate operations with our partners. With these capabilities, we can do more than just chase after shifting trafficking routes or disrupt illicit commodities—we can have a more lasting and transformative effect countering the networks doing those activities. We also need staying power on land and at sea. A sustained Special Purpose Marine Air Ground Task Force (SPMAGTF) deployment and maritime forces would generate endurance and increase reach and impact in all of our counter-network operations. Given its dual use that supports both rapid response and countering threat networks, the SPMAGTF is extremely valuable, and we greatly appreciate Congressional support to the U.S. Marine Corps to resource this multi-mission force.

As the Congress takes steps to address border security, I urge Members not to forget about the Caribbean. Like our USNORTHCOM partners, we are concerned by the vulnerability of this “Third Border”—the Caribbean, where documented cocaine flow is the highest in 10 years. Improved security along the U.S.-Mexico border will likely increase security challenges in the Caribbean. Our island nation partners are ill-equipped to deal with an influx of threat networks and our force limitations hinder our ability to fully secure the Caribbean from illicit flows of SIAs, weapons, and narcotics.

On a related note, our current long-distance radar solution in the Caribbean and Central America—the Relocatable Over-The-Horizon Radar (ROTHR) radar system—faces operational challenges. I am becoming very concerned over the construction of several hundred wind turbines as part of wind farms in Virginia and Texas. These farms could, and likely will, adversely impact our radar systems that provide a critical detection and monitoring capability to track illicit aircraft. This interference will degrade our capability to use these same systems to detect and track threat network operations in the maritime domain. We are working within the Department of Defense and with developers and stakeholders to develop potential mitigation solutions and exploring alternative technical solutions. Current law, however, dictates the Department assume the operational risk as well as the cost burden for testing, modeling, and risk mitigation for these types of projects—a potentially unlimited drain on resources.

I would also like to go on record to express my unqualified support for resourcing our U.S. law enforcement, diplomatic, and development partners. Effectively secur-

ing our southern approaches requires a true team effort. The Department of Defense is just one contributor to the counter-network fight in the Caribbean and Americas; DHS, the Department of Justice, the Department of State, the USAID, and members of our Intelligence Community are key for any lasting success. Degrading threat networks requires effective partner nation law enforcement, judicial, and prison systems. A balanced package that includes assistance to strengthen governance, economic development, intelligence, and security is needed, as well as comprehensive efforts to stem our country's insatiable demand for illicit goods.

Preparing to and responding to disasters and crises. Unfortunately, previous budget constraints on the Department of Defense's Combatant Commanders Exercise and Engagement (CE2) Program have forced us to reduce or significantly de-scope our exercise program. This impacts the readiness of our force and limits our ability to build and strengthen relationships. It's also a missed opportunity to project U.S. presence, which can affect the calculations of threat networks and potential competitors alike.

When it comes to presence, the Naval Station at Guantanamo Bay plays a major role in the interception, screening, and repatriation of migrants as well as a place of protection for those who have a credible fear of persecution. It is also a critical distribution and staging area for humanitarian assistance and disaster relief operations in the Caribbean, as well as logistical support for forces conducting our detection and monitoring mission. Similarly, Soto Cano Air Base—which houses JTF-Bravo, Special Operations Forces, and the SPMAGTF headquarters—provides our only forward presence in Central America and allows us to efficiently support willing regional partners, provide continuous, adaptive support to counter-network operations, and respond immediately to natural disasters. Both these assets are critical to USSOUTHCOM, and we thank the Committee for its support to their continued operations and for the additional MILCON to address migrant operations at Guantanamo.

Given the minimal forces traditionally allocated to USSOUTHCOM, it would be impossible for us to respond effectively to a crisis absent the depth and breadth of expertise available via U.S. Transportation Command's Joint Enabling Capabilities Command (JECC). I would like to go on record expressing my unqualified support for this capability. Any move to disestablish and redistribute those resources back to individual Combatant Commands could deprive USSOUTHCOM of this invaluable resource.

As this Committee knows, the U.S. military's unique capabilities, while exceptional, play a small role of short duration in any disaster response. We appreciate the support of the Congress to USAID, whose OFDA office provides our nation's frontline responders. These partners are the appropriate lead for addressing humanitarian crises and long-term development challenges that affect regional stability.

Building relationships to meet global challenges. Programs like Foreign Military Financing (FMF), Foreign Military Sales (FMS), and International Military Education and Training (IMET) will remain foundational tools for building partner capacity, sustaining trust, and improving interoperability. Compared with the U.S. defense industry, Russian and Chinese arms are less reliable, significantly less capable, and come with almost non-existent maintenance or logistical support. They beat us handily, however, when it comes to faster and more efficient procurement.

IMET is a critical program in this region that helps build a network of former students who understand our approach, share our values, and are willing and eager to work with us. Every seat in one of our courses is an opportunity to build partnerships with a new generation of leaders. The IMET experience also demonstrates that what we build lasts and that we are committed to the long-term investment of developing strong regional institutions.

Detention Operations. Troop housing for our JTF-Guantanamo forces remains a priority concern. The facilities still fail to meet standards, and routinely suffer leaks and structural damage with every passing storm. While we escaped the brunt of Hurricane Matthew last year, a direct hit (even by a Category 2 storm) will have significant consequences. Our men and women deserve better.

CONCLUSION

Mr. Chairman, some may ask if we can afford to remain engaged in Latin America, especially given the scope of challenges we face across the world. I believe, quite frankly, that we can't afford not to. To echo Secretary Mattis' statements during his confirmation hearing, "islands of stability in our hemisphere are under attack by non-state actors and nations that mistakenly see their security in the insecurity of

others.”⁶ As I said earlier, when it comes to this region, we have a choice. With the support of the Members of this Committee, I am confident we will choose wisely. Thank you for your continued support to the men and women of USSOUTHCOM as they work to defend our southern approaches. I stand ready to answer your questions and look forward to our discussion.

Chairman MCCAIN. Thank you very much, Admiral.

General Robinson, North Korea tested another medium-range ballistic missile this week. Kim Jong-un, known to some as the crazy, fat kid, has stated his intention to test an ICBM. How confident are you that you can intercept a North Korean ICBM targeting the Homeland?

General ROBINSON. Senator McCain, I am extremely confident of our capability to defend the United States of America and be able to intercept an ICBM should it reach our Homeland. Right now, as you know, he cannot reach our Homeland, but I am confident, should he do that.

Chairman MCCAIN. Admiral Tidd, your predecessor once testified before the Homeland Security Committee that he watches drug trafficking take place, particularly in the Caribbean, but does not have the equipment and funding necessary to intercept some of that drug trafficking. What is your assessment of your ability to intercept and stop drug trafficking that you can see but do not have the capability to address?

Admiral TIDD. Senator, we continue to have those shortfalls. We continue to be able to see a significant amount of traffic heading towards the Central American peninsula. Unfortunately, we only have the resources to be able to intercept about 25 percent.

Chairman MCCAIN. Would you supply for the record what you need in order to be able to intercept 100 percent?

Admiral TIDD. Simply put, more ships, more aircraft.

Chairman MCCAIN. Again, would you be a little more specific?

Admiral TIDD. Yes, sir. For the record, we will provide the exact calculations.

[The information referred to follows:]

Admiral TIDD. [Deleted.]

Chairman MCCAIN. I think we all know that there is an epidemic of fatalities due to some of these drugs being used by more and more Americans such as oxycontin, et cetera. So I think it is even more important now for us to have the ability to intercept these drug shipments.

Are you seeing an increase or decrease or the same?

Admiral TIDD. Senator, we are seeing the volume continuing to go up. We are seeing some significant improvement on the part of some of our partner nations in their ability to be able to conduct intercepts. But we still watch far more go by than we can actually act on.

Chairman MCCAIN. The volume of what drugs have you seen?

Admiral TIDD. We are focusing on cocaine. That is what we principally see because it departs the SOUTHCOM region and heads north, but we are also aware that these threat networks that I spoke of previously are also actively engaged in the movement of

⁶James N. Mattis, Nomination Hearing Statement before the Senate Armed Services Committee

precursor chemicals that produce the other drugs that you mentioned.

Chairman MCCAIN. In the NDAA, we called for greater cooperation with our military assets with our Border Patrol and other civilian agencies of government. Have we seen any progress in that area, General Robinson?

General ROBINSON. Sir, I would say we actually have. In fact, last summer when I went down on the southwest border, I saw Marine Corps ground sensor platoons providing information to Border Patrol folks. I saw UASs on the border.

Chairman MCCAIN. Drones?

General ROBINSON. Drones on the border providing intelligence capability, and I watched Army reconnaissance units—

Chairman MCCAIN. Are you satisfied with the level of the use and cooperative effort, understanding we have posse comitatus and we do not put our military in direct contact, but we are utilizing the assets of the military as well as we could?

General ROBINSON. Sir, we are looking at ways, how can we continue to maximize our capability and capacity. I am working very closely with Army North Commander, Jeff Buchanan, specifically with Fort Huachuca and the drone capability and capacity there.

Chairman MCCAIN. Finally—and both of you may answer—if we continue sequestration, what does that do to your ability to carry out these responsibilities? I am specifically speaking about this flood of Mexican manufactured heroin, opioids, and others that are creating havoc in some parts of our society. Whichever one. Admiral Tidd?

Admiral TIDD. In our case, anything that restricts the ability of the services to provide forces—

Chairman MCCAIN. Yes, but I am talking about sequestration specifically.

Admiral TIDD. Sequestration will further limit the ability of the services to provide any resources to us.

Chairman MCCAIN. General?

General ROBINSON. Sir, I totally work closely with the inter-agency, and so anything that takes away from—

Chairman MCCAIN. I am talking about sequestration specifically.

General ROBINSON. Yes, sir.

Chairman MCCAIN. What are the effects of it on your ability to carry out your mission?

General ROBINSON. Sir, the President nominated me and you confirmed me to defend the Homeland. If I looked at what the United States Air Force talks about in their ability to provide pilot capability, trained, ready pilots to defend the United States of America and in a year or so, they will be down 1,000 pilots, will I be able to have the aircraft availability that I need to.

If I look at ballistic missile defense and our ability to look at long-range discriminating radar and the capabilities as we move forward, I get concerned that that will have an effect on that.

Those would be two things that I would say to you specifically.

Chairman MCCAIN. Thank you.

Senator Reed?

Senator REED. Well, thank you very much, Mr. Chairman.

Thank you, Admiral Tidd and General Robinson, for your service. Please thank the men and women who every day support you and support us.

Your commands depend significantly on other federal agencies. You both brought up the issue of drugs infiltration to the United States. That involves the Treasury Department in terms of going after the financial backers that are involved. Obviously, Homeland Security, the Coast Guard. Those are the ships I think you are talking about, Admiral, in terms of the more ships you need. They are not Navy ships. They are Coast Guard ships and aircraft.

We have to reduce the demand. That means health care in the United States so that someone who has a problem does not go to the street and get drugs. They go to a health clinic and get rehabilitation, one hopes.

So the point I would ask both Admiral Tidd and General Robinson is just the essential need to adequately fund and resources for other agencies that you work with. Is that essential to your mission? That is, even if we gave you everything you asked for, if you did not have those other components, you could not accomplish your mission.

Admiral TIDD. Senator, that is correct. Particularly in the SOUTHCOM region, it is a team effort, and that team requires significant contributions to be made by the State Department, by the intelligence community, by our federal law enforcement agencies. The Department of Homeland Security is probably our staunchest ally in the work that we do. As I point out frequently, because of the commitment of Navy ships to other regions around the world, my Navy in the SOUTHCOM region all has white hulls and orange stripes. We could not do our job without the U.S. Coast Guard.

Senator REED. Thank you.

General Robinson, your comments?

General ROBINSON. Yes, sir. If you go back to Admiral Tidd's conversation about the networks and understanding about the commodity on the network, I want to understand what the commodity is on the network because everything I do to illuminate it, the disruption part of it comes to other lead federal agencies, whether it is DHS or CBP or whomever, and so any cuts that any of those folks take does not allow that disruption and end game of what happens to the information that I provide to them. So it is incredibly important as a team that we bring this together.

Senator REED. Thank you very much.

Admiral Tidd, one of the interesting things in your testimony and in our discussions is the presence of China and Russia. It is interesting that Russia has built an international police training facility in Nicaragua so that they are actively training Nicaraguans. That is a surprise to me because that used to be sort of a no-go zone. The only trainers were the United States.

But the point is that it comes down to matching and exceeding that with our IMET program, which is a State Department program. Is that a fair judgment?

Admiral TIDD. Senator, programs like IMET that you mentioned are critical to our ability to build the partnerships with the countries throughout the region to ensure that they have the trained individuals. It also creates partners who have a profound under-

standing of the United States because they come and they spend time in our schools. It pays enormous dividends. It is an investment often that does not pay off for 10 or 20 or sometimes 30 years, but it is an incredible investment in future relationships for our countries.

We do watch closely what Russia and China and Iran are up to. They are countries that are countries of global concern, and it is important that we pay attention to what they do here in this theater.

Senator REED. Just a final question, Admiral Tidd, if I could. Venezuela is under huge pressure because of economics, politics, everything. Can you give us sort of a sense of the outlook?

Admiral TIDD. Senator, the entire region is watching closely what happens in Venezuela. As you are well aware, when I mention the word "Venezuela," tomorrow in the newspapers of Caracas will be stories that USSOUTHCOM is engaged in operations against Venezuela. Nothing could be further from the truth, but the reality is that the enormous economic instability that is taking place in Venezuela affects the entire region. The OAS is watching that very closely and taking very, I think, important action.

Senator REED. Just quickly. Are there Chinese, Russian interests in Venezuela? Would they take advantage of that type of disruption?

Admiral TIDD. Both countries have significant economic involvement in Venezuela, and it would be difficult to imagine that they would not look to take advantage of further instability in that country.

Senator REED. Thank you very much, Mr. Chairman.

Chairman MCCAIN. Senator Inhofe?

Senator INHOFE. Thank you, Mr. Chairman.

General Robinson, first of all, I am sure that you developed your horse skills during your tenure as the wing commander at Tinker Air Force Base. It has obviously come in handy.

As I mentioned to you when you were in my office, I wanted to lay the groundwork for a question that I think is significant. Before this committee, General David Mann had said, and this is his quote. He said that there are nearly 30 countries that possess ballistic missile capability. Together these countries have approximately 50 different variants of ballistic missiles. Additionally, there are currently 13 new intermediate-range and 8 intercontinental ballistic missile variants under development.

Now, in 2009, the administration cut the missile defense budget by \$1.4 billion, and then ultimately terminated the system that had been set up in both the Czech Republic and Poland for a ground-based interceptor. They terminated the multiple-kill vehicle and decreased the number of ground-based interceptors from 44 to 30.

Now, you testified that the MDA [Missile Defense Agency] is really doing four things right now. One would be to increase the interceptors back to 44 from 30; secondly, upgrading the ground system hardware and software; number three, continuing development efforts on the re-designed kill vehicle; and number four, to deploy the long-range radar.

Now, my question would be, do you think that these actions are sufficient to overcome the problems that you and I talked about

and that you mentioned in your opening statement, if you do these things like additional improved sensors, additional improved ground-based interceptors? What else needs to be done, or is this enough?

General ROBINSON. Well, sir, first of all, Happy Quail Breakfast Day. I apologize for not being there.

Senator INHOFE. It is our 55th consecutive year I might add.

General ROBINSON. Yes, sir, I know that, and it is a wonderful event.

I believe the MDA strategy as they have laid out, improving the sensors for better discrimination, improving the reliability of the kill vehicle, and then looking at the number of ground-based interceptors is exactly the strategy that we should go based on what we see today.

Senator INHOFE. I appreciate that.

Admiral Tidd, I think it is safe to say that the under-resourced commands would be your command and AFRICOM. That is my opinion. Do you agree with that?

Admiral TIDD. I do.

Senator INHOFE. If you look at some of the programs—and Senator Reed mentioned the IMET [International Military Education & Training] program. I often look at these programs in the under-resourced area of AFRICOM such as the IMET program, which I have always thought is great. Once you develop a relationship at that stage of the careers of individuals, you got them. The obvious point is if we do not do it, China will.

Secondly, the foreign military sales and foreign military financing. Is that something that should be expanded?

So on those two programs, what do you think can be expanded, and are there any barriers to you from being able to expand those programs?

Admiral TIDD. Senator, I think that the IMET program, as you describe, is probably one of the single most important, long-term investments that we can make in establishing positive, constructive relationships based on trust with our partners. There is nothing like an officer coming or a senior enlisted coming and studying in our schools and living in the United States and experiencing for themselves all that this country represents to be able to counteract the sometimes negative messages that they might see in the international press. When we have those opportunities, they are absolutely priceless. They pay off because we see time after time after time, particularly throughout our region, the senior military leaders of many of the services in the countries have trained in the United States. They have lived in our country. They know who we are. Frankly, I think our country and our culture sells itself. So I cannot place enough value on a program like IMET. We could always use more.

One of the challenges is it is like most of the resources allocated based on a regional prioritization, and SOUTHCOM typically comes in at the bottom of that prioritization.

Senator INHOFE. What about barriers to you improving these programs?

Admiral TIDD. Thus far, we have not run into any other barriers except that we run out of money.

Senator INHOFE. Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Shaheen?

Senator SHAHEEN. Thank you, Mr. Chairman.

Thank you both for being here and for your service to this country.

You both mentioned the threats that transnational crime networks pose to the United States and to global stability for that matter. Admiral Tidd, you started out with a story about drug traffickers, which we have seen very directly in the State of New Hampshire where the heroin and opioid epidemic is a huge threat where we have the third highest overdose rate in the country. As Senator McCain pointed out, your predecessor talked about his inability to be able to intercept some of those traffickers because he did not have the equipment and the resources to do that.

Can you talk about what you are doing currently to work with authorities in this country to intercept those drug traffickers?

Admiral TIDD. I will address the southern most part of that point, and then I would defer to General Robinson to address as it comes closer to our border.

Because we recognize the shortfall in U.S. platforms available to conduct the detection and monitoring mission, that is one of the reasons why we have shifted our focus from exclusively on the commodity itself to a focus on the networks that engage in the trafficking, thinking that if we can focus on those networks and find the areas where the networks overlap and then working with partner nations so that their law enforcement or their military or, in some cases, our U.S. federal law enforcement agencies have the authorities to be able to engage in that end game, we use our abilities to build the picture and then to share that picture in a way that can be used by those with the authorities to be able to conduct the disruption action.

We think that by building a stronger interagency team that we will be able to apply pressure across the length and the breadth of the networks, recognizing that we may not directly touch the networks that are directly responsible for the movement of the opioids that are wreaking such havoc in your State but that any pressure that we apply across these networks will have a beneficial effect across the length and breadth.

General ROBINSON. So, ma'am, you heard Admiral Tidd talk about that. One thing I think that is incredibly important for you and this committee to know, that Admiral Tidd and I meet about every other month to sit down and discuss what he just talked about. So the information that he has and that he is sharing with the lead federal agencies with his partner nations is the same information that I am sharing. So as we stood in Guatemala and the river that defined the barrier between Guatemala and Mexico, that information does not stop at that river.

If you think about it then as a larger network, the things that he shares with my staff and my folks, whether it is intel sharing at border points, whether it is building partnership capacity to help partner nations, or whether it is direct linkages with Border Patrol and DHS, that information that he gets, that I get, that I provide either to lead federal agencies or partner nations so that they can take care of business at the end game.

This relationship between the two of us is very strong, and we have a third partner that we bring into it, General Tony Thomas of Special Operations Command, to talk to us what is happening overseas to help inform that larger network.

Senator SHAHEEN. The National Guard has a counter-drug task force that has provided critical support to law enforcement in New Hampshire. Do you all work with that counter-drug task force with the Guard as well?

General ROBINSON. Ma'am, we work very closely with the Guard. The information that we get that I provide to lead federal agencies goes out to other agencies throughout the States.

Senator SHAHEEN. When you and I met yesterday—and I appreciated the opportunity to sit down with you—one of the things we talked about was the northern border and the fact that what we have seen in New Hampshire is that there are some drugs going back and forth across our northern border as well, and I think that is less well known.

General ROBINSON. Yes, ma'am. Again, I would say, as I mentioned yesterday, we have a very close relationship with the lead federal agencies in Canada as well with us. So that information not just stops at our southern border, but also goes to our northern border to share with our partners there.

Senator SHAHEEN. Thank you.

Just quickly. I am almost out of time, but I know you talked yesterday and again today in response to Senator Inhofe about sensors and kill vehicles and the need to continue with those programs. Are there any other improvements that you think we should take in order to address missile defense given North Korea's rising capabilities?

General ROBINSON. Ma'am, I think we are on a very good, solid track where we are going and the strategy that we have today. Again, I would urge for a budget to have predictability so we can keep on that track.

Senator SHAHEEN. I agree. Thanks very much.

Chairman MCCAIN. Senator Rounds?

Senator ROUNDS. Thank you, Mr. Chairman.

Admiral Tidd and General Robinson, first of all, let me thank you both for your service to our country.

General Robinson, on page 12 of your statement, you say the increased standoff capability, low altitude, and small radar signature of cruise missiles make defending against them a technical and operational challenge. Yet, in the very next sentence, you say I am confident in a layered approach provided by our family of systems to conduct cruise missile defense.

What is this layered family of systems that we would be using in cruise missile defense? If you could describe those family members for me, please.

General ROBINSON. Sir, I would tell you it comes on two approaches. If you look on the northern approach from Russia over Canada and Alaska, we are doing an analysis of alternatives to upgrade the radars that are there so that we can be able to detect, track, identify, and if necessary, engage at ranges to defend Canada and the United States.

Senator ROUNDS. These are land-based radar systems.

General ROBINSON. Sir, right now they are, but what I have done from a requirements process is defined, hey, I want to be able to do that at ranges to defend. I do not want to just say upgrade my radar because then you do not allow the people that think differently or different ways to look at that problem. So that is from the northern approach.

Now here in the National Capital Region is the first part where we have sensors and capability here in the National Capital Region. If I go back out and then I look at my F-16's with the AESA radars and the ability to use them to be able to detect at longer ranges, we can do that.

Senator ROUNDS. These are found in Block 50's?

General ROBINSON. Yes, sir. I think it is Block 50's. All I have asked for the requirement is to be AESA radars. So we can be able to detect at ranges but, most importantly, sir, to be able to identify at ranges to be able to defend the National Capital Region.

Then the last part of the layer for phase one is to what kind of radar or what kind of capability can I get to be able to look at longer ranges out over the eastern part of the United States and the ocean to be able to detect at even longer.

So those are some of the layers that I talk about.

As we go further, phase two and three is now more part of the country.

Senator ROUNDS. I understand.

You did not mention the F-15C models. Do they play into the when defending against the cruise missile threat?

General ROBINSON. The F-15's? Yes, sir, they play into defending where in the United States. Yes, sir.

Senator ROUNDS. My understanding is that there is a possibility that we will be looking at perhaps reducing the number of F-15C's due to the increasing costs of maintaining the structural integrity of that aircraft between now and the year 2020. Is that figured into your plans?

General ROBINSON. Sir, from the conversations that I have had with the Air Force, which have been very small, I know that that is something they are looking at. Obviously, my voice would come into this to make sure that we have enough capacity to defend the United States from an air threat.

Senator ROUNDS. What is the split between the number of F-15's that you have available versus the current number of Block 50 or the F-16's that have the appropriate radar in them today?

General ROBINSON. Sir, I do not have that number. I will take it for the record.

Senator ROUNDS. Would you please?

General ROBINSON. Yes, sir, I will.

[The information referred to follows:]

General ROBINSON. The U.S. Air Force provides NORAD with Aerospace Control Alert (ACA) alert fighter aircraft. 58 of the USAF F-15C aircraft are equipped with Active Electronically Scanned Array (AESA) radar. At this time, no NORAD ACA F-16 aircraft are equipped with AESA Radar. The U.S. Air Force is in the process of modifying an additional 47 F-15C ACA aircraft with AESA radar. In addition, the NORAD Joint Emergent Operational Need (JEON) for all 72 ACA F-16s was fully funded in H.R. 244, the Consolidated Appropriations Act of 2017. Phase 1 of the NORAD JEON is scheduled to modify 24 aircraft (8 aircraft at the first three ACA bases). The first three ACA bases to receive AESA radars in Phase 1 are: 177th Fighter Wing, Atlantic City Air National Guard Base, NJ (F-16 Block 30);

113th Fighter Wing, Joint Base Andrews, MD (F-16 Block 30); and 169th Fighter Wing, McEntire Joint National Guard Base, SC (F-16 Block 52). In Phase 2 of the AESA fielding plan, 48 additional F-16 ACA aircraft (of various Blocks, including 30, 40, and 42) from NORAD's other main operating bases will be modified with the AESA radar.

Senator ROUNDS. I am just curious. Is there a plan in place to begin using F-35A's in the middle of this for this particular defense system?

General ROBINSON. Sir, I know as the Air Force brings the F-35's on board, that will be a conversation that we will have, making sure that I have the right capability and the right capacity to defend in the air domain.

Senator ROUNDS. The reason that I ask is it appears to me that this is one of the more serious threats that we have with air-launched cruise missiles. The second part is you have currently got F-15's and apparently there is some concern about their long-term viability. Your F-16's, which you have right now—you have got Block 30's, Block 40's and some Block 50's I understand.

General ROBINSON. Yes, sir.

Senator ROUNDS. The Block 40's which we have in South Dakota may very well be—if properly equipped with the appropriate radar, may very well be stand-in or at least be capable of handling part of that as the F-15's go on.

I guess I am getting back down to is that part of the discussion that you are having, or are we not that far along?

General ROBINSON. We are not that far along. The Air Force I think is just looking into that. As I can tell you, sir, I will assure you my voice will be a part of that conversation because of the importance of defending in the air domain the United States. Those are the capabilities that I use.

Senator ROUNDS. Thank you.

General ROBINSON. Yes, sir.

Senator ROUNDS. Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Peters?

Senator PETERS. Thank you, Mr. Chairman.

Thank you to our witnesses. I appreciate, Admiral Tidd and General Robinson, your patriotism and your work in a very difficult job, and you do it with distinction. Thank you so much.

First, Admiral Tidd, I want to have you kind of elaborate a little more on a point that you brought up to a question that Senator Reed asked related to the U.S. Coast Guard. In addition, to serving on this committee, I am the ranking member of a subcommittee that oversees the Coast Guard and am very concerned, as I know you have expressed, with some potential budget cuts for the Coast Guard.

I would like you to elaborate a little more on what I think is a very powerful statement that you made that your Navy has white hulls and orange stripes, as to the impact that the Coast Guard has. Certainly we need to protect their resources so they continue to execute that mission. But I would like you to go a step further as to what additional resources do you think would be necessary for them to enhance their capabilities to support you.

You have talked in your testimony about how this maritime border is certainly one that we have to pay a great deal of attention to, and perhaps our discussion should not be about defending fund-

ing for the Coast Guard. It should be about additional resources they need or could use to supplement the great work that you are doing now.

Admiral TIDD. Well, Senator, obviously, I would defer to the expertise of the Commandant of the Coast Guard in terms of building the plan that would be required. But as I have said before, because of higher priority commitments for U.S. Navy warships in other parts of the world, the U.S. Coast Guard has surged additional capacity, almost doubling the number of cutters devoted to the USSOUTHCOM region. I know that that is a challenging responsibility that they are shouldering. We are very concerned that we are already shorthanded in the number of ships that we have available on the high seas and the Caribbean and in the eastern Pacific to be able to deal with the known cases of movement along those pathways. My concern is that the Coast Guard be able to continue to meet the commitments that they have established.

Senator PETERS. Well, I appreciate that.

In your written testimony, you discussed as well the impact of your Navy ships in the area, and you talk about exploring non-traditional alternatives to fill these requirements until more littoral combat ships are in the fleet.

Could you describe some of these nontraditional alternatives and also explain how they may compare to the capabilities of the littoral combat ship?

Admiral TIDD. Not having yet had the luxury of having a littoral combat ship down in our region, I cannot tell you exactly how it would compare. But what we are trying to do is sensors on other types of platforms that come down there to be able to share information, working very closely with our partner nations, ensuring that they have the capability to be able to be out and to operate in the seas. We have tremendous support provided by other countries that also have interest in the region. For instance, France, the Netherlands, and Canada all periodically provide warships that contribute to that mission.

But I very much look forward to the arrival of the first littoral combat ships in our theater. I think they have capabilities that are ideally suited for the theater that we are talking about.

Senator PETERS. Very good.

General Robinson, also talking about Coast Guard assets but in the area of responsibility that you have, which is the Arctic, and the receding ice and the opening up of those sea lanes and the very significant Russian presence that exists up there. Could you speak a little bit about the importance of the U.S. Coast Guard in the Arctic region and how assets certainly cannot be reduced? In fact, we should be thinking about having a larger presence to counter a growing Russian presence.

General ROBINSON. Sir, I would tell you that the Coast Guard presence in the Arctic is very important. If you recall, last summer, the cruise ship, *Crystal Serenity*, that went through for the first time having a cruise ship go through the Arctic, it talks about the need for the Coast Guard there in the Arctic. So I certainly support the Coast Guard and all their endeavors to be a part of that.

Senator PETERS. Great. Thank you very much.

Chairman MCCAIN. Senator Ernst?

Senator ERNST. Thank you, Admiral. Thank you both for being here, Admiral Tidd, General Robinson. Thank you so much for the great work that you are doing on behalf of NORTHCOM and SOUTHCOM.

Admiral Tidd, I will start with you and want to thank you. I see that the great State of Iowa has been able to provide yet a second sergeant major to SOUTHCOM. We are pleased that you are both here with us.

I did appreciate meeting with you last week—last month. Excuse me. We had a very good conversation. During that conversation, you brought up the fact that you have seen more activities from the Russians. You mentioned that just a little bit earlier, as well as some other countries. You stated that it may not be with a military bent, but that there were some other activities that they were engaging in. Can you enlighten us as to the types of activities you are seeing from the Russians and why that would be of a national security interest to us?

Admiral TIDD. Thank you, Senator.

We have seen the deployment of ships, particularly frequent deployment of intelligence collection ships, that we know operate frequently on the east coast of the United States and then spend time down in the Caribbean. We have seen periodically the deployment of long-range aviation that comes down and spends a bit of time down in our theater.

But probably of greater long-term concern is the very aggressive arms sales programs where Russia is down and talking with our traditional partners and attempting to displace the United States as the partner of choice.

The part that I think is most troubling is we see they are engaged in a very aggressive misinformation campaign, basically peddling the story that the United States is not a reliable partner in Latin America, that we are not interested in the region, and that we are withdrawing from the region. It is troubling because of resource constraints that we have had and the requirement for the number of forces available in our theater. As that has declined, that plays directly into that narrative that Russia has been peddling.

So these are relationships that we have with strong partners, and it is just up to us to be able to prove that we are the partner of choice.

Senator ERNST. So not only do we need to maintain a presence there, but we also need to reinforce our own message to those areas.

Admiral TIDD. Absolutely.

Senator ERNST. Admiral Tidd, in February of 2017, the Associated Press reported that Trinidad and Tobago has become the largest per capita source of ISIS recruits in the western hemisphere. According to the report, as many as 125 fighters have traveled from the island to ISIS-controlled areas over the past 4 years.

So are you concerned about the rise of ISIS [Islamic State of Iraq and Syria] in SOUTHCOM?

Admiral TIDD. Senator, we are very concerned. There is, I think, a tendency often to think that ISIS is only present in the Middle

East or North Africa, and the reality is ISIS is present here in the western hemisphere.

You cited the case of foreign fighters that have gone over to Iraq and Syria to fight. Obviously, we are very concerned about the return of those fighters. But what has become more troubling is an active effort on the part of ISIS to communicate to radicalized individuals telling them stay home and conduct attacks in your home countries against your countries and the United States and our interests in this region. So you cited Trinidad and Tobago, but that is not the only country where we know that there is a presence of radicalized individuals to whom the ISIS message is very appealing, and I think it is an area that we have to pay close attention.

Our counter-network approach that we are applying enables us to recognize this presence of ISIS in the theater when previously, when we focused exclusively on commodities, oftentimes we focused more on the criminal networks and did not pay attention to the fact that there are also terrorist networks as well.

Senator ERNST. So those terrorist networks—they understand those pathways that are being used by various cartels and so forth, moving goods into the NORTHCOM area. Do you think those could be exploited then by those terrorist organizations?

Admiral TIDD. ISIS, in one of the recent issues of Dabiq magazine, communicates directly in English language to radicalized individuals to attempt to exploit those pathways into the United States. So we have to assume that they are going to try.

Senator ERNST. Those that are fighting in Iraq and Syria—how are they able to reach back into the Caribbean and radicalize the folks there? What do you think is the primary means of communication?

Admiral TIDD. I think it is Internet. It is by cyber means.

Senator ERNST. Cyber is something that you believe we should pay attention to then.

Admiral TIDD. I think we all recognize that it is a domain that must bear increasing attention.

Senator ERNST. Absolutely. I appreciate that.

Do you think we are doing enough to counter ISIS's recruiting efforts in the SOUTHCOM region?

Admiral TIDD. That is probably one of the areas of greatest work that we are engaged in. In order to work with our partner nations and in our discussions with them, they now recognize that they must pay attention to the radicalization phenomenon. We all, I think, had a wakeup call with the attacks that occurred in Paris, in Brussels, but also in San Bernardino and in Orlando that individuals can become radicalized and can conduct horrific attacks. It is up to all of us to work together, exchange information, and attempt to remove the conditions that lead to radicalization.

Senator ERNST. Thank you. I appreciate that. Thank you.

Thank you, Mr. Chair.

Chairman MCCAIN. Before I call on Senator King, I just want to make it clear to everyone, Admiral Tidd, if we are really serious about addressing this issue of flow of drugs into the United States of America that Senator Shaheen has described as so dramatically affecting her State, that we need to provide the assets. It is not something that is a mystery. Is that right? If we want to be far

more effective, you would need the assets in order to do that. Is that correct?

Admiral TIDD. Senator, that is correct.

Chairman MCCAIN. Senator King?

Senator KING. Thank you for asking my first question, Mr. Chairman.

[Laughter.]

Senator KING. Admiral Tidd, your opening statement was very powerful and also disturbing, powerful because you describe this in terms of an attack, and that is what it is. It is an attack on our country. To talk about the numbers, since we have been sitting here, four people have died of overdoses in the United States. It is about four an hour, 37,000 people a year, one a day in my State of Maine. It is absolutely unacceptable to know that that is happening and to couple it with your testimony that you are only able to interdict 25 percent of the shipments you know of because of a lack of resources in the Coast Guard. Couple that with a proposed 15 percent cut in the Coast Guard budget, I just do not know how we can possibly turn a blind eye to the implications of this.

I just want you to reiterate. Your testimony was that you are only able to interdict 25 percent of shipments you know of because of a lack of essentially Coast Guard assets. Is that correct?

Admiral TIDD. Senator, it is due to a lack of any surface assets, whether it is U.S. Navy, U.S. Coast Guard, partner nations. I mean, it is a shortfall of platforms that are capable of conducting intercepts on tracks that we know are out there.

Senator KING. A cut in the Coast Guard budget, which would further constrain the provision of those assets, would not be in the national interest. Would it?

Admiral TIDD. Senator, all I will say is I am absolutely dependent on the Coast Guard to conduct the operations that we are able to conduct.

Senator KING. There are not sufficient assets today. Is that correct?

Admiral TIDD. That is correct.

Senator KING. Thank you. Your answer was very diplomatic.

General Robinson, let us go to missile defense. You testified you have confidence in the missile defense structure that we have today, but we do not live in a static world. The North Koreans just in the last few months have gone from liquid fuel to solid fuel, which drastically cuts our warning time. Are we continuing to develop our capability, and what are the gaps? Where should we be focusing in order to strengthen our nuclear defense system?

General ROBINSON. Sir, thank you for that.

As you so rightly said, our lack of indications of warning is increasing. As we look to the future how do we ensure not just that but then when something launches to make sure that we have the right radar in the right place.

Senator KING. And discrimination in radar is also——

General ROBINSON. You took the words right out of my mouth. I was going to talk about the ability to ensure that we have discrimination as we move to the future. So when you talk about our radars, it is to ensure that we have discrimination and ensure that we have an architecture that today is terrestrial, but tomorrow or

maybe even more in the future will move to space. Those are the things that we need to continue looking as we move to the future is ensuring we have got the right radar at the right place at the right capability and with reliable kill vehicles.

Senator KING. So if you were granted a billion dollars to spend in this area, do you I take it that radar and particularly the discrimination radar would be where you would go first?

General ROBINSON. That is where I would go first, sir.

Senator KING. Thank you.

General, do you have any idea offhand an approximate number of Russian icebreakers that they have available in the Arctic region?

General ROBINSON. No, sir, I do not. But I know they have more than we do.

Senator KING. If I said it was a low of 17 and a high of 40, would that sound reasonable?

General ROBINSON. Yes, sir.

Senator KING. How many icebreakers do we have available?

General ROBINSON. I believe it is one.

Senator KING. One and a half.

General ROBINSON. Okay, one and a half.

Senator KING. But the one that we have actually transits between Antarctica and the Arctic. Is that not correct?

General ROBINSON. Yes, sir.

Senator KING. So the icebreakers, the essential infrastructure of the Arctic region, is the road builder in effect.

General ROBINSON. Yes, sir.

Senator KING. This is a place where we really are in a serious deficit situation. The prior administration proposed the additional building of one icebreaker, but that is still a long way off.

But do you see this as an important priority even though this would not be a naval asset but probably be a Coast Guard asset? But it is one that is crucial to our future in the Arctic. Is it not?

General ROBINSON. Sir, I absolutely support the Coast Guard's endeavors to bring more icebreakers to the Arctic. As you suggested, it is a pathway for them.

Senator KING. One of the things that you are seeing in your command is a significant Russian buildup of military assets along their shore of the Arctic.

General ROBINSON. Sir, I have seen their buildup. What I have also seen is Russian long-range aviation that comes east of the Urals that often does out-of-area flights that are in my AOR [area of operation].

Senator KING. That is another threat. We talked prior about the North Korean threat, but that is another threat that is—particularly that is the NORAD [North American Aerospace Defense Command] mission. Is it not?

General ROBINSON. Yes, sir. You are exactly correct, defending the airspace both for the United States and Canada from the air domain.

Senator KING. A final short question. We have a seamless co-operation and agreement, arrangement, and working relationship with the Canadians in terms of NORAD?

General ROBINSON. Absolutely, sir. It is a bi-national command.

Senator KING. Thank you.

General ROBINSON. Yes, sir.

Senator KING. Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Perdue?

Senator PERDUE. Thank you, Chairman. I really appreciate you bringing both these combatant commanders together.

I have a particular concern about what Russia is doing in our hemisphere. I have a quick question for both of you.

When you look at Russia—how they bracketed Europe with their facilities in Murmansk, Kaliningrad, Crimea, now Tortus and Lat-akia, I see them attempting to do the same thing here. So the Arctic, which was just mentioned—it looks like to me they have opened up a new Arctic command. They have got four Arctic BCTs [Brigade Combat Teams] they have now assigned up there. They have got 16 deep water ports north of the Arctic, 40 icebreakers, plus 11 more on order, and we are down to one and a half icebreakers. I would like to know what your assessment—first of all, do you agree with that assessment, General? What is our—that you can talk about here—what is our tactical response to that buildup in the Arctic?

General ROBINSON. So, sir, I would agree with your assessment. What I would tell you about response—I will parse it in a couple of different bins.

First, as we watch the Russians come east of the Urals in the air domain, I ensure on my NORAD side that I have the right capability and capacity with adequate indications and warnings to make sure that we can defend Canada and the United States, specifically Alaska. So in the air domain, I do that.

From a policy perspective, at the end of 2016, the Department policy put out an Arctic strategy, and that Arctic strategy talked about ensuring security, promoting safety, and promoting defense cooperation.

Senator PERDUE. I am sorry. Do we have an Arctic command today?

General ROBINSON. No, sir. My job as the Commander of Northern Command is to provide—I am the advocate for Arctic capabilities. That is what I do. But I am in the process of writing a strategic estimate for the Arctic where I will be able to talk about theater security cooperation, talk about capabilities, and then kind of put my role out there with—

Senator PERDUE. Will you share that with the committee?

General ROBINSON. I will when we are done. In fact, we should probably be done this fall, and I would be happy to share that estimate with you.

Senator PERDUE. Thank you.

Admiral, in the Southern Command likewise—and this is not a recent development. It looks to me it is very obvious what Russia is trying to do here. They are bracketing us. They are already playing in our elections the same way they are playing in cyber warfare in Eastern Europe.

In Latin America between 2001 and 2013, Russia sold Latin America \$15 billion worth of arms. That is about 40 percent of what was sold in the region. When I look at what they are doing with Nicaragua particularly—oh, and between 2008 and 2011—I

did not know this. If you look at what Russia sold, they have sold more than 3,000 surface-to-air missiles to the region, just in that 3-year period.

In the last couple of years, particularly since 2014, in Nicaragua alone 50 combat tanks, an established ground station for a Russian satellite network, and they are talking about Russian-made fighter jets now to add to their fleet. As was reported last week in TASS, they are announcing joint military drills together in Nicaragua. I find this to be very destabilizing.

Do you agree with that assessment? If so, what is our response to Russia specifically in Nicaragua and Venezuela relative to the fact that we have got troubled governments there anyway? How do we manage the diplomatic development and defense efforts in that area specifically relating to what Russia is doing?

Admiral TIDD. Well, Senator, I think the first responsibility we have is to pay attention to it and not to ignore it and to ensure that if we are concerned about what Russia is engaged in in Eastern Europe, that we pay at least as much attention to what they are engaged in in our own hemisphere.

As you point out, they have got historic relationships going back to the era of the Soviet Union with Nicaragua and with Cuba. They have developed them with Venezuela. They are one of the largest suppliers of high capability arms to Venezuela. So it is very troubling that as they establish themselves and become I suppose both the arms supplier but also having greater influence in those two countries right close to our own Nation, that ought to be a matter of some concern. We have to continue to pay attention to it.

Our relationships with the countries in Latin America is strong, but they are relationships that must be tended to. We must continue to engage and we must continue to demonstrate not just by words but also by our action, our engagement, that we are reliable partners.

Senator PERDUE. Thank you both.

Chairman, General Milley this week said that the lack of a budget and the potential danger of going to a CR [Continuing Resolution] bordered on professional malpractice. I want you two combatant commanders to know that at least one Senator here agrees with that 100 percent.

I do not fully understand what a CR does to tie your hands in terms of moving money back and forth, but I take you at your word that it totally limits you from doing that. That to me is more dangerous than the total number. For one, I am standing firm with the chairman here that this is the most dangerous thing that we are facing right now.

General Mattis said earlier this year that the debt was the greatest threat in the national security. Well, here is where the rubber meets the road. I want to pledge to both of you guys my personal full support to do whatever we can to make sure that we avoid that debacle.

Thank you, Chairman.

Chairman MCCAIN. Senator Warren?

Senator WARREN. Thank you, Mr. Chairman.

Thank you, Admiral Tidd and General Robinson for being here and for your leadership.

I just want to quickly underline a point that was raised by Senator King and Senator Reed, and that is about the importance of our non-military foreign assistance and other civilian instruments of our national power to your missions.

So is it accurate to say that you work with the State Department, the Department of Homeland Security, and other civilian agencies in efforts to maintain security and stability in your regional areas of responsibility? General Robinson?

General ROBINSON. Yes, ma'am.

Senator WARREN. Thank you.

Admiral Tidd?

Admiral TIDD. Absolutely.

Senator WARREN. You know, the budget proposal put out by the Trump administration calls for about a 29 percent cut to the State Department and significant cuts to FEMA [Federal Emergency Management Agency] and other domestic agencies. I just want to ask in general, would funding cuts to agencies that conduct diplomacy, provide disaster relief, and perform other civilian functions make your job easier or make your job more difficult? General Robinson?

General ROBINSON. It would make it more difficult, ma'am.

Senator WARREN. Admiral Tidd?

Admiral TIDD. More difficult.

Senator WARREN. Thank you. I agree.

Admiral Tidd, I want to turn back, if I can, to something you said last year. In your posture statement, you expressed concern about economic conditions and persistent threats to people's safety that caused the mass migration of unaccompanied children from El Salvador, Guatemala, and Honduras back in 2014. Are you still concerned about these underlying factors?

Admiral TIDD. We think that we must continue to pay attention to the push factors. Insecurity in Central America is a significant push factor.

Senator WARREN. But are you worried about the gangs and other criminal networks that take advantage of these conditions to be able to recruit and to stay in business?

Admiral TIDD. Yes, we are.

Senator WARREN. Do you think that lack of security and economic opportunity provide an opening for some of our adversaries to exert influence in these areas?

Admiral TIDD. I think we are seeing that in a number of countries in Central America.

Senator WARREN. So let me ask you, Admiral Tidd. What more should the United States Government be doing to address these underlying conditions?

Admiral TIDD. I think the efforts to provide some limited resources that are available in the case of Guatemala, Honduras, El Salvador, for them to develop a regional solution to a regional problem is very important. A very high bar condition has been set for them to receive those resources, but I think we must be realistic and we must help them achieve those standards because it is ultimately in all of our interests that they achieve them.

Senator WARREN. This is something you are working on now actively?

Admiral TIDD. Senator, it is.

Senator WARREN. I appreciate it.

I also want to note that in your posture statement last year, you thanked Congress for funding the State Department and USAID to implement the U.S. strategy for engagement in Central America to help address these root causes of migration.

There has been a lot of talk about how to address unlawful immigration. By itself the tallest wall in the world will not help us if we choke off funding for non-military strategies to address the root causes of migration from Central America. I think that would be bad for regional stability and for our security.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Wicker?

Senator WICKER. Thank you, Mr. Chairman.

Admiral Tidd, you state that the southern border should be the last line of defense not the first. Given the diminishing Navy presence dedicated to Southern Command, is the Coast Guard an increasingly valuable partner as a forward line of defense?

Admiral TIDD. Sir, you know, we also talk about there is a third border, and that is the maritime border up through the Caribbean. The Coast Guard right now is the principal U.S. maritime force that is present in the Caribbean.

Senator WICKER. I think they do a good job for you.

Your testimony states that SOUTHCOM lacks the forces necessary to interdict about 75 percent of identified and validated drug trafficking targets. A successful interdiction requires two things: an end game asset, a boat or a helicopter, to stop the trafficker, and law enforcement authority to make the arrest. Does the Coast Guard's new national security cutter have these two attributes?

Admiral TIDD. Senator, they do. The national security cutters are a superb platform, very capable, and frankly, they also have the sea-keeping abilities to operate in the eastern Pacific further offshore where the vast majority of the trafficking is occurring today. They are very valuable platforms.

Senator WICKER. A U.S. national security cutter recently seized 16 tons of cocaine worth \$400 million. In fact, the Coast Guard has reportedly seized about 100 metric tons of cocaine, about \$3 billion worth since its first operational deployment.

Do these national security cutters arguably pay for themselves in this regard?

Admiral TIDD. Senator, I would never turn down an additional national security cutter operating in the SOUTHCOM region.

Senator WICKER. One other thing. Your testimony states that Southern Command is dedicated to becoming a platform for experimentation and innovation, and this includes unmanned platforms and advanced sensors. So tell us about that. Expand on that testimony, if you will, sir.

Admiral TIDD. Senator, in our efforts to find new and innovative ways to get after the resourcing problem, we have aggressively discussed with services and with the research and development organizations that we would be an ideal region to come and test out new technologies, perhaps new technologies that are being developed for a different theater, for a different problem set, but that we have a meaningful operational mission. We can provide real

feedback and that my commitment as the combatant commander is to ensure that we eliminate any bureaucratic impediments to being able to bring them down and operate them, test them out for a period of time, and provide that feedback.

Senator WICKER. Well, thank you very much, Admiral. I would like to invite you down to the Gulf Coast to the Stennis Space Center to see the cutting-edge research being done at the Naval Research Lab with regard to unmanned underwater vehicles and also the Navy Meteorological and Oceanographic Command operating a large fleet of UUVs [Unmanned Underwater Vehicles]. You might want to come down and visit us, and perhaps you could leverage these installations as you push for new innovations.

Admiral TIDD. Thank you very much, Senator.

Senator WICKER. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Donnelly?

Senator DONNELLY. Thank you, Mr. Chairman.

I want to thank you both for being here today.

I appreciate you taking the time to come by my office, both of you, to talk about the heroin crisis that is impacting Indiana and so many other States. We have heard from other members here today. It may be the single biggest threat to the safety and security of the people of my State, and I am convinced we need to everything—everything we can—to stop it. This is a whole-of-government effort.

We heard the chairman talking about the 75 percent figure, and we have been talking about that for a while.

As we look at this, in Indiana in 2015, we lost more people to opioid and heroin deaths than in car crashes, which forever was the biggest thing. Now this has changed it. The heroin is coming in from Mexico and it is coming in across borders that we actively monitor. It is not coming through the desert or over hills or over here or over there. It is coming through our cross points.

So as we look at this, Admiral Tidd, we talk about the 25 percent figure, that we catch 25 percent of what is coming in. The other 75 percent are killing my friends and neighbors. We have lost so many families, children and brothers and sisters.

What I would love to see is, as the chairman was talking about, a plan. If we had all the resources, how much resources do you need? How much time will it take? What will we do? How do we stop it? Can you put that together for us?

Admiral TIDD. Senator, we will be happy to work with our partners in Northern Command.

I think as we discussed in your office, though, the challenge that we have is we are not going to interdict our way out of this crisis. This is going to be a challenge that will require a significant amount of work on the demand reduction side of the problem, as well as on—

Chairman MCCAIN. Could I interrupt, Admiral? We are not asking you to address the demand side. But if you are capable of stopping some of the flow, let us have that.

Sorry, Senator Donnelly.

Senator DONNELLY. That is okay, sir.

Admiral TIDD. Yes, Senator.

General ROBINSON. Sir, if I could add. As we discussed in your office too, all the support that we give to Department of Homeland Security on the border is incredibly important, whether it is intel sharing or providing detection and monitoring to help them do their jobs there on the border.

Senator DONNELLY. I know you know the real-world effects. Let me tell you just a couple.

I have a small town in southern Indiana, a town of 4,200 people. The opioid crisis has hit it so hard—and this was a few years ago—174 cases of HIV in a town of 4,200 people.

In another small town or small county, rural county, we had a shipment of heroin come in from Ohio. It was laced with fentanyl, which is 10 times more powerful than the heroin. In a 2-hour period in one county, we had 10 overdoses and 1 death in a 2-hour period from this.

As Senator Shaheen and others have said, this is not just an Indiana problem. This is a nationwide problem that is eating us alive. I always look and I go this might have been the young person who would have cured cancer, who would have found the key to ending diabetes.

If we can stop that other 75 percent—and we can, and it is a resource issue. That is why I am so eager to get the plan of if we gave you the keys to the kingdom, so to speak, you have the resources, you have everything you need, so how do we do this because every day as we are sitting here right now, it is coming through the checkpoints.

General Robinson, I wanted to ask you about Mexico's ability and willingness to work with us on this in collaboration. In your written testimony, you indicated Mexico is growing increasingly capable of helping us. What is your assessment of the capability and the will of the Mexican Government and security forces to work with us on combating this?

General ROBINSON. Sir, I will tell you, having been on Mexico's southern border talking to their senior leadership about their strategy on the southern border, in addition to working very closely on the border with their military, the willingness of the Mexican military and them to work with us is very, very great. I have been very impressed.

Senator DONNELLY. The more you can send that message to them, the stronger and better off we will be because this really is a national emergency.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Cotton?

Senator COTTON. Thank you, Admiral Tidd and General Robinson, for your testimony today and for your continuing service to our country.

Admiral Tidd, how different is Russia's activities in Latin America today from the Soviet Union's activities there in the Cold War, if different at all?

Admiral TIDD. I think that it is certainly not ideologically motivated like it was during the Cold War. It is motivated for economic reasons and for the ability to gain influence with countries in the region.

Senator COTTON. To what extent is Russia and, for that matter, other hostile powers in the old world aiming to tie down the United States, our attention, and our resources in the new world so we cannot project power and influence into the old world?

General ROBINSON. So, sir, I would say if you look specifically, as you mentioned, Russia as they have increased their capability and capacity, as they continue to work west of the Urals, the thing that I watch is them coming east of the Urals. On occasions, they will come over and power project or do out-of-area operations. That makes me then, as the Commander of NORAD, increase my levels of responsiveness and put force structure in the right place at the right time, should they power project.

Admiral TIDD. I think if I could add to that, certainly in Latin America, they do not have vital strategic interests, and so they see these as opportunities to take advantage of at least a perception of the United States being focused in other crises in other parts of the world.

Senator COTTON. Speaking of countries without vital strategic interest in Latin America, let us turn to Iran. Admiral Tidd, you state on page 9 of your written testimony, with the easing of economic sanctions, Iran may be seeking to rebuild its relationships in the region. Tehran uses cooperative technology, economic and diplomatic interests as a centerpiece of its regional diplomacy. Although on the surface, it portrays its actions as innocuous, Iran could exploit its cultural centers to develop networks, which could be leveraged to extend its influence and advance its interests.

To your knowledge, are there deep cultural, historical, religious ties between Latin Americans and Persian Shiites?

Admiral TIDD. No, Senator, not longstanding.

Senator COTTON. I did not think so.

You state earlier in your written testimony on page 4 and 5, Hezbollah members, facilitators, supporters engage in licit and illicit activities in support of the organization, moving weapons, cash and other contraband to raise funds and build Hezbollah's infrastructure in the region. Hezbollah is the terrorist organization based in Lebanon, a cat's paw of Iran. To your knowledge, do Arab Shiites have deep cultural and historical ties with Latin America?

Admiral TIDD. What I would observe is that Hezbollah has been present in this region in small pockets scattered throughout the region for decades. They have been actively engaged largely in criminal activities to raise funds to support the terrorist activities of Hezbollah in other parts of the world. But we also recognize that Hezbollah was responsible for the two terrible terrorist attacks on Jewish sites in an Israeli consular center in Argentina back in the 1990s. So they have been present here and we view them as probably the most dangerous of the terrorist groups present in this region.

Senator COTTON. I want to zero in on one phrase in that statement: moving weapons, cash, and other contraband to raise funds. What kind of other contraband is Hezbollah moving in Latin America?

Admiral TIDD. I think one of the more interesting ones, cars, basically movement of cars to raise money, to launder money in order

to develop the resources to fund Hezbollah activities in the Middle East.

Senator COTTON. What about drugs?

Admiral TIDD. Yes, sir, drugs also.

Senator COTTON. So Hezbollah, a declared terrorist organization that operates in the Middle East, is responsible in part for the drug flow in Latin America that has had the impact that you have heard Senators on this dais talk about today, killing Americans in our hometowns.

Admiral TIDD. I would say they are one of a number. They certainly are not the largest, but they play a contributing role.

Senator COTTON. Thank you.

Senator REED [presiding]. On behalf of Chairman McCain, Senator KAINE.

Senator KAINE. Thank you, Mr. Chair.

Thanks to our witnesses for your testimony.

I want to just follow up on a couple of points that Senator Cotton was making. General Robinson, we talked, had a good visit in my office yesterday. You talked about the flows of drugs on the seam between NORTHCOM and SOUTHCOM as sort of a system of systems. We have to look at it as networks and systems. If these distribution networks can bring drugs here, they could bring human trafficking. They could potentially get people in the United States, terrorists in the United States. They could bring weapons of mass destruction, biological agents. Is that how you both kind of look at this challenge? The interdiction of drugs is really important, but also it is important to disrupt these networks because they could also do us harm in other ways.

General ROBINSON. Yes, sir. As we discussed, it is the importance of illuminating that network, understanding what is on it, and then whatever that commodity is, is making sure that the information for the customer of the commodity gets it so that can finish whatever activity they are doing. So your point is exactly right. That is why it is incredibly important that Admiral Tidd and I and our staffs share information because, again, it just does not stop at the river.

Senator KAINE. Let us just focus on the commodity. There are all kinds of commodities we could worry about, but just the commodity of the drug trade. Admiral Tidd, you have talked about this, you know, 25 percent of what you know you can stop, and if you had more assets, you could stop more. I am all for that. So Coast Guard, military assets to stop more.

But let us drill down on this. If you had enough assets to try to stop everything you knew about but there was still a significant demand for drugs in the United States, there would still be drugs that would get to the United States. Correct?

Admiral TIDD. Yes, Senator. Unfortunately, I believe that to be true. These networks are very adaptive. If the price is right, they will work very, very hard to work around the bars that we try and put in their place. So it is a dynamic problem that we will continuously have to work at.

Senator KAINE. Is there anything you can do within your military lane that would bring down drug demand, or is that other parts of our government?

Admiral TIDD. I am not aware, at least not in USSOUTHCOM [U.S. Southern Command].

Senator KAINE. So it is other parts of our government. So if we are going to deal with this significant national security issue, we ought to be funding the interdiction efforts to the degree that you talk about. But if we do not do anything on the demand side, we are going to continue to see the national security problem.

Ultimately, this is about the budget. In the submitted budget, there is not only a proposed cut to the Coast Guard, there is a \$100 million reduction of funds to SAMHSA, the Substance Abuse and Mental Health Services Administration. There are dramatic cuts to CDBG [Community Development Block Grant] funds, which are often used by community drug prevention/drug treatment programs. This is an example of how a defense budget, SOUTHCOM, fits together with the non-defense budget, Coast Guard, which is under DOT [Department of Transportation]. It is part of non-defense discretionary. SAMHSA is part of non-defense discretionary. CDBG's funds are part of non-defense discretionary.

So as we look at the sequester, there are so many things that are in the non-defense discretionary budget that are really about our defense. If we are not wise in those investments, we are going to continue to have this challenge of drugs flowing south to north and potentially creating networks that can move other commodities as well.

Do either of you disagree with that?

Admiral TIDD. Senator, what I would just observe is if somehow you could wave your hand and the drugs disappeared overnight, these same threat networks would engage in other activities in order to preserve their power and their access to resources. So that is why we focus on the networks. We have got to be able to bring pressure to bear on the networks.

Senator KAINE. The chair and ranking on this committee have been so eloquent really since I got here to the Senate about the foolishness of the sequester. I understand why it was put in place in a vote in the summer of 2011, and then it went active March 1, 2013. But it was put in place at a time of a political reality where there were significant Republican majority in one house and then two but a Democratic President. So it was going to be kind of a budgetary check.

I would just argue the GOP now has all the leverage, the White House and both houses. These non-defense expenditures of the kind that we are talking about, Coast Guard, SAMHSA funding, could help us deal with the drug problem. They are really important to our national security.

I think the time is just to get rid of the caps, not just lift the caps on defense and then keep capping non-defense. Just lift the caps on both and let everybody make the case for what we need to interdict or make the case for what we need to bring down the demand on drugs. Especially with power all in the hands of one party right now, there is no danger that the Dems would sort of roll the majority on the budgetary side.

But I think lifting the budgetary cap on defense without doing it on non-defense means we are going to hurt an awful lot of priorities that are in the non-defense side that actually directly con-

tribute to some of these national security challenges that we are talking about.

One other quick question. Activity of China in SOUTHCOM, to follow up on Senator Cotton. He asked really good questions about Russia and Iran. How about activities of China, military activities?

Admiral TIDD. I would say right now that the activity is largely economic in nature. The military-focused activities—they are very aggressively engaged in an IMET-like program where they will seek to bring senior military leaders from throughout the region to Beijing for all expense paid trips. Again, it is an opportunity to influence the region and to displace the United States as the partner of choice in Latin America.

Senator KAINE. Thank you.

Thanks, Mr. Chair.

Chairman MCCAIN [presiding]. Senator Sullivan?

Senator SULLIVAN. Thank you, Mr. Chairman.

I appreciate the witnesses' testimony.

I think you are seeing this is helpful. I think is as important to this committee as it is to all of you, some bipartisan consensus on some key issues. A lot of us, my State of Alaska, is also dealing with the opioid problem in a massive way. There is concern about the Coast Guard's budget. I chair the subcommittee on the Commerce Committee that oversees the Coast Guard. I can tell you it is clear to me Secretary Kelly does not agree with cutting the Coast Guard's budget. So we are all going to work together on that, and I think it is a seam some ways between this committee and the Commerce Committee because the Coast Guard is a branch of the U.S. military and it is a very important branch of the U.S. military. So I think a lot of us are concerned on that.

Then you have seen a lot of concern and interest in the Arctic, not just coming from the Senator from Alaska, but a bipartisan group of Senators are concerned about that.

So, General Robinson, you are the advocate for the Arctic in terms of capabilities. There is a lot of talk about icebreakers. We have really one and a half. The Russians have 40, building 13 more. Senator Perdue talked a lot about that.

Have you actually been on one of the icebreakers that we have?

General ROBINSON. No, sir, I have not.

Senator SULLIVAN. So I was this weekend. The Polar Star, which is the heavy icebreaker, and the Healy, which is the medium icebreaker.

I want to mention—and again, I am not sure which jurisdiction it is in terms of committees, but they are shameful. Shameful. The Polar Star was built in the 1970s with technologies from the 1960s. As Senator King mentioned, it deploys down to Antarctica. We should never—never—allow the men and women who serve in the U.S. military to deploy on such a bucket. This ship is a joke and it is dangerous. I encourage you as the advocate for the Arctic to go out and look at what our men and women who volunteer deploy on. These guys have to go on eBay to get parts for this ship. It is shameful. We should not have the men and women of the Coast Guard deploying on such an unseaworthy vessel, and we need to do something about it.

You mentioned the new strategy on the Arctic. It talks about FONOPS [Freedom of Navigation Operations], which I think it is important. Do you think we have any remote capability of conducting FONOPS if the Russians tried to, say, block off sea transportation routes or block off access to resource development, all of which I guarantee at some point they are going to try and test us on? That is why they are building up so much capacity. Do we have any kind of capacity right now to conduct a FONOP that would try to push back on Russian aggression buildup in the Arctic?

General ROBINSON. Sir, we have discussed that briefly, but I have not taken it to the next level of discussion.

Senator SULLIVAN. I think the answer is no. But that is my view having been out there. Do you have an answer on that?

General ROBINSON. Sir, we have discussed it briefly, but we have not taken it to the next level of discussion. I do watch where Russian ships are each and every day. I can tell you that.

Senator SULLIVAN. Well, it is one of these things. We put out a strategy. It is the new DOD strategy. We say we are going to do this. My view is we do not have even the remote capability to do this. When we have a strategy that says we are going to do something and we do not have the capability to actually do it, it undermines U.S. credibility in the world. Lord knows, we need to get credibility back in our foreign policy and national security.

Let me talk about missile defense. Do you agree that the threat to the Homeland is increasing almost daily?

General ROBINSON. I think that Kim Jong-un very much wants to reach out and touch the Homeland.

Senator SULLIVAN. So General Hyten said February 11th was a real, real important date, a bad date with regard to the security of the continental United States and Kim Jong-un's capability because they tested solid fuel rockets.

I am not convinced at all. As a matter of fact, I do not think we have—I think we need to do a lot more with regard to missile defense. Do you agree with that?

General ROBINSON. Sir, given the budget where we are today and today's budget and the strategy that we have of making our sensors better and making our kill vehicles better is the right strategy. I think if we have a different budget, then we can have a different strategy.

Senator SULLIVAN. So let me ask you the question without your reference to the budget. Given the increasing threat, which everybody sees, given the likelihood—not the likelihood, the certainty that within 1, 2, 3, 4 years Kim Jong-un is going to be able to reach us with an intercontinental ballistic nuclear missile—do not worry about the budget. Just give me your military answer. Do you think we have done enough? Are you satisfied where we are on missile defense right now for our Nation?

General ROBINSON. Yes, sir, I am.

Senator SULLIVAN. I am not and we need to do a lot, lot more given this threat is going to be on our shores. He is going to have the capability to nuke cities in the Lower 48 at some point in the future. We know that. I do not think we have done enough on missile defense. I think we need to do a lot more.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Graham?

Senator GRAHAM. Thank you, Mr. Chairman.

General Robinson, if we did a CR, would it substantially hurt your capability to defend the Homeland from such attacks?

General ROBINSON. Sir, as you know, as a consumer of the services? capabilities, the U.S. Air Force—the chief testified yesterday about being down 1,000 pilots. I need trained and ready and qualified pilots to defend our airspace. If you look at the things that we are doing to delay maintenance and AWACS [Airborne Warning and Control] being one of those things to delay maintenance, I need an E-3 airborne also to help defend—

Senator GRAHAM. So a CR would be hurtful.

General ROBINSON. Yes, sir.

Senator GRAHAM. If we went back into sequestration next year, would that be disastrous?

General ROBINSON. Yes, sir.

Senator GRAHAM. The same for you, Admiral.

Admiral TIDD. Sir, the services are already challenged to provide resources for SOUTHCOM, and so anything that decreased the available resources is only going to make the matter worse.

Senator GRAHAM. That would include a CR and sequestration.

Admiral TIDD. In my understanding, yes, sir.

Senator GRAHAM. How many ships do you need to cover your theater in not a perfect world but in a better world?

Admiral TIDD. We have had a longstanding requirement for a combination of medium and high endurance platforms for as many as 23 surface combatants and accompanying aircraft.

Senator GRAHAM. How many do you have now?

Admiral TIDD. On any given day, probably about six.

Senator GRAHAM. So do you think at the time they did the survey for 23, things have gotten better or worse in terms of the theater?

Admiral TIDD. Sir, in that particular regard, they are worse.

Senator GRAHAM. So you got six ships. A long time ago, you said you needed 23 and things are worse now than they were when you said you needed 23. Okay.

So, General Robinson, let us get back to North Korea. Do you believe that it is the intention of the regime to develop an ICBM that can hit the Homeland?

General ROBINSON. Yes, sir.

Senator GRAHAM. Do you believe it is just a matter of time until they achieve that capability, unless something changes?

General ROBINSON. Yes, sir.

Senator GRAHAM. Do you believe it is just a matter of time until they can miniaturize a nuclear to put on top of the ICBM?

General ROBINSON. In my discussions with General Hyten, yes, sir.

Senator GRAHAM. So I guess there are two ways to deal with that threat. Never let the missile program mature to the point it can hit the Homeland. That is one. Is that correct?

General ROBINSON. Yes, sir.

Senator GRAHAM. The other would be to have a missile defense system that could knock it down.

General ROBINSON. Yes, sir.

Senator GRAHAM. What do you prefer?

General ROBINSON. I prefer both.

Senator GRAHAM. I agree. That was like the best answer anybody could give.

Do we have both?

General ROBINSON. Today we have exactly what we need to defend the United States of America against North Korea.

Senator GRAHAM. So if a missile were launched from North Korea next year, we could knock it down?

General ROBINSON. Yes, sir.

Senator GRAHAM. Do you agree with me it is better not to let them have that missile?

General ROBINSON. Yes, sir.

Senator GRAHAM. So in terms of Homeland defense, what is the biggest threat to the Homeland, starting with North Korea and kind of listing threats that you see?

General ROBINSON. Yes, sir. I worry about North Korea, as we were just discussing, from a ballistic missile defense perspective when I look at Kim Jong-un and his lack of indications and warning, as General Hyten talked about the other day, and all of that.

I also look at Russia and their long-range aviation and the capability that they have provided.

Right now, I pay attention to Iran because of some of the technologies that they are using.

I also, obviously, watch China as they continue to go further and further away from—

Senator GRAHAM. So these are nation-state threats.

General ROBINSON. Yes, sir.

But I also am very concerned about the homegrown violent extremists and the things that can happen with them. This goes back to the conversation that Admiral Tidd and I had about the networks and what is on the networks.

Senator GRAHAM. Speaking of emerging threats, are you familiar with the increased use of drones by terrorist organizations?

General ROBINSON. Yes, sir. I read that.

Senator GRAHAM. Do we need to up our game when it comes to dealing with potential drone attacks on the country?

General ROBINSON. Sir, so as the person responsible for force protection over installations, I pay attention to that each and every day. I know that the Department—we are working very hard on a policy on what we do with that.

Senator GRAHAM. Do you think we need to change our laws at all to be able to deal with this threat?

General ROBINSON. I think we need to understand what it could be and what it could do—from an installation perspective, what do we need—

Senator GRAHAM. Is it fair to say that in 5 years, this threat, if not unchecked, is going to get worse and more lethal?

General ROBINSON. Sir, if you just look at the proliferation of drones itself and then you add to what you were just talking about and you mate those two together, I can only imagine.

Senator GRAHAM. Thank you both.

Chairman MCCAIN. Admiral Tidd, we would like to have a letter from you describing what additional assets that you could use effectively to apprehend all of those drugs, particularly in the Carib-

bean. That seems to be an area, as we tighten the border, of increased trafficking.

General Robinson, we would like to know from you also if you could write us a letter how we can fully utilize the assets of our uniformed military in keeping with the posse comitatus rule so that we can maximize border security.

Finally, General, would you believe that a definition of a wall could be electronics, could be towers, could be UAVs, could be anti-tunneling capabilities, surveillance towers, in other words dramatically increasing our capabilities through the use of technology?

General ROBINSON. Sir, anything that disturbs, disrupts, and gets after the flow—

Chairman MCCAIN. I am asking would technology—that it be more effectively utilized. I am talking about towers. I am talking about—

General ROBINSON. Yes, sir. Those are helpful as part of a wall.

Chairman MCCAIN. Well, then write us a note, would you, as to what assets you think could be used and construction and ways of preventing the flow not only of drugs, which has been a central theme of this hearing, but also the possible infiltration of terrorists as we see Mosul and Raqqa fall. We all know that these individuals are spreading out throughout the world. So we would appreciate that information from both of you, and I hope it is not too tough a task.

General ROBINSON. Yes, sir.

Chairman MCCAIN. I am certainly glad to see this inter-service cooperation. It is a rare and beautiful event. Thank you.

This hearing is adjourned.

[Whereupon, at 11:06 a.m., the committee adjourned.]

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR JOHN MCCAIN

SUPPORT FOR BORDER SECURITY

1. Senator MCCAIN. General Robinson, how much support has NORTHCOM given to law enforcement addressing border security while training in terms of flight hours and man hours?

General ROBINSON. USNORTHCOM provides title 10 operational support to U.S. Law Enforcement Agencies (LEAs) primarily through Joint Task Force North, a USNORTHCOM subordinate joint service command. USNORTHCOM provides military-unique support to LEAs under Fiscal Year 2019 NDAA Section 1004 authority within six support categories: 1) operational, 2) intelligence, 3) general, 4) inter-agency synchronization, 5) engineering, and 6) technology integration. During fiscal year 2016, USNORTHCOM provided 10,417 flight hours and 159,053 man-days in support of federal LEA requests, providing support to LEA requests across all six categories.

QUESTIONS SUBMITTED BY SENATOR JAMES M. INHOFE

ENGAGEMENT IN SOUTHCOM

2. Senator INHOFE. Admiral Tidd, in your written statement, you noted that adversarial nations are growing their influence in the SOUTHCOM AOR through outreach programs. You pointed out that nations like Russia, China, and Iran have no equivalent of a Leahy Law, and “no comparable conditions on security assistance.” How do we overcome our potential disadvantage to exert influence in the region?

Admiral TIDD. It really boils down to being good partners and setting a good example that our partner nations will want to emulate—we must always strive to

grow and strengthen our security partnerships throughout the region. One of the ways we do this is by building our partners' capacity to address shared threats. These efforts are often done by small mobile training teams that work closely with partners. We don't need brigades of people and aircraft carriers in this region. Small teams engaging at the right level are our strongest assets. Cuts to our personnel and programs in this theater are quickly noticed and feed into the misinformation campaign by Russia that we are no longer interested and withdrawing from the region. To thwart this misinformation, we need to continue activities like Information Operations to counter Russian propaganda and to stay engaged in the region by maintaining efforts to build partner nation capacity, to include programs funded by other agencies such as the State Department's IMET program. These programs allow us to strengthen relationships with like-minded nations, advance our security interests, share our views on the imperative of respecting human rights, the importance of rule of law, and respect for the rules-based, international order.

3. Senator INHOFE. Admiral Tidd, is the Leahy Law impacting your ability to influence and shape behavior in the region?

Admiral TIDD. The United States Southern Command (USSOUTHCOM) is strongly committed to the Leahy Law. The law accomplishes our goal of ensuring that our partner nation military counterparts understand and comply with respect for human rights, a core U.S. value, and as we are seeing increasingly a shared value. Overall, we have seen that the law has had a net positive effect on a number of our Partner Nation military counterparts in the region, such as Colombia, leading them over time to place greater emphasis on their responsibility to respect and protect human rights. However, implementation of the vetting procedures has become increasingly more challenging as we adapt to congressionally mandated personnel cuts within the Department of Defense. Moreover, budget cuts to the Department of State would also significantly impact implementation of the law, and thus our security cooperation efforts, curbing our ability to influence and shape our partner nation military counterparts' human rights compliance throughout the region. If we are restricted from engaging with our partners, we can't help them make the very progress that Congress wants to see. Notably, our ability to work with partners who would benefit most from our engagement to support their continued progress on human rights is frequently restricted by conditions unrelated to the Leahy Law. One example of this was the conditions placed on security assistance for the Guatemalan Armed Forces in fiscal year 2014. Funds for security engagement were tied to the Government of Guatemala paying reparations for the construction of the Chixoy Dam and to the resolution of international private adoption cases between Guatemalan children and United States parents. One of the unintended consequences of this was that our Human Rights training for the Guatemalan Army had to be canceled. Conditions on assistance in fiscal year 2016 for Guatemala, Honduras, and El Salvador to implement the U.S. Strategy for Engagement in Central America in support of the Alliance for Prosperity in the Northern Triangle of Central America came with a series of conditions each of the Central American governments had to meet before 75 percent of funds were able to be released. Withholding such a high percentage of funding, and tying it to such a broad list of conditions, may send the message to our military partners that the intent of the conditions is to withhold assistance, and not to promote positive change.

SOUTHCOM RESOURCES

4. Senator INHOFE. Admiral Tidd, in your written statement, you highlighted resource shortfalls that have negatively impacted your ability to accomplish SOUTHCOM missions. Can you briefly highlight national security implications of these shortfalls?

Admiral TIDD. I support the prioritization of global challenges. However, as we resource the higher priority challenges, USSOUTHCOM's requirements, closer to the United States, are not being met. In some cases, previously allocated assets are being reassigned to Combatant Commands with higher priority missions, further exacerbating our shortfalls. As to national security implications, to give you one example, last year, we had very precise information on 449MTs of drugs en route to the United States that we could not target for interdiction because of lack of forces. That translates into thousands of American deaths and over \$5Billion in illicit profits that fuel corruption and violence. USSOUTHCOM is also contending with compounding effects resulting from several years of undersourcing in the area of intelligence, surveillance, and reconnaissance (ISR). As a Combatant Command charged with defending the southern approaches to the United States, lack of persistent ISR presents significant risk and a clear threat to national security. Short-

falls in posture and presence continue to present blind spots for us and a vacuum for our rivals to exploit.

5. Senator INHOFE. Admiral Tidd, how would the planned buildup of our military across the services—personnel, ships, vehicles and aircraft—impact the ability of SOUTHCOM to execute its mission?

Admiral TIDD. As a Combatant Command (CCMD), our requirements are sourced by the Services. Right now, the Services simply do not have enough forces to go around to fill all the CCMD requirements. Any buildup, maintenance, and modernization efforts for the Services could potentially lead to better resourcing of USSOUTHCOM requirements and increase our ability to execute our mission.

6. Senator INHOFE. Admiral Tidd, what are your top three prioritized funding shortfalls?

Admiral TIDD. Broadly speaking, our requirements fall into three primary categories—tools that allow us to (1) maintain awareness of and ability to effect the threat environment (ISR and analysis, maritime force packages, special forces activities, etc), (2) remain engaged with our partners (efforts to build partner capacity, special forces capabilities, International Military Education and Training, information operations, and conventional forces), and (3) Infrastructure upgrades and repairs to maintain health and welfare of U.S. servicemembers operating in the AOR. More specifically aimed at our requirement to execute our title 10 mission to detect and monitor illicit traffic heading toward the United States, we need what we call force packages. A force package consists of a medium to long range ship hosting a Coast Guard Law Enforcement Detachment and capable of launching and recovering an over the horizon interceptor boat supported by a day/night airborne use of force capable helicopter along with a maritime patrol aircraft equipped with wide-area maritime search radar and infrared detection set (FLIR). We are required by the White House Office of National Drug Control Policy to stop 40 percent of the drug flow. Given the total amount of drugs that left the source zone last year (3,225 metric tons), we would have required 38 force packages to interdict 40 percent. On an average day, we have five. We also require ISR outside of the counternarcotics mission; persistent undersourcing of ISR over several years has created a serious challenge and lack of awareness of a spectrum of threats. People are our greatest resource. The personnel that make up USSOUTHCOM headquarters are our maneuver force—we have very few assigned or allocated forces in this region and rely heavily on headquarters manpower and contractors. We do not require a large footprint of forces, but the cuts to our Headquarters/maneuver force impact our ability to stay engaged in the region, feeding directly into the perception that the United States is withdrawing from the region, a perception on which Russia is quick to capitalize. Finally, after so many years of putting off infrastructure replacements at Guantanamo, we owe it to our Servicemembers to ensure their housing and other facilities are up to standards.

STRATEGIC THREATS TO THE UNITED STATES

7. Senator INHOFE. General Robinson, in February, you told the Toronto Star that, “Today, Russian cruise missiles can reach us from ranges we’re not used to. No longer do they have to enter or come close to North American airspace ... this is a game changer.” What are the implications of the deployment of these missiles on your ability to protect the United States?

General ROBINSON. Deployment of Russian cruise missiles challenges our air defense architecture. I believe our way forward is to continue improving our indications and warning, as well as detection, tracking, and engagement capabilities, to enable interdiction of these cruise missile threats as far forward as possible.

8. Senator INHOFE. General Robinson, what are we doing to defeat or at least mitigate this threat in the near and long term?

General ROBINSON. There are no single-system “silver bullet” options to address cruise missile threats. Current capabilities against cruise missile threats to the National Capital Region include Sentinel radars, limited surveillance coverage from advanced sensors, Aerospace Control Alert fighter aircraft, and ground-based air defense for cruise missile engagement. We are confident in the Department’s Homeland Defense Design approach going forward, which will provide additional capabilities to better detect, track, and engage advanced cruise missiles, both within and beyond the National Capital Region.

9. Senator INHOFE. General Robinson, in March, General Selva confirmed that Russia is deploying nuclear-tipped ground-launched cruise missiles in violation of the 1987 INF (Intermediate-Range Nuclear Forces) Treaty. What are the implications of the deployment of these missiles on your ability to protect the United States?

General ROBINSON. Cruise missiles are a threat to the United States whether they are nuclear tipped or conventional. Our approach to defeat them is the same.

10. Senator INHOFE. General Robinson, you have stated that North Korean leader Kim Jong Un is “unpredictable and volatile” and that “North Korea uses what they learn from each and every test they do to make improvements to their missile capabilities.” Are you able to accurately rely on North Korean indicators and warnings in order to take actions to protect the United States?

General ROBINSON. We’ve made appropriate adjustments in light of shifts in North Korea warning timelines and capabilities, while working with our mission partners to enhance our ballistic missile defense capabilities to remain in an advantageous position going forward. I remain confident we can defend the United States against the current threat posed by North Korea.

QUESTIONS SUBMITTED BY SENATOR MIKE ROUNDS

CRUISE MISSILE DEFENSE

11. Senator ROUNDS. General Robinson, I am concerned that progress on the issues surrounding cruise missile defense (CMD) have remained stagnant over the past few years, after the previous NORTHCOM commander and Vice Chairman of the Joint Chiefs of Staff started to sound the warning. Just last year Admiral Gortney testified on the need to develop effective responses to outpace the cruise missile threat. Yet this year’s posture statement seems to counter this concern. What has changed between last year and this year concerning cruise missile defense?

General ROBINSON. Nothing has changed from last year regarding the need to develop capabilities to outpace the cruise missile threat. This threat is very real and becoming more of a challenge each day. We rely on indications and warning and require detection capabilities to identify the threat as early as possible to engage it before it threatens our Homelands. I am confident, however, in our strategy going forward to enhance and obtain the required capabilities to defend both within, and beyond the National Capital Region, against the cruise missile threat.

LAYERED APPROACH TO CRUISE MISSILE DEFENSE

12. Senator ROUNDS. General Robinson, when dealing with near and long term capabilities and potential gaps, I am concerned there is some disconnect between you as the combatant commander, and the Air Force as a force-provider. Specifically, this concerns the role of the F-15C and F-16 to support the CMD mission. In the context of the layered approach to CMD described in your testimony, has the Air Force requested your input to define requirements to counter this threat?

General ROBINSON. We work closely, and routinely, with all of the Services and the Canadian Armed Forces to ensure the capabilities required to execute NORAD’s layered cruise missile defense (CMD) strategy for North America are fully understood. Specifically, within the past five years, the U.S. Air Force has made significant investments in support of our CMD requirements for enhanced detection, tracking, and engagement capabilities against emergent threats through the Wide Area Surveillance radar program, F-15C, and F-16 AESA radar programs. We currently have F-15Cs that provide NORAD with AESA alert fighter capabilities and are working with the Air Force to upgrade F-16s with AESA capabilities to meet our urgent requirements. In the coming year, we are also working with the Air Force in the bi-national Northern Approaches Surveillance Analysis of Alternatives. This analysis will evaluate alternatives for future persistent, wide area air surveillance capabilities as the aging North Warning System reaches obsolescence.

CRUISE MISSILE DEFENSE—URGENT OPERATIONAL NEED

13. Senator ROUNDS. General Robinson, in 2015, First Air Force, the numbered Air Force tasked to assure air superiority and air sovereignty of the U.S., submitted an urgent operational need (UON) request to the Air Force Requirements Council. I understand this UON was to update block 30 F-16s with APG-83 AESA radars. However, the service did not fund it in fiscal year 2015, fiscal year 2016, or fiscal year 2017. I understand that having an AESA radar is necessary in performing the

CMD mission. Are you consulted by the Air Force as they determine the final UON priority for all the combatant commands?

General ROBINSON. Yes, NORAD works closely with all the Services, including the U.S. Air Force, to ensure our requirements are fully considered through the Joint Capabilities Integration and Development System and the Planning, Programming, Budgeting, and Execution processes. NORAD's urgent need addresses a capability gap within our Aerospace Control Alert (ACA) mission. This request was validated by the Joint Requirements Oversight Council in 2015 and divided into two phases of a Joint Urgent Operational Need (JUON). Phase 1 of the JUON upgrades 24 Air National Guard (ANG) F-16 aircraft with Active Electronically Scanned Array (AESA) radar; Phase 2 of the JUON upgrades 48 additional ANG F-16 Aircraft with AESA radar. All 72 aircraft are projected to be modified with AESA radar by the end of 2020.

F-16 ROLE IN CMD

14. Senator ROUNDS. General Robinson, since this AESA radar UON is now going on 2 years old, and given the potential for fighter force structure changes to include divestment of the F-15C, acquisition of the F-35A and the Air Force's desire to grow from 55 to 60 fighter squadrons, would you agree that this UON should be updated to reflect these changing conditions? Would one option be to expand the UON to encompass other variants of the Air National Guard F-16s beyond the block 30s?

General ROBINSON. I believe we are on track to address our capability requirements as a result of recent activity with our Joint Urgent Operational Need (JUON) submission. The 2015 NORAD JUON was recently superseded by a NORAD Joint Emergent Operational Need (JEON) which was validated by the Joint Requirements Oversight Council on 18 April 2017. The U.S. Air Force provides NORAD with F-15C, and F-16 aircraft to support the Aerospace Control Alert (ACA) mission. All of the F-15C ACA aircraft are either already equipped or scheduled to be equipped with Active Electronically Scanned Array (AESA) radars. Of the fourteen NORAD main operating bases included in our JEON, nine bases operate various blocks of the F-16 aircraft, including Block 30, 40, 42, and 52.

F-16 RADAR UPGRADES

15. Senator ROUNDS. General Robinson, a Government Accountability Office report released in late 2012 estimated that the F-16 AESA upgrades would cost about \$1.8 billion for about 350 jets, or about \$5.2 million per F-16. Recent testimony from the Air Force predicts that the F-15C will require upwards of \$40 million of structural modernization each in order to keep these aircraft flying beyond the mid-2020s. F-16s with AESA radars are already sold to Taiwan (F-16V) and the United Arab Emirates (F-16 block 60) so it would appear the developmental costs and risk reduction have been mitigated. Is the decision to not fulfill the UON a fiscal one?

General ROBINSON. The decision to not fulfill the JUON in 2016 was a fiscal one that is now resolved. The NORAD Active Electronically Scanned Array (AESA) urgent requirement for all 72 Aerospace Control Alert (ACA) F-16s was fully funded in H.R. 244, the Consolidated Appropriations Act of 2017.

NORTHCOM RELATIONSHIP WITH THE FORCE PROVIDER

16. Senator ROUNDS. General Robinson, I would like to further understand the role of a combatant commander as a product consumer vis-à-vis the services' role to organize, train, and equip. Please comment on NORTHCOM's decision making process with regard to accepting risk and making "strategic tradeoffs" in fulfilling the Homeland defense mission if a service does not meet your requirements.

General ROBINSON. As the Commander of USNORTHCOM, I advocate for my capability requirements throughout a collaborative decision-making cycle involving the Combatant Commands, Services, and other organizations throughout the Department of Defense. For example, I communicate my requirements via the Global Force Management (GFM) process in coordination with the Office of the Secretary of Defense (OSD), the Joint Staff, and the Services. I also work through the Joint Capabilities Integration and Development System (JCIDS) to identify gaps and associated capability requirements. We assess and mitigate those gaps via the Programming, Planning, Budgeting, and Execution (PPBE) process and through continual engagement with the Services and relevant entities within the Department of Defense.

QUESTIONS SUBMITTED BY SENATOR BILL NELSON

SOUTHCOS RESPONSE TO LARGE-SCALE EMERGENCIES

17. Senator NELSON. Admiral Tidd, given the relative lack of assets and resources dedicated to the SOUTHCOS area of responsibility (AOR), how does the Command plan to respond to large-scale emergencies, should one occur?

Admiral TIDD. In the event of a large-scale emergency or crisis, we follow standard procedures within the Department of Defense to request the forces needed to respond once we are directed to do so. We rely mainly on capabilities from the Global ResponseForce (GRF) and U.S. Transportation Command's Joint Enabling Capabilities Command (JECC) for immediate response. These forces remain on a permanent "Prepare to Deploy" order and can deploy on short notice. For follow-on response, we request capabilities via the Global Force Management (GFM) Emergent process for requesting forces. Once the Joint Staff validates our request, the Services then work to fill those requirements as quickly as possible from available/ready forces. One of the most critical requirements in responding to a large-scale crisis is the ability to anticipate its onset, and if possible, prevent its impact. Capabilities that allow us to anticipate crises (visualization tools, analytic capability, and awareness gained through ISR and regional engagements and persistent presence) can significantly improve decision-making when every second counts. Maintaining real time situational awareness of potential natural hazards, along with building Partner Nation disaster preparedness and disaster risk reduction capacity through our Humanitarian Assistance Program, we maintain a posture to respond rapidly and mitigate the effects of crises.

PROPOSED CUTS TO U.S. COAST GUARD, DEPARTMENT OF STATE, AND U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

18. Senator NELSON. Admiral Tidd, effectively addressing the challenges you face in SOUTHCOS requires close coordination with and the support of agencies and departments like U.S. Coast Guard, the Department of State, and the United States Agency for International Development. How would cuts to these agencies and departments impact the work of SOUTHCOS?

Admiral TIDD. Security is a team sport, especially in this region, where DOD does not have many resources. If we lose players from the field, it could have significant effects on our ability to defend the Southern approaches. Our partners across the U.S. Government are vital to our ability to accomplish this mission, and we are often in support of other lead federal agencies as we protect against threats to the Homeland. As an example, due to higher global priorities, USSOUTHCOS is assigned less than one Navy ship per year to execute our statutorily directed mission to detect and monitor illicit drugs heading to the United States. However, the U.S. Coast Guard provides an average of six ships per year for this mission. We would be completely unable to execute our Congressionally-mandated, statutory requirement without the support of the Coast Guard. Similarly, with a region at risk for natural disasters, drivers of instability and migration, and food insecurity, the Department of State and the U.S. Agency for International Development sponsor internal security and development programs that we complement and support through our theater security cooperation programs. Finally, without the professionals in the law enforcement and intelligence community, we would not be able to take a whole-of-government approach to detect and degrade the threat networks that challenge our national security.

QUESTIONS SUBMITTED BY SENATOR RICHARD BLUMENTHAL

HEZBOLLAH

19. Senator BLUMENTHAL. Admiral Tidd, Hezbollah has long been known for its support and activity—noticeably money laundering, terrorist attacks, and drug trafficking—in South America. Hezbollah first appeared in the region during the Lebanese Civil War in the 1980s. In 1992, they were linked to an attack on the Israeli Embassy in Buenos Aires (29 deaths, 200+ injured) and in 1994 the bombing of a Jewish cultural center in the same city (killing 85). Hezbollah remains particularly active in the Tri-Border Area (where Argentina, Brazil, and Paraguay meet)—an area plagued by drug smuggling, money laundering, arms trading, counterfeiting, and unregulated borders. But it does not stop here—Hezbollah also has developed a drug trafficking and money laundering networks to launder from South America to the Middle East, facilitated by Venezuela. Venezuela's Vice President (sanctioned by Treasury for drug trafficking in February) also has connections to Hezbollah, as

highlighted by press reports alleging his involvement in the fraudulent issuance of Venezuelan passports to people in the Middle East, noticeably people connected to Hezbollah. How would you characterize the threat from Hezbollah in your area of operation?

Admiral TIDD. Hezbollah is the most capable terrorist group in the region, maintaining a regional infrastructure capable of supporting terrorist attacks with little to no warning. In contrast to al Qaida and ISIS, Hezbollah does not ask or expect its supporters and sympathizers to conduct terrorist attacks. Instead, Hezbollah has a dedicated military unit in Lebanon to accomplish terrorist attacks outside of the LEVANT, using that pre-established infrastructure throughout the world. Hezbollah is motivated to cultivate a relationship with the diaspora to maintain and develop an alternate source of funding to augment Iran's primary funding, to garner absentee political support and financing, and to develop contingency plans for Hezbollah in the event they decide to execute an attack. While Hezbollah does employ terrorist tactics, they only attack in response to perceived threats. Hezbollah would only escalate to an external attack against U.S. interest in the event there was significant cause based on potentially geopolitical issues with Iran or with the Hezbollah leadership cadre. To accomplish this mission Hezbollah develops contingency plans years in advance across the globe that would enable Hezbollah's terrorist branch to execute an attack with little to no warning, should they feel they need to conduct a response to an event. Unfortunately, to defeat any potential Hezbollah attack, we must disrupt attack infrastructure development before triggers or red lines are crossed.

20. Senator BLUMENTHAL. Admiral Tidd, what are you doing to address the threat—including Hezbollah's terrorist activities, money laundering, and drug trafficking?

Admiral TIDD. As previously mentioned, to defeat any potential Hezbollah attack, we must first detect and then disrupt attack infrastructure development before Hezbollah employs it. Therefore, in order to understand this threat network, USSOUTHCOM has been extensively involved in intelligence cooperation and sharing to include several multi-lateral and bi-lateral engagements with regional partners. Additionally, we routinely collaborate with and provide strategic analysis to support other U.S. Government Agencies such as the Department of Treasury and the law enforcement community to support operations that target Hezbollah and the involvement of Hezbollah supporters and members in drug trafficking and other illicit activity. We also continue to build our own networks of regional allies, organizations and agencies to enhance our partners' capacities to address security challenges writ large. Stronger regional allied networks build our partners' capacities by giving them access to greater resources to detect, attack, and reduce Hezbollah infrastructure in the region before it can be leveraged to threaten our interests or those of our partners in the region.

21. Senator BLUMENTHAL. Admiral Tidd, what percentage of Hezbollah fundraising is derived from drug trafficking and what are the other major sources of profit?

Admiral TIDD. Hezbollah benefits from funds generated by the loosely-connected enterprise of Lebanese Shi'a Muslim, clan-based, business networks involved in licit and illicit activity. Hezbollah benefits from a portion of these networks profits via family remittances, religious tithings, charitable organizations, and direct contributions. Collectively this augments Hezbollah's primary funding source coming from Iran. There is little risk and long term profitability associated with the sale of counterfeit goods vice the high risk drug trafficking activities some choose as a means to earn money. As a result, there is very likely far more illicit activity involving the sale of counterfeit merchandise compared to drug trafficking or involvement in weapons smuggling. Lebanese expats in the region are also involved in many other illicit businesses, just not equal to the extent of sale of all types of counterfeit products that range from purses to high end electronics.

22. Senator BLUMENTHAL. Admiral Tidd, are you working to build the capacity of regional allies to address Hezbollah's malign activities?

Admiral TIDD. Many of the skills gained by our partners from USSOUTHCOM's broader capacity building activities to address other regional security challenges are transferrable. Skills used to counter threat networks, threat finance, and narcotics can be applied across many other threats to include Hezbollah. Additionally, working with our partners, regional organizations, and other U.S. Government agencies to reduce corruption as well as un- and under-governed spaces (while not specifically

targeted at Hezbollah) will counter many of Hezbollah's activities to build and maintain additional infrastructure in the region.

23. Senator BLUMENTHAL. Admiral Tidd, what do you know about the links between Venezuela's Government and Hezbollah?

Admiral TIDD. There have been a number of individuals within the Venezuelan government who are ideologically aligned with Hezbollah. A very small number of these individuals were involved in illicit activity that, via third party donations, likely resulted in an insignificant financial profit for Hezbollah. Additionally, Venezuelan travel documents have been sold to members of the Lebanese community. The Lebanese diaspora in Venezuela likely has relationships with a small number of local and regional Venezuelan officials to facilitate the transportation and sale of counterfeit merchandise. Additionally, some members of the Lebanese community are involved in drug trafficking and money laundering which is possibly facilitated by lower level law enforcement, military, or government officials. However, there is no official relationship between the government of Venezuela and Hezbollah.

THE ARCTIC

24. Senator BLUMENTHAL. General Robinson, a March 22 article in the Washington Post noted that sea ice levels in the Arctic Ocean hit a record low—the smallest since record keeping began in 1979. This is troubling from an environmental standpoint, but more importantly for this hearing, it opens sea lanes in areas we did not have to worry about protecting in the past. Russia is expanding its capabilities in the arctic, the largest since the end of the Cold War, including reopening or building of six military bases. Russia is also expanding its reach and laying claim to part of the estimated 22 percent of the undiscovered gas and oil reserves located in the Arctic. The disparity in our icebreaker fleet is another area of concern. Russia's aggressive activity in the Arctic is concerning and the U.S. needs to do more to assert its presence in the region. How is climate change impacting NORTHCOM operations? Is the thawing of the Arctic impacted mission requirements?

General ROBINSON. At this time, climate change and the thawing of sea ice in the Arctic do not affect my ability to conduct my Homeland defense and defense support of civil authority missions. The Arctic is a vast and harsh operating environment that requires uniquely trained and equipped forces to operate in this austere region. When we develop plans and strategies, we consider many factors, such as Russian military capabilities, the capabilities and capacities of our partners, and the operational environment. We are cognizant of the differences between the Eurasian Arctic and the North American Arctic and continuously evaluate changes in the operational environment to determine if those changes drive new capability requirements. We continue to look for opportunities to advocate for capabilities that will enable us to perform missions throughout our Area of Responsibility, to include safety, security, and defense of the Arctic.

25. Senator BLUMENTHAL. General Robinson, if this trend continues, there will be additional ocean to patrol and sea lanes to protect to our north. Has this impacted the number of ships and patrols required in the Arctic?

General ROBINSON. Climate change has not impacted the number of ships and patrols I require in the Arctic. However, diminishing sea ice will eventually open a northern maritime avenue of approach to North America, highlighting the importance of the maritime warning mission for NORAD and the Homeland Defense mission for USNORTHCOM.

QUESTIONS SUBMITTED BY SENATOR MAZIE K. HIRONO

IMPACT OF PARTNERSHIPS ON THE REGION

26. Senator HIRONO. Admiral Tidd, with regard to interagency and regional cooperation, in your written testimony you state that "our security partnerships help create a layered defense of our Homeland by keeping our shared home stable and secure." Would you agree that the security of the region is not based solely on military might but also on diplomacy and developing relationships with allies?

Admiral TIDD. Yes, I agree with that statement.

27. Senator HIRONO. General Robinson, what is your opinion of the border wall and its impact on relationships with our allies?

General ROBINSON. In my role as the USNORTHCOM Commander, I am confident in the strength of the military-to-military relationships between my Commands and our international military partners within my Area of Responsibility.

28. Senator HIRONO. General Robinson, in your opinion, will our national security be increased by building a border wall?

General ROBINSON. As the Commander of USNORTHCOM, I respectfully defer to national civilian leaders on matters of policy.

29. Senator HIRONO. General Robinson, if our relationship with Mexico is impacted negatively, how would it affect our ability to combat drug trafficking, human trafficking and anti-terrorism on the Southern border?

General ROBINSON. The military-to-military relationship between the United States and Mexico is extremely strong and absolutely at an all-time high. I am confident in the strength of this important relationship and believe our shared goals on the U.S. southern border will remain a priority.

30. Senator HIRONO. Admiral Tidd and General Robinson, what impact does President Trump's "America First" policy have on relationships with our allies in the region?

Admiral TIDD. We have not noticed any difference in our relationships with our partners in the region as a result of President Trump's policies. With very few exceptions, we enjoy strong partnerships with the countries in this region, who want to partner with the United States. I will comment that there are other countries, namely Russia and China, who are positioning themselves to step in as partners to these nations if there is a perception that the United States is withdrawing from the region.

General ROBINSON. As the USNORTHCOM Commander, I can only speak to the mil-to-mil relationships with our partners within my Area of Responsibility. Those relationships remain strong, and I will continue to place great importance on continually building on our mil-to-mil partnerships.

FUNDING TO SUPPORTING FEDERAL AGENCIES

31. Senator HIRONO. Admiral Tidd, in your statement you commented on the importance of other governmental agencies on the success of your mission. President Trump's budget proposed to cut a substantial portion of funding to the Department of State and USAID. If Department of State and USAID were forced to reduce their mission in the region due to funding issues, what impact would that have on your mission, particularly the humanitarian missions?

Admiral TIDD. The United States military is never the lead in the event of a response to a humanitarian crisis. If DOD unique capabilities are required, we are called in to support USAID, the lead federal agency for humanitarian crisis response, with those capabilities (such as heavy air-lift). This region is particularly prone to natural disasters, averaging about 50 every year. If USAID funding is cut, I suspect that cost and duration of U.S. military involvement in humanitarian responses could increase, though I defer to USAID for more specific information on impact of funding cuts. Additionally, the development programs that are sponsored by USAID are incredibly important to mitigate the drivers of instability and migration in the region. The State Department is also a critical partner in this region. State programs such as FMS, FMF, and IMET are key to our relationship-building in the region—facilitating long-term relationships with future leaders of our partner nations. Also, the State Department has a robust program aimed at countering international crime, illegal drugs, and instability abroad that very closely complements the efforts of USSOUTHCOM in the Western Hemisphere. Given the already limited resources of DOD in this region, cuts to these vital programs run by our interagency partners would have a significant impact on regional security and our bilateral partnerships.

32. Senator HIRONO. Admiral Tidd, another agency that is facing potential reductions in the President's budget is the U.S. Coast Guard. You stated that the Coast Guard is "punching well above their weight" by helping fulfill a portion of your title 10 detection and monitoring obligations. This is largely due to the maritime platform gaps that are occurring across the services and that Littoral Combat Ships play an important part in SOUTHCOM's mission. What impact would a Coast Guard budget reduction have on the security of the U.S. and defense of our nation?

Admiral TIDD. I would defer to the Commandant of the Coast Guard for specifics on how cuts would impact his ability to execute his mission. What I can tell you

is that the U.S. Coast Guard is currently our primary maritime force provider for our title 10 directed mission to detect and monitor illicit drugs heading toward the United States. If the Coast Guard receives significant cuts to its budget, that could impact its ability to source this critical mission.

33. Senator HIRONO. Admiral Tidd, can you describe in more detail what those platform gaps include? What additional resources would you need to cover all of the title 10 requirements that you have?

Admiral TIDD. In order to target, detect, and disrupt illicit maritime traffic, we require what's called force packages. One force package consists of a medium to long range ship (hosting a Coast Guard Law Enforcement Detachment with an interceptor boat and one or more day/night capable helicopters with aerial use of force capability) and a maritime patrol aircraft equipped with wide-area maritime search radar and infrared detection set (FLIR). The White House's Office of National Drug Control Policy (ONDCP) provides guidance to interdict 40 percent of the known cocaine flow. This number was deemed the level at which the drug trafficking model would break or be seriously comprised. Based on the documented cocaine flow (3,225 metric tons) in 2016, we would have required 38 force packages to disrupt 40 percent of that flow. On any given day, we have five force packages available to support interdiction efforts. In addition to force packages, we also need to continue our efforts to build the capacity of our very willing partners to support the regional efforts to stem the flow of illicit traffic. We recognize that we cannot stop this illicit flow alone. The better trained and equipped our partners are to support these efforts, the more successful we will all be. As an example of our efforts in this area, we have provided interceptor boats and communications equipment to our partner nations to enable them to directly support the interdiction efforts of the Joint Interagency Task Force South (JIATF-South) in Key West, which leads our mission to detect and monitor. As a result, in 2016, 42 percent of all JIATF-South supported disruptions involved our partner nations, in most of those, partner nation participation was critical to the success of the disruption. Finally, it is important that we continue to share intelligence and cooperate with the U.S. interagency and our partner nations. One critical component of that is to maintain the Relocatable Over-the-Horizon Radar system (ROTHR) fully functional and free of interference from wind farms that will likely degrade our capability to use these systems to detect and track threat network operations in the air and maritime domains.

LITTORAL COMBAT SHIP

34. Senator HIRONO. Admiral Tidd, in your written testimony you stated that no Littoral Combat Ships (LCS) have been assigned to your command so you have had to utilize other means, including relying on foreign allies, to accomplish SOUTHCOM's mission. Can you describe the importance of LCSs to SOUTHCOM's mission?

Admiral TIDD. To execute our mission to detect and monitor illicit drugs, we require surface assets that have the capability to launch and recover helicopters and over-the-horizon interceptor boats. As you know, the LCS is equipped with those capabilities, which make it a very suitable platform for the missions in this region. Right now, USSOUTHCOM is allocated less than one Navy ship per year. Any opportunity to use LCS in this region would greatly increase USSOUTHCOM's ability to execute its mission.

35. Senator HIRONO. Admiral Tidd, what level of LCS assets would best enable SOUTHCOM to accomplish its mission?

Admiral TIDD. As mentioned above, in order to meet the White House's requirement to interdict 40 percent of illicit flow in 2016, we would have required 38 force packages that include a surface asset with the capabilities available on the LCS—ability to launch and recover helicopters and over-the-horizon interceptor boats. As a CCMD, we outline our requirements broadly and rely on the different Services to source those requirements with appropriate platforms.

RELATIONSHIP WITH ALLIES FOR MISSILE DEFENSE

36. Senator HIRONO. General Robinson, relationships with allies in the Asia Pacific are important to our overall security strategy in that region. Both Japan and Korea have Aegis equipped ships and Japan has been a great partner in developing the SM-3 Block II A missiles. What additional steps should the U.S. take in order to continue to develop missile defense technologies with our allies?

General ROBINSON. I defer to ADM Harris regarding efforts in his Area of Responsibility and to VADM Syring at the Missile Defense Agency regarding the potential benefits of joint program development with our allies.

37. Senator HIRONO. General Robinson, how important is the concept of working with our allies on missile defense?

General ROBINSON. The Ground-based Midcourse Defense system, which I use to defend the United States, is not jointly developed with any allies. However, some of our supporting radars are located outside of the U.S. and provide benefit to our defense, as well as the host nation and region.

ROLE OF CHINA

38. Senator HIRONO. General Robinson, president Trump has stated that the U.S. will act alone if China does not take action to intervene in North Korea's quest for a nuclear capable ballistic missile. In your opinion, what is best policy toward China concerning the North Korean issue?

General ROBINSON. As the USNORTHCOM mission is focused on the defense of the United States, I respectfully defer to others on matters of policy.

MAUI SPACE SURVEILLANCE SITE

39. Senator HIRONO. General Robinson, the Maui Space Surveillance Site combines operational satellite tracking facilities with a research and development facility. It is the only facility of its kind in the world and provides state-of-the-art electro-optical capabilities. What is the importance of this facility to national security and how important is it to continue to modernize the capabilities of this facility to continue to meet the emerging threats?

General ROBINSON. USNORTHCOM relies heavily on space-based assets to defend our Homeland. However, because the Department of Defense's space surveillance mission falls under the purview of Air Force Space Command, I respectfully defer to General John Raymond for a more specific response to your question.

THREAT OF NORTH KOREA

40. Senator HIRONO. General Robinson, it is clear that North Korea is committed to developing long-range missile technology. Most recently North Korea tested a solid-propellant SLBM variant. These types of weapons have very few indications and warnings. From a missile defense perspective, how well is the U.S. protected from the North Korean threat?

General ROBINSON. I am confident that we can defend the U.S. from the threat currently posed by North Korea. However, we closely monitor advancements and evolutions in their missile program to inform best use of our current capabilities, as well as capabilities required in the future.

41. Senator HIRONO. General Robinson, what future requirements would you identify as necessary to defend the U.S. and in particular Hawaii from the North Korean missile threat?

General ROBINSON. We have the capability to defend the Homeland today from the North Korean threat, including Hawaii. My priorities remain to improve our persistent sensor architecture, as well as interceptor reliability and lethality. We are currently working with the Department through the Ballistic Missile Defense Review that may identify and prioritize potential improvements to further enhance ballistic missile defense protection of Hawaii.

**DEPARTMENT OF DEFENSE AUTHORIZATION
FOR APPROPRIATIONS FOR FISCAL YEAR
2018 AND THE FUTURE YEARS DEFENSE
PROGRAM**

THURSDAY, APRIL 27, 2017

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

**UNITED STATES PACIFIC COMMAND AND UNITED
STATES FORCES KOREA**

The committee met, pursuant to notice, at 9:30 a.m. in Room SD-G50, Dirksen Senate Office Building, Senator John McCain (chairman of the committee) presiding.

Committee members present: Senators McCain, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Perdue, Cruz, Graham, Sasse, Strange, Reed, Nelson, McCaskill, Shaheen, Gillibrand, Blumenthal, Donnelly, Hirono, Kaine, King, Heinrich, Warren, and Peters.

OPENING STATEMENT OF SENATOR JOHN MCCAIN, CHAIRMAN

Chairman MCCAIN. Well, good morning.

The Senate Armed Services Committee meets this morning to receive testimony on the posture of U.S. Pacific Command and U.S. Forces in Korea.

Admiral Harris, I appreciate your appearance before the committee during this tense period in your area of responsibility. I want to express the appreciation of this committee for the service of the men and women you lead who defend our Nation every day.

America's interests in the Asia-Pacific region are deep and enduring. That is why for the past 70 years we have worked with our allies and partners to uphold a rules-based order based on the principles of free peoples and free markets, open seas and open skies, and the rule of law and the peaceful resolution of disputes. These ideas have produced unprecedented peace and prosperity in the Asia-Pacific, but now the challenges to this rules-based order are mounting and they threaten not just the nations of the Asia-Pacific region but the United States as well.

The most immediate threat is the situation on the Korean Peninsula. Kim Jong-un's regime has thrown its full weight behind its quest for nuclear weapons and the means to deliver them. Unfortunately, the regime is making real progress. A North Korean missile with a nuclear payload capable of striking an American city is no

longer a distant hypothetical but an imminent danger, one that poses a real and rising risk of conflict. Indeed, as Admiral Harris said yesterday in testimony before the House, North Korea already has the conventional capability to strike United States territory. I look forward to hearing your assessment of North Korea's nuclear and missile programs, the military options your forces offer to our Commander in Chief and their readiness to carry them out if called upon.

I welcome the news that the deployment of the THAAD [Terminal High Altitude Area Defense] missile defense system to South Korea and other capabilities in the region will soon be completed. It is shameful that China has retaliated against South Korea with economic and cyber means in response to its support for this deployment. This committee understands that deploying this system is a joint alliance decision that is necessary to defend our ally, South Korea. Admiral Harris, we welcome your views on whether further enhancements to United States missile defenses or our conventional military posture are required in Northeast Asia to counter the threat from North Korea.

For years, the United States has looked to China, North Korea's longtime patron and sole strategic ally, to bring the regime to the negotiating table and achieve progress toward a denuclearized Korean Peninsula. We have done so for the simple reason that China is the only country that may have the influence to truly curb North Korea's destabilizing behavior. China has repeatedly refused to exercise that influence.

I welcome the Trump administration's outreach to China on the issue of North Korea. As these discussions continue, the United States should be clear that while we earnestly seek China's cooperation on North Korea, we do not seek such cooperation at the expense of our other vital interests. We must not and will not bargain over our alliances or over fundamental principles of the rules-based order.

As its behavior toward South Korea indicates, over the last several years, China has acted less and less like a responsible stakeholder of the rules-based order in the region and more like a bully. It has economically coerced its neighbors, increased its provocations in the East China Sea, and militarized the South China Sea. Meanwhile, with a rebalance policy too heavy on rhetoric and too light on action, years of senseless defense cuts, and now the disastrous decision to withdraw from the Trans-Pacific Partnership, United States policy has failed to adapt to the scale and velocity of China's challenge to the rules-based order. That failure has called into question the credibility of America's security commitments in the region.

This committee has grown increasingly concerned about the erosion of America's conventional military overmatch as states like China and North Korea develop advanced capabilities to counter our ability to project military power. While America's military remains the most powerful on Earth, we must adapt to the new realities we face. We must think differently about forward basing and force posture, logistics and mobilization, and take steps to reshape the capabilities of our joint force for the renewed reality of great power competition.

Specifically on the issue of munitions, this committee has heard testimony each year about the qualitative and quantitative shortfalls we have in our munitions, but we have seen little action from the services to finally turn the corner and address this issue with the seriousness it requires. Admiral Harris, I am interested in your views on munitions requirements and what it will take to meet them.

The new administration has an important opportunity to chart a different and better course. At our hearing earlier this week, our panel of expert witnesses agreed there was a strong merit for a, quote, "Asia-Pacific Stability Initiative." This initiative could enhance U.S. military power through targeted funding to realign our force posture in the region, improve operationally relevant infrastructure, fund additional exercises, preposition equipment, and build capacity with our allies and partners. Admiral Harris, I am eager to hear your thoughts on this kind of an initiative.

Admiral, I think there is some symbolism in your appearance today and the information that the Chinese are now building their own aircraft carrier. I am sure that as an old naval aviator, that that has some interest for you.

Senator Reed?

STATEMENT OF SENATOR JACK REED

Senator REED. Well, thank you very much, Mr. Chairman.

I want to thank you, Admiral Harris, for being here today. We understand how difficult this time must be for you and for General Brooks and all the men and women that you lead. We want you to express our great appreciation for their efforts.

It is clear to me, especially after the thoughtful discussion we had on Tuesday with our outside panel, that there is no set of options that lead to quick and certain strategy on North Korea. While I believe that we should pursue and exhaust every diplomatic option to bring the North Korean regime to the negotiating table, those options are somewhat limited. China provides the lifeline for North Korea, and China, for its own national security interests, seems unwilling to exert the type of pressure that is needed to convince the regime that denuclearization is the only path forward. Even if China were willing to exert that type of pressure, it seems that Kim Jong-un is so determined to pursue his nuclear program that he is willing to risk impoverishing and starving his own population to achieve his dream of becoming a nuclear-capable state.

There are military options, but they are risky. A comprehensive strike on nuclear facilities may precipitate a catastrophic retaliation against the civilian population of Seoul or against our bases and servicemembers in South Korea or Japan. A surgical strike, while less risky, may not deter the North Korean regime and runs the risk of emboldening Kim Jong-un. Complicating factors, of course, are the stockpile of chemical and biological weapons at his disposal and road-mobile missile launchers spread across the countryside.

North Korea's nuclear and missile program is an immediate and grave national security threat. Admiral Harris, I ask that you tell us how you are preparing for every contingency on the peninsula.

While North Korea poses an immediate national security threat, we must not lose sight of the potential long-term threat that China poses to the rules-based order in the Asia-Pacific region. Whether it be economic coercion of its smaller, more vulnerable neighbors or undermining the freedom of navigation that we all depend upon, China has not demonstrated a willingness to rise as a responsible global leader. Therefore, I believe it is critical that we empower and engage countries in Southeast Asia and South Asia to protect their own waterways and provide them with economic alternatives to main regional stability, preserve United States standing in Asia, and allow the economic growth and stability that has characterized the region for the last 50 years to continue.

Again, thank you, Admiral, for your service, and thank you, Mr. Chairman.

Chairman MCCAIN. Admiral?

**STATEMENT OF ADMIRAL HARRY B. HARRIS, JR., USN,
COMMANDER, UNITED STATES PACIFIC COMMAND**

Admiral HARRIS. Thank you, Chairman McCain and Senator Reed and distinguished members. It is an honor for me to appear before this committee.

There are many things to talk about since my last testimony 14 months ago, and I regret that I am not here with my testimony battle buddy, General Vince Brooks, but I think you would all agree that he is where he is needed most right now on the Korean Peninsula.

Mr. Chairman, I request that my written posture statement be submitted for the record.

Chairman MCCAIN. Without objection.

Admiral HARRIS. As the PACOM Commander, I have the extraordinary privilege of leading about 375,000 soldiers, sailors, airmen, marines, coast guardsmen, and DOD civilians serving our Nation over half the globe. These dedicated patriots are doing an amazing job, and thanks to them, America remains the security partner of choice in the region.

That is important because I believe that America's future and economic prosperity are inextricably linked to the Indo-Asia-Pacific, a region that is poised at the strategic nexus where opportunity meets the four considerable challenges of North Korea, China, Russia, and ISIS.

It is clear to me that ISIS is a threat that must be destroyed now, but as we eliminate ISIS in the Middle East and North Africa, some of the surviving fighters will likely repatriate to their home countries in the Indo-Asia-Pacific. We must continue to work with likeminded nations to eradicate ISIS before it grows in the PACOM area of responsibility.

Then there is North Korea, which remains the most immediate threat to the security of the United States and our allies in Japan and Korea. North Korea has vigorously pursued a strategic strike capability with nuclear tests and ballistic missile launches which it claims are intended to target the United States, South Korea, Japan, and just earlier this week, Australia. Make no mistake. Kim Jong-un is making progress on his quest for nuclear weapons and a means to deliver them intercontinentally. All nations need to

take this threat seriously because North Korea's missiles point in all directions. North Korea's capabilities are not yet an existential threat to America, but if left unchecked, it will eventually match the capability to hostile rhetoric.

I know that there is some debate about North Korea's intent and the miniaturization advancements made by Pyongyang, and I will not add to that speculation. Regardless, my job is to provide military options to the President, and because PACOM must be ready to fight tonight, I must assume that Kim Jong-un's nuclear claims are true. I know his aspirations certainly are.

That is why General Brooks and I are doing everything possible to defend the American Homeland and our allies and the Republic of Korea and Japan. That is why the ROK [Republic of Korea]-United States Alliance decided last July to deploy THAAD, the Terminal High Altitude Area Defense System, which would be operational in the coming days and able to better defend South Korea against the growing North Korean threat.

That is why the USS *Carl Vinson* carrier strike group is back on patrol in Northeast Asia.

That is why we must continue to debut America's newest and best military platforms in the Indo-Asia-Pacific.

That is why we want to continue to emphasize trilateral cooperation between the United States, South Korea, and Japan, a partnership with a purpose if there ever was one.

That is why we continue to call on China to exert its considerable influence to stop Pyongyang's unprecedented weapons testing. While recent actions by Beijing are encouraging, the fact remains that China is as responsible for where North Korea is as North Korea itself.

In confronting the reckless North Korean regime, it is critical that we are guided by a strong sense of resolve both privately and publicly, both diplomatically and militarily. As President Trump and Secretary Mattis have made clear, all options are on the table. We want to bring Kim Jong-un to his senses and not to his knees.

We are also challenged in the Indo-Asia-Pacific by an aggressive China and a revanchist Russia. China continues a methodical strategy to control the South China Sea. I testified last year that China was militarizing this critical international waterway and the airspace above it by building air and naval bases on seven Chinese manmade islands in the disputed Spratlys. Despite subsequent Chinese assurances at the highest levels that they would not militarize these bases, today they have these facilities that support long-range weapons emplacements, fighter aircraft hangars, radar towers, and barracks for their troops. China's militarization of the South China Sea is real.

I am also not taking my eyes off of Russia, which just last week flew bomber missions near Alaska on successive days for the first time since 2014. Russia continues to modernize its military and exercise its considerable conventional and nuclear forces in the Pacific.

Despite the region's four significant challenges since my last report to you, we have strengthened America's network of alliances and partnerships. Working with likeminded partners on shared security threats like North Korea and ISIS is a key component of our

regional strategy. Our five bilateral defense treaty alliances, Australia, Japan, the Republic of Korea, the Philippines, and Thailand, anchor our joint force efforts in the Indo-Asia-Pacific.

We have also advanced important partnerships with India and Indonesia, Malaysia and New Zealand, Singapore and Sri Lanka, Vietnam and others, all with a view toward reinforcing the rules-based security order that has helped underwrite peace and stability and prosperity throughout the region for decades.

But there is more work to do. We must be ready to confront all challenges from a position of strength and with credible combat power.

I ask this committee to support continued investment to improve military capabilities. I need weapon systems of increased lethality, precision, speed, and range that are networked and cost effective. Restricting ourselves with funding uncertainties reduces warfighting readiness. I urge Congress to repeal sequestration and to approve the proposed Defense Department budget.

Finally, I would like to thank Chairman McCain and this committee for proposing and supporting the Asia-Pacific Stability Initiative. This effort will reassure our regional partners and send a strong signal to potential adversaries of our persistent commitment to the region.

As always, I thank the Congress for your enduring support to the men and women of PACOM and to our families who care for us. Thank you very much, and I look forward to your questions.

[The prepared statement of Admiral Harris follows:]

PREPARED STATEMENT BY ADMIRAL HARRY B. HARRIS JR.

Chairman McCain, Ranking Member Reed, and distinguished members of the committee, thank you for the opportunity to appear before you today. This is my second posture assessment since taking command of U.S. Pacific Command (USPACOM) in 2015. During this time, I've had the extraordinary privilege to lead the soldiers, sailors, marines, airmen, coast guardsmen, and Department of Defense civilians standing the watch in the vast Indo-Asia-Pacific region. These men and women and their families inspire me with their relentless devotion to duty, and I'm proud to serve alongside them.

This past January 1st, USPACOM commemorated its 70th birthday. For 70 years, our joint military forces have protected the territory of the United States, its people, and its interests throughout the Indo-Asia-Pacific region. Working in close concert with other U.S. Government agencies, defending our Homeland and our citizens is always "Job number one" at USPACOM. It is my top command priority. Together with our allies and partners, USPACOM enhances stability in the region by promoting security cooperation, responding to contingencies, deterring aggression, and, when necessary, fighting to win. This security approach is based on shared interests, partnerships, military presence, and readiness.

The United States has enduring national interests in the Indo-Asia-Pacific. In fact, I believe America's future security and economic prosperity are indelibly linked to this critical region, which is now at a strategic crossroads where real opportunities meet real challenges. Of the five global challenges that currently drive United States defense planning and budgeting—ISIS (Islamic State of Iraq and Syria), North Korea, China, Russia and Iran—four are in the Indo-Asia-Pacific. We cannot turn a blind eye to these challenges. We must not give any country or insidious non-state actor a pass if they purposely erode the rules-based security order that has served America and this region so well for so long.

Rising from the ashes of World War II, the rules-based international order, or what I sometimes call, "the Global Operating System," has kept the Indo-Asia-Pacific largely peaceful and created the stability necessary for economic prosperity in the United States and countries throughout the region. Ironically, China is the country that has benefitted the most. The collective respect for, and adherence to, international rules and standards have produced the longest era of peace and pros-

perity in modern times. These conditions are not happenstance. In my opinion, they have been made possible by a security order underwritten by seven decades of robust and persistent U.S. military presence and credible combat power. This security order has been reinforced by America's five bilateral security alliances with Australia, Japan, the Republic of Korea (ROK), the Philippines, and Thailand. This order is further bolstered by our growing partnerships with India, Indonesia, Malaysia, New Zealand, Singapore, Sri Lanka, Mongolia, and Vietnam.

This Global Operating System upholds critical principles—the rule of law, adherence to standards, peaceful resolution of disputes, freedom of navigation for all civilian and military vessels and aircraft, and open access to the sea, air, space, and cyberspace domains. Its outcomes are two-fold: enhanced security and unimpeded lawful commerce. Sustainable security requires effective and enduring institutions, both civilian and military, that are guided by these principles. Defense, diplomatic, and development efforts are intertwined and continue to reinforce each other to promote stability in both conflict-affected and steady state environments to build and sustain stable democratic states.

The Indian and Pacific Oceans are the economic lifeblood linking the Indian Subcontinent, Southeast Asia, Australia, Northeast Asia, Oceania and the United States Oceans that once were physical and psychological barriers that kept us apart are now maritime superhighways that bring us together. Each year, approximately \$5.3 trillion in global trade transits the South China Sea and \$1.2 trillion of this sea-based trade involves the United States fifty-five percent (55 percent) of the global gross domestic product (GDP) comes from this region (including the U.S.). Five of America's top ten trading partners are in the Indo-Asia-Pacific and it's a destination for one-fourth of our exports. The diverse region drives global economic growth and is home to the world's two largest economies after the United States (China and Japan) and led by the three fastest growing large economies (China, India, and the 'ASEAN Five' (Indonesia, Malaysia, Philippines, Thailand, and Vietnam)). Nine of ten megacities in the world are in this region (including Karachi, Pakistan).

The Indo-Asia-Pacific has the world's most populous democracy (India), and is home to more than half the world's population. Some estimates predict that percentage could rise to near 70 percent by 2050, which will lead to further competition for dwindling resources. Indonesia, an important security partner of the United States, is a maturing democracy, and the world's largest Muslim-majority state. Eleven of the top 15 largest militaries in the world are in or adjacent to the region, as are two-thirds of the nine countries that possess nuclear weapons.

Simply stated, what happens in the Indo-Asia-Pacific matters to America. The region needs a strong America, just as America needs the region.

In fact, the need for American engagement in the Indo-Asia-Pacific is demonstrated in the long history of United States commitment to the region. It's overwhelmingly in America's security and economic interests to defend the rules-based order against challengers that would seek to unilaterally rewrite it or alter its fundamental principles. It's overwhelmingly in America's interests to deepen our diplomacy in the region while backing up peaceful resolution of disputes with undisputed, credible combat power. It's overwhelmingly in America's interests to remain the region's security partner of choice by working closely with our allies and partners who share our commitment to uphold peace, economic prosperity and security.

This document is my assessment of the regional security challenges and opportunities of strategic value. First, I will outline some of the specific challenges we face in the Indo-Asia-Pacific including threats to the Homeland. I will highlight critical needs in order to seek your support for budgetary and legislative actions to improve United States military readiness in the Indo-Asia-Pacific region. I will discuss the value of U.S. strategic force posture and forward presence and how these preconditions improve the readiness of our joint force to fight tonight, enhance our ability to reassure allies and partners, and maintain regional stability. Finally, I will discuss how USPACOM strengthens existing alliances and cultivates critical partnerships with regional actors—both of which deliver strategic benefits and improve readiness to protect and defend U.S. interests.

OVERVIEW

As we look ahead to the next quarter century, if not the next few months or years, security and stability are threatened by a range of regional state and non-state actors who are challenging the rules-based security order that has helped underwrite peace and prosperity for America and throughout the region for over 70 years.

North Korea continues to disregard United Nations sanctions by developing, and threatening to use intercontinental ballistic missiles and nuclear weapons that will threaten the United States Homeland. China has fundamentally altered the phys-

ical and political landscape in the South China Sea through large scale land reclamation and by militarizing these reclaimed features. Beijing continues to press Japan in the East China Sea, is stepping up diplomatic and economic pressure against Taiwan, and is methodically trying to supplant United States influence with our friends and allies in the region. Furthermore, China is rapidly building a modern, capable military that appears to far exceed its stated defensive purpose or potential regional needs. China's military modernization is focused on defeating the United States in Asia by countering United States asymmetric advantages. China's military modernization cannot be understated, especially when we consider the Communist regime's lack of transparency and apparent strategy. China is committed to developing a hypersonic glide weapon and advanced cyber and anti-satellite capabilities that present direct threats to the Homeland. China's near term strategy is focused on building up combat power and positional advantage to be able to restrict freedom of navigation and overflight while asserting de facto sovereignty over disputed maritime features and spaces in the region. Russia is modernizing its military and once again exercising its conventional forces and nuclear strike capabilities in the Pacific, which also threaten the Homeland. Transnational terrorists, inspired by and in some cases led by ISIS, have set their sights on the Indo-Asia-Pacific by supporting and encouraging attacks in Indonesia, Bangladesh, Philippines, and Malaysia while recruiting and fund-raising there and elsewhere. Drug trafficking, human smuggling, piracy, weapons proliferation, natural disasters—as well as illegal, unreported, and unregulated fishing—further challenge regional peace and prosperity.

To counter these challenges, USPACOM is enhancing U.S. force posture, presence, and resiliency, while modernizing U.S. force capability and training to ensure our forces are ready to fight tonight and win in any contingency. USPACOM is working with our many and invaluable allies and partners on a bilateral—and increasingly multilateral—basis to address these common challenges. The growth in multinational “partnerships with a purpose” demonstrates that the countries in the Indo-Asia-Pacific view the United States as the security partner of choice. By working together, we enhance capability and capacity to respond to the range of threats endemic to the region.

KEY CHALLENGES

North Korea: North Korea remains our most immediate threat in the Indo-Asia-Pacific. It dangerously distinguishes itself as the only country to have tested nuclear weapons in this century. As former Secretary of Defense William Perry once said, we must deal with North Korea “as it is, not as we wish it to be.” Kim Jong-un has stated repeatedly that denuclearization is not an option. He is on a quest for nuclear weapons and the ballistic missiles capable of delivering them intercontinentally. The words and actions of North Korea threaten the United States Homeland and that of our allies in South Korea and Japan. That's North Korea as it is.

I know there's some debate about the miniaturization and other technological advancements made by Pyongyang. An aggressive weapons test schedule, as demonstrated by yet another ballistic missile launch this April, moves North Korea closer to its stated goals. As a military commander, I must assume that Kim Jong-un's claims are true—his aspirations certainly are. USPACOM must be prepared to fight tonight, so I take him at his word. That means we must consider every possible step to defend the United States Homeland and our allies. That's why the ROK-United States alliance has decided to deploy THAAD—the Terminal High Altitude Area Defense system—in South Korea as soon as possible. That's why the United States continues to call on China—North Korea's principal ally—to exert its considerable influence to stop Pyongyang's unprecedented campaign of nuclear weapons ballistic missile tests. That's why we continue to emphasize trilateral cooperation between Japan, ROK, and the United States. That's why American leaders and diplomats continue to rally the international community to loudly condemn North Korea's unacceptable behavior.

North Korea vigorously pursued a strategic strike capability in 2016. We assess that the progress made in several areas will encourage Kim Jong-un to continue down this reckless and dangerous path. Pyongyang launched more ballistic missiles last year than it did in the previous few years combined. This included the first launches of the Musudan intermediate range ballistic missile (IRBM) and the developmental submarine-launched ballistic missile (SLBM). Both systems experienced noteworthy—and often spectacular—failures, but they also both achieved some successes. Just as Thomas Edison is believed to have failed 1000 times before successfully inventing the electric light bulb, so too, Kim Jong-un will keep trying. One of these days soon, he will succeed. The 2016 SLBM test and the numerous land-based

tests employed solid-fuel engines, another indication that Kim Jong-un is continuing to modify and improve missile reliability and performance. Those successes advance North Korea's technical and operational base and allow continued development. Aggressive rhetoric since the New Year strongly suggests North Korea will not only continue to test these proscribed systems, but is also likely to attempt a first launch of a similarly prohibited intercontinental ballistic missile (ICBM).

At the same time, North Korea's nuclear scientists and engineers are hard at work attempting to transform fissile nuclear materials into reliable nuclear weapons. Pyongyang defied the international community and detonated nuclear devices five times—including two in 2016. Kim Jong-un has threatened the pre-emptive use of nuclear weapons against the United States and other regional targets. Kim's strategic capabilities are not yet an existential threat to the United States, but if left unchecked, he will gain the capability to match his rhetoric. At that point we will wake up to a new world. North Korea's existing capabilities are already a significant threat to several of our regional treaty allies and the 90,000 United States troops stationed in the Western Pacific.

North Korea fields the fourth largest conventional military in the world. Despite a number of noteworthy shortfalls in training and equipment, we must take seriously the substantial inventory of long-range rockets, artillery, close-range ballistic missiles, and expansive chemical weaponry aimed across the Demilitarized Zone at the Republic of Korea and United States forces stationed there. North Korea also maintains sizeable numbers of well-trained, highly disciplined special operations forces. Pyongyang made a point recently of publicizing a Special Forces exercise that attacked and destroyed a detailed mock-up of the ROK Presidential complex in an attempt to underscore the capability and lethality of its forces.

Pyongyang's emphasis on strategic and military capabilities comes at the expense of the North Korean people, who continue to struggle with a lifeless economy and international isolation.

In confronting the North Korean threat, it is critical that the United States be guided by a strong sense of resolve both publicly and privately in order to bring Kim Jong-un to his senses, not his knees.

China: The rapid transformation of China's military into a high-tech force capable of regional dominance and a growing ability to support aspirations for global reach and influence is concerning. A February 2017 study from the International Institute for Strategic Studies (IISS) concluded that Chinese weapons and air power in particular are "reaching near-parity with the west." Studies from DOD's Office of Net Assessment further confirm this trend in our decreasing capability overmatch. I agree with these reports. Our dominance in high tech advanced weapons cannot be taken for granted. To do so would be a strategic mistake.

China's activities on the seas, in the air, and in cyberspace have generated concerns about its strategic intentions. For the past 2 years, the People's Liberation Army (PLA) has been implementing an extensive reorganization which has so far included the creation of geographically focused Theater Commands, each organized and equipped for specific regional contingencies. This reorganization may be the most important development in the PLA's growing ability to organize for modern combat. The structural reforms that created the Theater Commands institutionalized a joint command and control concept to allow the PLA to maximize the individual services' warfighting strengths into a more cohesive joint force. However, it is likely to take several years before the full benefit of this change is realized. One early indicator that China is already addressing some of the challenges of joint operations is the recent unprecedented appointment of a Navy Admiral to replace an Army General as the commander of the largely maritime-focused Southern Theater.

China's equipment development and fielding programs are comprehensive and impressive. The PLA Navy (PLAN) boasts some of the most advanced warships in the region, including the Type 052D (Luyang-III) guided missile destroyer and the Type 039A (Shang) attack submarine. Within the next 2 years the first Type 055 (Renhai) guided missile cruisers will join the fleet. These modern, multi-functional ships can support a range of missions and employ sophisticated air defense, surface attack, and subsurface munitions, including anti-ship missiles with ranges far exceeding existing U.S. Navy anti-ship weapons. The PLAN's aircraft carrier program is progressing with the CV-16 (Liaoning) serving as a test and development platform while China builds its first indigenous aircraft carrier, anticipated to be at full operational capability early in the 2020s, and expected to be a spiral upgrade in capabilities. CV-16's deployment to the South China Sea in December and January showed China's growing ability to employ carrier-based aviation. The Type 094 (Jin) ballistic missile submarine can launch nuclear missiles capable of reaching parts of the continental U.S.

The PLA Air Force (PLAAF) and Naval Air Force (PLANAF) are similarly fielding greater numbers of advanced fighters, bombers, and special mission aircraft while aggressively developing new platforms. Flying prototypes of J20 and J31 multi-role fighters portend a near-term capability to field near-5th generation fighters. A new heavy lift transport (Y-20) will give China a greater ability to move troops and equipment anywhere in the world. New and/or upgraded bombers, electronic warfare, command and control, and anti-submarine aircraft all expand PLA abilities to conduct a wide range of operations.

PLA ground forces are large, modern, and well trained. Also reorganized in 2016, the PLA increasingly operates in combined arms formations—integrating attack helicopters, artillery, electronic warfare, and other arms into their training activities. They’ve incorporated some of the training methods used by the U.S. (e.g., combat training centers with dedicated opposing forces and instrumentation) to increase realism and sophistication in their training.

Another component of the ongoing PLA reorganization is the expansion of capabilities and numbers of the PLA Navy Marines. While the full scope of the change is unclear—some reports have the number of marines increasing five-fold to as many as 100,000 troops—what is clear is the growing importance China places on building the ability to project power using an expeditionary capability. PRC media has highlighted recent marine deployments for training in harsh weather conditions and on unfamiliar terrain. Chinese leadership likely envisions using the expanded marine capability as an expeditionary force to both seize Taiwan and protect Chinese interests overseas.

The PLA Rocket Force (PLARF) controls the largest and most diverse missile force in the world, with an inventory of more than 2,000 ballistic and cruise missiles. This fact is significant because the U.S. has no comparable capability due to our adherence to the Intermediate Range Nuclear Forces (INF) Treaty with Russia. (Approximately, 95 percent of the PLARF’s missiles would violate the INF if China was a signatory.) The PLARF is organized for a range of missions, with large numbers of missiles targeted against Taiwan, and others intended to strike targets as far away as Guam and the so-called second island chain, and intercontinental-range missile capable of delivering nuclear weapons to strike the continental United States. China is also heavily investing in advanced missile technologies like hypersonics and, on average, launches more than 100 missiles each year for training or research and development.

The PLA Strategic Support Force (PLASSF) was established last year to better manage and employ the PLA’s impressive array of cyber, space, and other specialized capabilities. The PLASSF is a potential game-changer if it succeeds in denying other countries the use of space, the electromagnetic spectrum, and networks.

To train and integrate these capabilities, Chinese forces have increased the scope of operations in number, complexity, and geographic range. Submarine deployments to the Indian Ocean, air exercises in the Middle East, and port visits to Europe or South America are on the rise. For example, President Xi will travel to Djibouti in the near future to officially open the Chinese naval base there. The base is strategically positioned on the narrowest point of the strategic strait of Bab al Mandeb, a key intersection for international commercial and defense related navigation. This base could support Chinese force projection through the Indian Ocean and into the Mediterranean and Africa.

An encouraging sign that China is willing to shoulder a greater role in international affairs is the expansion of Chinese peacekeeping missions, something we promote in our interactions with the PLA. My goal remains to convince China that its best future comes from peaceful cooperation, meaningful participation in the current rules-based security order, and honoring its international commitments.

Territorial Disputes and Maritime Claims: A number of friction points where competing territorial claims overlap exist throughout the Indo-Asia-Pacific, e.g., between Russia and Japan (Northern Territories) and between the Philippines and Malaysia (Sabah)—but none are as fraught with the potential for escalation and military conflict as the South and East China Seas.

South China Sea: The United States takes no position on competing sovereignty claims in the South China Sea, but we encourage all countries to uphold international law, including the law of the sea as reflected in the Law of the Sea Convention, and to respect unimpeded lawful commerce, freedom of navigation and overflight, and peaceful dispute resolution.

There are three notable disputes over territorial sovereignty in the South China Sea. The first dispute is between China, Taiwan, and Vietnam over the Paracel Islands, which China took by force from Vietnam and has occupied since 1974. The second dispute is between China, Taiwan, and the Philippines over Scarborough Reef. In 2012, the United States brokered a deal between the Philippines and China

where both countries committed to keep their naval forces away from Scarborough. While the Philippines honored the commitment, China continued to operate with its Navy and Coast Guard and, soon after, expelled Philippine fishermen. The third dispute involves multiple claimants within the Spratly Islands where China, Taiwan, Vietnam, Brunei, Malaysia, and the Philippines each claim sovereignty over some or all of the features.

The past year included some major developments in the status of these disputes. The landmark ruling by the Arbitral Tribunal under the Law of the Sea Convention (the Tribunal) in July 2016 addressed the status of features and maritime claims specified in the Philippines' arbitration case. While the tribunal did not rule on the sovereignty of specific features, the tribunal did declare a number of China's maritime claims and actions unlawful. However, China ignored the ruling and maintains and even articulated new excessive maritime claims throughout the South China Sea. All the activities underway before the ruling, including the militarization of the artificial landforms created by China and the provocative actions of military and law enforcement forces, continue unabated.

China's military-specific construction in the Spratly islands includes the construction of 72 fighter aircraft hangars—which could support three fighter regiments—and about ten larger hangars that could support larger airframes, such as bombers or special mission aircraft. All of these hangars should be completed this year. During the initial phases of construction China emplaced tank farms, presumably for fuel and water, at Fiery Cross, Mischief and Subi reefs. These could support substantial numbers of personnel as well as deployed aircraft and/or ships. All seven outposts are armed with a large number of artillery and gun systems, ostensibly for defensive missions. The recent identification of buildings that appear to have been built specifically to house long-range surface-to-air missiles is the latest indication China intends to deploy military systems to the Spratlys. During my Congressional testimony last year, I reported my belief that China was clearly militarizing the South China Sea. China's activities since then have only reinforced this belief. We should cease to be cautious about the language we use to describe these activities. Despite its claims to the contrary, China has militarized the South China Sea through the building of seven military bases on artificial islands constructed through the large-scale damage of a fragile environment in disputed areas.

The presence of these military capabilities undermines China's consistent claim that these massively expanded features are for safety and humanitarian purposes. Recently China has tried to obscure the military purposes of its Spratly Islands efforts by calling for private investment, residential settlement, and tourism. The latter may prove especially problematic as China's land creation effort over the past few years has destroyed the once vibrant marine ecosystem surrounding the features.

China's naval, coast guard, maritime militia, State Oceanic Administration, and air force presence in the South China Sea remains substantial. China Coast Guard (CCG) ships remain present near Chinese outposts and other features. CCG and PLAN ships also continue to control activities near Scarborough Reef, a feature also claimed by the Philippines. In February, China announced it was seeking to revise its domestic Maritime Traffic Safety Law to empower its maritime services to control or penalize foreign ships operating in "other sea areas under the jurisdiction of the People's Republic of China" beyond those allowed under international law as reflected in the Law of the Sea Convention. Given China's continued rejection of the Tribunal ruling and continued articulation that much of the South China Sea is "under its jurisdiction," we can only assume China intends to improperly apply its domestic law to foreign ships operating lawfully in the area.

China protests the legal and long-standing United States presence in the South China Sea by falsely claiming Washington is the cause for tensions. United States military forces have been operating routinely and persistently on, below, and above the South China Sea for more than 70 years—this hasn't changed. What has changed the status quo in the South China Sea in recent years is the increased coercive behavior by China's military, Coast Guard, and a vast network of private vessels controlled by the PRC that act as a maritime militia of "little green fishermen." Furthermore, China's unprecedented artificial island construction and land reclamation has increased tensions with other claimants and its neighbors. The United States has consistently called for all claimants to find a peaceful, diplomatic resolution to their land and maritime disputes in the South China Sea.

Specifically, since 1979, the U.S. Freedom of Navigation program has peacefully challenged excessive maritime claims by coastal states all around the world (including those of our friends and allies). This program consists of diplomatic communications and operational assertions, which are not provocative and are not a threat to

any country. These operations are conducted globally to maintain open seas and open skies, which underpins economic prosperity for the U.S. and all countries.

Freedom of navigation operations (FONOPs) are conducted for exactly what the title says—to exercise the right of all nations to operate freely at sea and in the air wherever international law allows. In 2016, USPACOM forces conducted three FONOPs near disputed features in the South China Sea. These and future routine FONOPs demonstrate that the U.S. military will continue to fly, sail, and operate wherever international law allows, especially where excessive maritime claims attempt to erode the freedom of the seas.

East China Sea: Tensions between Japan and China over the Senkaku Islands continue to worsen. This past year saw a sharp rise in the number PLAAF aircraft operating over the East China Sea. China persistently challenges Japan's administration over the islands by deploying warships into the area, sailing Coast Guard ships inside the territorial waters surrounding the Senkakus, and protesting Japanese reconnaissance flights. The presence of military and law enforcement assets in close proximity to one another and the accompanying rhetoric create an environment conducive to miscalculation and unintended incidents. United States policy is clear here: the Senkakus are under the administration of Japan and we will defend them in accordance with the United States-Japan Treaty on Mutual Cooperation and Security. Secretary Mattis recently said during his trip to Japan that, "... our longstanding policy on the Senkaku islands stands. The United States will continue to recognize Japanese administration of the islands and as such Article 5 of the United States-Japan Security Treaty applies."

Russia: Although focused on Europe and the Middle East, Russia is engaged militarily and politically in the Indo-Asia-Pacific. I share General Lori Robinson's view that Russia continues to exhibit increasingly aggressive behavior, both regionally and globally.

The Russian Pacific Fleet operates and exercises throughout the region. The second Borey (*Dolgorukiy*-class) nuclear ballistic missile submarine transferred to the Pacific Fleet last fall, and the Kremlin announced the acquisition of 6 new advanced Kilo attack submarines for the Pacific by 2021. The Russian Pacific Fleet's five Project 949A (Oscar II) nuclear-powered guided missile submarines have a mission to track and attack aircraft carriers and other priority targets—including land targets—in the event of war. In late 2015 Russia announced a plan to upgrade the Oscar II to fire new, more-advanced long-range missiles. The first *Steregushchy*-class guided missile corvette was commissioned in January 2017 with more planned as part of ongoing military modernization efforts. Russian troops and warships held combined island-seizure training with China in the South China Sea last summer. On land, Russian forces fielded long-range anti-ship missiles along the coast, moved S-400 strategic air defense missiles to the east, and stationed the advanced Su-34 fighter-bomber to patrol the skies. Nuclear-capable bombers continue to fly missions focused on rehearsing strikes on the U.S. mainland or regional targets. Additionally, Russia has introduced a new generation of highly precise, conventionally armed cruise missiles that can reach the United States and our allies.

Of particular note are Russian efforts to build presence and influence the high north. Russia has more bases north of the Arctic Circle than all other countries combined and is building more with distinctly military capabilities.

Russian economic and political outreach brings both positive and negative impacts for the region. Expanding exports of Russian natural gas and oil provides new, diversified sources for Asia's growing energy demands. Japan and ROK are among the leading importers of Russian coal. Japanese investment in the Russian Far East may prove extraordinarily helpful to regional growth and stability. Russia also seeks to mitigate the effects of international sanctions imposed in response to its military operations in Ukraine, and may be trying to wedge itself into new relationships by opportunistically providing economic aid packages and military assistance (e.g., the Philippines).

ISIS / Violent Extremist Organizations (VEOs): ISIS is a clear threat that must be defeated. The main geographic focus of the United States-led counter-ISIS coalition has rightfully been in the Middle East and North Africa. As ISIS is defeated in Iraq, Syria and Libya, it will undoubtedly seek to operate in other areas. Increasing numbers of returning fighters alone have already forced USPACOM to think ahead about "what's next" in the fight against ISIS. As I mentioned earlier in this testimony, there are far more Muslims living in the Indo-Asia-Pacific than in the Middle East and North Africa. The vast majorities are peaceful people who seek to live lives free from the curse of terrorism. Even if a very small percentage of the Muslims in the USPACOM AOR are radicalized, there could be deadly results.

In 2016 alone, we witnessed ISIS-inspired terrorism in Bangladesh, Indonesia, Malaysia, and the Philippines. Additionally, it's clear to me that as our military op-

erations in the Middle East continue to deny ISIS territory, some foreign fighters originally from the Indo-Asia-Pacific will try to return home. They'll come back to their home countries radicalized and weaponized. We must stop them now at the front end and not at the back end when the threat can become more dangerous. We cannot do it alone. To halt ISIS' cancerous spread, we must work together with like-minded nations in the region and across the globe.

USPACOM seeks to advance multinational partnerships with a purpose. Malaysia, Indonesia, the Philippines, Australia and New Zealand are partners we are engaging to tackle the threat against ISIS and other VEOs. Many Indo-Asia-Pacific countries like Australia and New Zealand have joined the coalition dedicated to ISIS' complete destruction. Through multinational collaboration, we can eradicate this disease before it metastasizes in the USPACOM area of responsibility.

Countering violent extremism in the Indo-Asia-Pacific requires close collaboration with United States Government interagency partners like the Federal Bureau of Investigation (FBI), Department of Treasury, and the various agencies of our intelligence community. Through an interagency network reinforced by liaison officers embedded in USPACOM headquarters and Special Operations Command (SOCOM) we are able to leverage tools from across our government to fight terrorist organization.

Transnational Crime: Transnational Criminal Organizations (TCOs), many of whom operate as sophisticated global enterprises that traffic in human beings, weapons, drugs and other illicit substances, exist throughout the Indo-Asia-Pacific. The revenue from criminal endeavors threatens stability and undermines human rights. Corruption follows wherever these organizations flourish, weakening governments and contributing to regional instability.

Methamphetamine and amphetamine-type stimulants continue to be the primary drug threat in to the U.S. from the region. Joint Interagency Task Force-West (JIATF-W) reports that while Asia-sourced methamphetamine production is significant, methamphetamine produced elsewhere supplements the region's increasing demand. Maritime container shipments of China-sourced chemicals account for the bulk of the precursors used by Latin American drug trafficking organizations to manufacture methamphetamine and heroin, most of which is intended for the U.S. market—a direct threat to the U.S. Homeland. Additionally, China-sourced fentanyl and new psychoactive substances are now a growing threat to the United States.

While much remains to be done, USPACOM forces, including JIATF-W, are coordinating with our interagency and foreign partners to address these threats.

Proliferation Issues: The Indo-Asia-Pacific has the busiest maritime and air ports in the world. Technological advances have outpaced many countries' ability to effectively manage export controls to counter the proliferation of component technology. Trade includes dual-use technology, such as commercial items controlled by the nuclear, ballistic missile, and chemical/biological weapons control regimes, including manufactured or re-exported materials from other countries with limited export control enforcement. USPACOM's Countering Weapons of Mass Destruction (C-WMD) community supports proliferation operations throughout the Indo-Asia-Pacific by addressing concerns through key leader engagements, combined and joint exercises, and international security exchanges focused on counter proliferation activities.

Natural Disasters: The Indo-Asia-Pacific region remains the most disaster prone region in the world. 75 percent of Earth's volcanoes and 90 percent of earthquakes occur in the "Ring of Fire" surrounding the Pacific Basin. According to a 2015 UN report, disasters over the last 10 years took the lives of a half a million people in the region, with over 1.5 billion people affected and damages of over a half a trillion dollars.

In the 2015 Nepal earthquake response, in coordination with the Nepalese government and USAID, USPACOM's Joint Task Force 505 delivered about 120 tons of emergency relief supplies and transported 553 personnel and conducted 69 casualty evacuations. This last fall USS *Sampson* (DDG 102) and Maritime Patrol and Reconnaissance Aircraft assisted New Zealand in its response to an earthquake on its South Island.

While disaster response is not a primary USPACOM focus, a key element of our Theater Campaign Plan (TCP) is building capacity with allies and partners to improve their resiliency and capability to conduct humanitarian assistance/disaster response (HA/DR). HA/DR cooperation is also an effective means to deepen and strengthen relationships. USPACOM's Center for Excellence for Disaster Management (CFE-DM) increases regional governments' readiness to respond to natural disasters by serving as a node for distribution of best practices. Our service components are prepositioning HA/DR stocks to facilitate timely response and to build access. When possible, U.S. military forces can and do assist with unique capabilities

in the areas of air and sealift, infrastructure restoration, and emergency medical support.

Budget Uncertainty: Fiscal uncertainty injects substantial risk to USPACOM's long-term mission. The Budget Control Act and yearly Continuing Resolutions degrade USPACOM's ability to effectively plan.

I've said this many times before—sequestration must be repealed.

In 2013, sequestration cut every defense program equally. As a result, real readiness suffered. For example, we were forced to cancel an important joint exercise, Northern Edge. We need predictable funding to meet our current mission requirements and to prepare for the future. Keeping self-imposed spending cuts is a long-term threat to our national security.

Fiscal uncertainty and reduced funding levels have forced the services to make offsets in crucial investments toward modernization, infrastructure, and future readiness. These tradeoffs will continue to have a negative impact on the Indo-Asia Pacific Theater strategy. Equally important, the uncertainty of the current fiscal landscape places a heavy burden of unpredictability onto our servicemembers and their families, our government civilians, Department of Defense contractors, and supporting industry. The U.S. will experience degraded warfighting capabilities unless decisive actions are taken to end fiscal uncertainties.

The strategic priorities from the Services must be funded to provide USPACOM what we need in order to provide for the national defense.

Without a bipartisan agreement that provides relief from the Budget Control Act caps, the Department of Defense will be forced to decrease investments that have given our warfighters the technological edge they have enjoyed for decades. Our near-peer competitors like China and Russia are quickly closing the technological gap. I need weapons systems of increased lethality that go faster, further, are networked, are more survivable, and affordable. If USPACOM has to fight tonight, I don't want it to be a fair fight. If it's a knife fight, I want to bring a gun. If it's a gun fight, I want to bring in the artillery, and the artillery of all of our allies. As I said during Congressional testimony last year, sequestration could reduce us to wielding a butter knife in this fight. We must not let that happen. In order to deter potential adversaries in the Indo-Asia-Pacific, we must invest in critical capabilities, build a force posture that decreases our vulnerabilities and increases our resiliency, and reassure our allies and partners while encouraging them to be full and cooperative partners in their own defense and the defense of the rules-based international order.

CRITICAL CAPABILITIES

The most technical, high-end military challenges America faces in the region continue to grow. While forward presence, alliances, and partnerships address these challenges, USPACOM requires our most technologically advanced warfighting capabilities to fully meet them. The critical capabilities in this section demand our attention and treasure. We must preserve our asymmetric advantages in undersea and anti-submarine warfare, and we must strengthen our abilities to counter strategies designed to limit our freedom of action.

China has developed and fielded capability and capacity to challenge our regional maritime dominance. I need increased lethality, specifically ships and aircraft equipped with faster and more survivable weapons systems. Longer range offensive weapons on every platform are an imperative. Then we must network this force and take advantage of man-machine teaming to improve our responsiveness.

Pacing the threats we face in this region is not an option in my playbook. We must work hard and invest the money to outpace the competition to develop and deploy the latest technology to USPACOM. Examples include Navy Integrated Fires and the AEGIS Flight III destroyer and its Air and Missile Defense Radar (AMDR)—essential tools in today's complex operating environment.

Munitions, Fuels, and Logistics Networks: Critical munitions shortfalls are my top warfighting concern. Munitions are a large part of determining combat readiness in pursuit of national strategic objectives. We are short in "here-and-now" basic munitions like small diameter bombs. Our near-peer competitors continue to modernize their weapons systems and leverage new technologies to close capability gaps between us and them. We must maintain our capability to operate in contested environments. Additionally, we must continue to expand cross domain fires capabilities and focus on joint integration to strengthen deterrence and enable joint combined maneuver.

Priorities include long-range and stand-off strike weapons, anti-ship weapons, advanced air-to-air munitions, theater ballistic/cruise missile defense, torpedoes, naval mines, and a Cluster Munitions replacement. With respect to ship-to-ship and air-

to-ship munitions that allow us to defeat an aggressor from greater range, we are looking at capabilities similar to Long Range Anti-Ship Missile (LRASM) and Joint Air-to-Surface Standoff Missile—Extended Range (JASSM-ER). In the air-to-air realm, I am seeking advancements in munitions that will provide us an advantage in a denied environment, such as the AIM-120D and AIM-9X2 air superiority missiles. We must modernize and improve our torpedo and naval mine capabilities to maintain our undersea advantage. Continued improvements in the capability and capacity of ballistic/cruise missile defense interceptors will further enhance Homeland defense capabilities and protect key regional nodes from aggressive action. In support of the Korean Peninsula, I support efforts to acquire a replacement for Cluster Munitions—we need an Area Effects Munition replacement now.

As new inventory becomes available, current storage capacity will become critical. Current, legacy storage locations are inadequate to store specific types of modernized munitions and meet the requirements of fiscal year 2021 Department of Defense Explosive Safety Standards. To meet security and safety standards for future inventory, additional new military construction (MILCON) will be required. When munitions storage MILCON projects lose to competing projects and are not funded we put unnecessary risk on our personnel. We must fund these MILCON projects.

Fuel is a critical commodity, and its strategic positioning is a key pillar of our logistics posture. Ensuring we have the right fuel, in the right amount, at the right location, at the right time, is vital to USPACOM's ability to project power throughout the Indo-Asia-Pacific. I remain committed to building the capacity of our prepositioned war reserve stocks of fuel, including resiliency of the facilities, infrastructure, and supply chain on which these stocks depend.

Finally, our nation's ability to project power rides on the backbone of airlift and sealift. This is most true in USPACOM. Our Air Force made tough decisions to transition airlift to Backup-Aircraft Inventory (BAI) status and transition Active Components to Guard and Reserve in order to meet budget constraints. Unfortunately, these decisions resulted in a lack of flexibility and readily available capacity for combatant command war plans. Today's global competition for airlift resources hinders the joint force's ability to promptly achieve operational objectives. In war, this shortcoming can result in greater loss of life, increased risk on USPACOM-fielded forces, and risk to our Nation's credibility with partners and allies. I remain concerned about the current airlift posture and support an increase in airlift capacity, resources, and innovative deployment technologies. The long-term health of the U.S. flag commercial fleet and the availability of the merchant marine is also a concern.

Taken collectively, these individual gaps and shortfalls in our logistics capabilities represent overall erosion in USPACOM's operational readiness and require an initiative like APSI [Australian Strategic Policy Institute] to reverse those negative trends. A strategic initiative to arrest and reverse those trends would be beneficial and worth consideration.

Air Superiority: In order to deter potential adversaries in the Indo-Asia-Pacific we must possess the capabilities that allow us to gain air superiority at a time and place of our choosing and we must be able to maintain that air superiority long enough to complete critical missions. For the last several decades the U.S. has enjoyed unmatched air superiority including 4th generation fighters and air-battle-management platforms. Our potential adversaries, however, are rapidly closing the gap as both Russia and China have fielded their own versions of 5th generation fighters just as the United States has begun the fielding of our 5th generation platforms in the Pacific. While we continue to invest in 5th generation platforms, we must also find innovative ways to make our 4th generation aircraft more capable. Regardless of the pace of 5th generation fielding, these 4th generation platforms will be in our active inventory for years to come and we will have to rely on them to address the same threats.

Undersea Warfare: Roughly 230 of the world's 400 foreign submarines are in the Indo-Asia-Pacific, of which approximately 160 belong to China, North Korea, and Russia. Potential adversary submarine activity has tripled from 2008 levels, requiring a corresponding increase of United States activity to maintain undersea superiority. China is improving the lethality and survivability of its attack submarines and building quieter, high-end diesel and nuclear powered submarines. China has four operational nuclear-powered *Jin*-class ballistic missile submarines (SSBNs) and at least one more may enter service by the end of this decade. When armed, a *Jin*-class SSBN will give China an important strategic capability that must be countered. Russia is modernizing its existing fleet of *Oscar*-class multi-purpose attack nuclear submarines (SSGNS) and producing their next generation *Severodvinsk* *Yasen*-class SSGNs. Russia has also homeported their newest *Dolgorukiy*-class SSBN in the Pacific, significantly enhancing its strategic capability. USPACOM must maintain its asymmetric advantage in undersea warfare capability including

our attack submarines, their munitions, and other anti-submarine warfare systems like the P-8 Poseidon and ship-borne systems. Additionally, the Integrated Undersea Surveillance System (IUSS), including the Surface Towed Array Sensor Systems (SURTASS), plays a key role to theater operations and must be resourced appropriately to ensure it remains relevant. Maintaining pace with submarine activity growth is necessary and I support the Secretary of the Navy's 2016 Force Structure Assessment which calls for a 355-ship navy including 66 attack submarines.

Intelligence, Surveillance, and Reconnaissance (ISR): The challenge of gathering credible deep and penetrating intelligence cannot be overstated. The Indo-Asia-Pacific presents a dynamic security environment requiring flexible, reliable, survivable deep-look and persistent ISR to provide indications and warning and situational awareness across a vast geographic area. As previously noted, USPACOM faces a variety of challenges and potential flashpoints. Our treaty allies rely on U.S. ISR capabilities to support mutual defense treaties. ISR is required to prevent strategic surprise, buy decision space for national leadership, accurately assess the security environment and, if necessary, defeat potential adversaries. Continued advancements of our near-peer competitors requires additional advancements to how our intelligence is collected and processed—including the risks involved—to avoid greater long-term risk. Our ISR capabilities must be suited to our unique operating environment.

Space and Cyberspace: USPACOM relies on space based assets for satellite communications (SATCOM), ISR, and Positioning, Navigation, and Timing (PNT) capabilities to support missions across the range of military operations. USPACOM's region spans over half the globe and space-based assets are high-demand, low-density resources. As the space grows increasingly congested and contested, our adversaries have and continue to develop means to deny our space-enabled capabilities. USPACOM requires resilient and responsive space based capabilities to support operations. China continues to pursue a broad and robust array of counter-space capabilities, which includes direct-ascent anti-satellite missiles, co-orbital anti-satellite systems, cyber-attack and exploitation, directed energy weapons and ground-based satellite and PNT jammers.

Freedom of maneuver across the cyberspace domain is critical to USPACOM's ability to execute military operation. We face constant threats in this domain from both state and non-state actors and must ensure we have a robust and capable cyber force, as well as the equipment necessary to operate and defend the U.S. military's portion of the Department of Defense Information Network within USPACOM's area of operations. In addition, USPACOM requires an agile and defensible network infrastructure to enable information sharing and collaboration with our mission partners. This network infrastructure will foster better command and control in joint and coalition efforts, and will provide a true fight tonight communication capability that does not currently exist.

Our offensive cyber capabilities, currently under the responsibility of USCYBERCOM, continue to develop. As the command and control relationships continue to mature between USPACOM and USCYBERCOM, and between USCYBERCOM and its subordinate headquarters, we continue to advocate for increased unity of effort and unity of command for all cyber forces within USPACOM's area of operation. It is important that we strike the right balance between maintaining a sufficiently capable cyber force within our theater working directly for USPACOM and its subordinates and developing a capable cyber force under USCYBERCOM.

Integrated Air and Missile Defense (IAMD): USPACOM faces unique IAMD challenges despite efforts to forward station additional IAMD sensors and weapons capabilities in the Indo-Asia-Pacific to protect our forces and allies. Hawaii, Guam, and our Pacific territories are part of our Homeland and must also be defended. North Korea's persistent research, development and active testing of both its missile and nuclear programs and China's development and operational fielding of advanced counter-intervention technologies that includes fielding and testing of highly maneuverable re-entry vehicle/warhead (i.e., hypersonic weapons) capabilities challenges U.S. strategic, operational, and tactical freedom of movement and maneuver. Other notable challenges include challenging new cruise missiles and Unmanned Aircraft System (UAS) technologies.

USPACOM's IAMD priority is to establish a persistent, credible, and sustainable ballistic missile defense presence by forward deploying the latest advancements in missile defense technologies to the Indo-Asia-Pacific. Accordingly, TPY-2 radars in Japan, the THAAD system on Guam, and the Sea-Based X-band Radar (SBX) based in Hawaii defend the Homeland and our allies. USPACOM and USFK with the support of the DOD, the U.S. Army and MDA are working bilaterally with South Korea to ensure the emplacement of a THAAD battery on the Korean peninsula in the

next few months. The U.S. Navy is moving forward with the port shift of the USS *Milius* from San Diego to Yokosuka, Japan in 2017. Since the arrival of the USS *Benfold* and USS *Barry* to Japan in fiscal year 2016, the U.S. Seventh Fleet is in a better position to support the United States-Japan alliance with more flexible missile defense capability. USPACOM will continue working with Japan, the ROK, and Australia to improve our level of staff coordination and information sharing and the goal of creating a fully-integrated Ballistic Missile Defense (BMD) architecture that must also address the increasing cruise missile threat.

Innovation: Innovation continues to be critical to addressing USPACOM's capability gaps and maintaining our military advantage. USPACOM partners with DOD-wide organizations, national laboratories, and industry to provide innovative solutions to fill capability requirements. USPACOM also continues to work closely with the OSD Strategic Capabilities Office (SCO) to develop and field game-changing technologies for the Indo-Asia-Pacific. USPACOM recognizes that advances in artificial intelligence, machine learning, large data analytics, and predictive forecasting will enable our warfighters to make better decisions and to confront the challenges of our near-peer adversaries. The DOD Third Offset Strategy provides the mechanism to invest in innovative capabilities that will enhance the joint warfighter given the challenges in the Indo-Asia-Pacific Theater. As I have stated, this is not about winning wars on the cheap, as some critics may suggest. It's about winning wars on the smart. USPACOM will continue to push the boundaries of innovation and "fail smartly" so that we can ultimately develop and field the best solutions for the joint warfighter.

Fires ... Achieving Multi-Domain Battle (MDB): Over the past two decades, China has developed numerous ground and air launched missile systems that far outrange United States systems. They have done this at a fraction of the cost of some of our more expensive systems. Constrained in part by our adherence to the INF treaty, the U.S. has fallen behind in our ability to match the long-range fires capabilities of the new era. China is not a signatory to the INF treaty and the other main signatory, Russia, has repeatedly violated the treaty as they develop capabilities that could prevent the United States from fulfilling its alliance obligations.

Just as our adversaries have adapted to counter our asymmetric advantages, we, too must adapt the way we fight to leverage new technologies and approaches to operations to maintain our edge. We need systems that are fast, long-range, lethal, survivable, networked, rapidly deployable, and maneuverable. Given existing technology, such systems should be relatively inexpensive.

With this in mind that I have become a strong advocate for the operational concept known as Multi-Domain Battle (MDB). The Deputy Secretary of Defense has called MDB, "the first operational concept of the third offset." MDB is the ultimate joint concept that allows a commander to achieve cross-domain effects. Because of this, it gives a commander multiple options from across the joint force and confuses our adversaries by making them face multiple dilemmas. MDB calls for combined arms operations across all domains with joint force capabilities being brought to bear in the long-range fight as well as close combat. Recognizing that we may no longer be able to maintain broad sea and air control as we did in the past, one benefit of MDB in the Indo-Asia-Pacific is the addition of ground, space, electromagnetic spectrum, and cyber forces operating across archipelagic regions to augment sea and air forces to create temporal pockets of dominance that can be exploited to gain tactical and operational advantage.

We already have much of the capability for MDB in our force. However, one of the biggest capability gaps in terms of joint effects is the lack of connectivity between the Navy's Cooperative Engagement Capability (CEC), Army's THAAD and Patriot Systems, and the USMC's C2 systems. I know the Services are working on this problem. The technology is out there and the proof is in the lethal systems developed by our adversaries. More importantly, MDB requires a new jointness to bring it all together. MDB conceptualizes bringing jointness further down to the tactical levels allowing smaller echelons to communicate and coordinate directly while fighting in a decentralized manner that still allows for clearance of fires and deconfliction of efforts. I have tasked my component commands at USPACOM to test this operational concept in a major exercise. We are well on our way to meeting that goal thanks to a great team of service component commanders and their organizations.

STRATEGIC FORCE POSTURE IN THE INDO-ASIA-PACIFIC

The tyranny of distance and short indications and warnings timelines place a premium on robust, modern, and agile forward-stationed forces at high levels of readiness. USPACOM requires a force posture that credibly communicates U.S. resolve,

strengthens alliances and partnerships, prevents conflict, and in the event of crisis, responds rapidly across the full range of military operations. USPACOM's force posture is also supplemented by the deployment of rotational forces and the fielding of new capabilities and concepts that address operational shortfalls and critical gaps.

Global Force Management (GFM): The Department of Defense is continuing several GFM initiatives that include adding the Navy's newest airborne early warning and control aircraft, the E-2D Advanced Hawkeye, to the USS *Ronald Reagan* Strike Group in Japan, and increasing the presence of ballistic missile defense-capable surface ships. The Army is stationing a THAAD battery in South Korea and maintains the rotation of an Armored Brigade Combat Team (ABCT), plus enabling forces, to the Korean Peninsula. The Army also continues to support collective training and forward presence across the region through Pacific Pathways, thus enhancing partnership opportunities, avoiding permanent basing, and increasing Army readiness. The Air Force deploys a broad range of assets to the region, including F-22s, F-16s, E-8s, RC-135s and strategic bombers, including B-52, B-1 and B-2 bombers, to maintain presence in the Indo-Asia-Pacific. The forward stationing and deployment of 5th generation airframes to the region continues to be a priority for USPACOM—notably the Marine Corps has deployed the first F-35B squadron based in Japan. The Marine Corps continues to execute a reduction in the footprint on Japan by distribution of the capability across the region. Rotational forces west of the International Date Line are positioned to deter and defeat potential aggressors in the region.

Force Posture Initiatives: As geopolitical issues and challenges in the security environment continue to evolve, the importance of infrastructure recapitalization and the fielding of advanced capabilities have increased. In support of USPACOM's ability to execute national tasking and meet national objectives, fiscal year 2017 military construction projects support the arrival of next-generation platforms and capabilities to include the F-35 Joint Strike Fighter (Kadena Air Base, Japan), DDG-1000 *Zumwalt*-class Destroyers (San Diego, California and forward operating locales), RQ-4 Global Hawk (Andersen Air Base, Guam), and C-130J Super Hercules transport aircraft (Yokota Air Base, Japan). Other investments support increased resiliency for the joint force via projects in Japan, Guam, and Australia, increased critical munitions storage capacity in California and Guam, and quality of life investments for our forces and their families in South Korea and Japan.

Host country support at established locations remains robust. Two examples of this include our efforts in Korea (Yongsan Relocation Plan and Land Partnership Plan), and Japan (Okinawa Consolidation and the Defense Policy Review Initiative). In support of these initiatives, the Government of Japan committed up to \$3.1 billion to help realign U.S. Marines from Okinawa to Guam and other locations. This funding includes approximately \$300 million for the joint military training ranges Commonwealth of the Northern Marianas (CNMI). Additionally, the Government of Japan committed \$4.5 billion to expand the airfield and associated facilities at Marine Corps Air Station Iwakuni. Finally, The Japan is also funding Okinawa Consolidation and the Futenma Replacement Facility at ~\$4 billion. Outside of the above initiatives, Japan and Korea continue to provide other support, which play a critical role in supporting U.S. presence in the region.

Furthermore, USPACOM is expanding its activities to include the continued execution of the Marine Rotational Force-Darwin (MRF-D), Enhanced Air Cooperation (EAC) in Australia, and Bilateral Air Contingent Events-Philippines (BACE-P). Additionally, we are attempting to increase presence by seeking the assignment of additional ISR and BMD assets in the region.

USPACOM continues to execute five major force posture initiatives: (1) United States-Japan Defense Policy Review Initiative (DPRI) / USMC Distributed Laydown, (2) United States Forces Korea Realignment, (3) Resiliency, (4) Agile Logistics and (5) Agile Communications.

DPRI/USMC Distributed Laydown: DPRI is a vital part of the larger U.S. military Integrated Global Basing and Presence Strategy. A major goal of DPRI is to create an environment that supports the enduring presence of United States forces in Japan. USPACOM maintains significant focus and effort on these initiatives. DPRI is one of the largest construction efforts since the end of the Cold War. Much work by both the U.S. and Japan remain, but progress is being made towards realigning United States Marines from Okinawa to Guam and build-up of facilities at other locations such as Marine Corps Air Station (MCAS) Iwakuni.

Another critical cooperative effort, the Futenma Replacement Facility (FRF) at Camp Schwab/Henoko, will enable the United States to fulfill its security obligations to Japan while also enabling the return of MCAS Futenma to Okinawa. More than ever before, United States troop presence in Okinawa matters today. The pres-

ence of U.S. forces brings unique capabilities that cannot be replicated. It was encouraging to see the 10 February joint statement between President Trump and Japan Prime Minister Abe that reaffirmed the commitment of both countries to construct the FRF. This solution maintains our presence at Marine Corps Air Station Futenma for another decade until the FRF is completed.

USFK Realignment: The consolidation of United States forces in Korea via the Land Partnership Plan (LPP) and Yongsan Relocation Plan (YRP) continues to move ahead and is a success story. Construction will triple the size of Camp Humphreys and increase the base's population to ~46,000 troops and family members. The ROK is bearing the majority of the relocation's cost, committing \$10 billion. USPACOM appreciates the Congress' continued support of DOD's largest peace-time relocation project.

Resiliency: USPACOM resiliency efforts include investment in a more robust infrastructure in ally and partner countries, ensuring proper dispersal and optimization of critical enablers including communication nodes, fuel repositories, medical readiness, logistic support equipment and infrastructure, and the hardening of discrete facilities. For example, USPACOM continues to harden facilities in Guam as well as enhancing airfields at dispersed sites throughout the theater.

Agile Logistics: USPACOM continues to face significant force posture challenges, the largest being the distance and fragility of the lines of communication within the Indo-Asia-Pacific. The tyranny of distance and short timelines to respond to crises require investment in infrastructure to properly preposition capabilities and capacity throughout the region. Ensuring that our logistics—munitions, fuel, and other war materiel—are properly prepositioned, secured, and available to meet requirements is essential to providing flexible and rapid force closure in support of national defense planning.

Agile Communications: The ability to communicate with our allies and partners underpins all efforts from command and control interoperability through logistics coordination. Today's Defense communications systems continue to be hampered by obsolete encryption technology that forces us to build or contort information networks to comply with restrictive information sharing policies. Our acquisition systems cannot support the pace of rapid information technology advancements. As a result, we are not fully postured with the latest technology to interoperate with multiple partner combinations over all the phases of military operations. Furthermore, we will not have the communication capacity and sharable encryption capability to support the most modern warfighting platforms and associated weapon systems as they are built and deployed.

Readiness: USPACOM is a "fight tonight" theater with short response timelines across vast spaces. Threats as discussed earlier require U.S. military forces in the region maintain a high level of readiness to respond rapidly to crisis. USPACOM's readiness is evaluated against its ability to execute operational and contingency plans, which place a premium on forward-stationed, ready forces that can exercise, train, and operate with our partner nations' militaries and follow-on forces able to respond to operational contingencies.

Forward-stationed forces west of the International Date Line increase decision space and decrease response times, bolster the confidence of allies and partners, and reduce the chance of miscalculation by potential adversaries.

The ability of the U.S. to surge and globally maneuver ready forces is an asymmetric advantage that must be maintained. Over the past two decades of war, the U.S. has of necessity prioritized the readiness of deploying forces at the expense of follow-on-forces and critical investments needed to outpace emerging threats. A shortage of ready surge forces resulting from high operational demands, delayed maintenance periods due to sequestration, and training pipeline shortfalls limit responsiveness to emergent contingencies and greatly increase risk. These challenges grow each year as our forces downsize while continuing to deploy at unprecedented rates. We are at risk of overstressing the force if the Services are not assured fiscal stability to establish conditions to reset their force elements.

Fiscal uncertainty requires the Department to accept risk in long-term engagement opportunities with strategic consequences to U.S. relations and prestige. Continued budget uncertainty and changes in fiscal assumptions in the FYDP degrade USPACOM's ability to plan and program, leading to sub-optimal utilization of resources. Services must be able to develop and execute long-term programs for modernization while meeting current readiness needs. Budgetary constraints have limited procurement and fielding of 5th generation fighter aircraft (F-35) in sufficient quantities to maintain pace with potential adversary advancements. Modernization of 4th generation aircraft (F-15, F-16, F/A-18) is essential to prevent capability gaps. Much of the supporting infrastructure in the Pacific and on the West Coast of the U.S. mainland was established during World War II and during the early

years of the Cold War. The infrastructure requires investment to extend its service life but the Services struggle to maintain infrastructure sustainment, restoration, and modernization accounts at appropriate levels. If funding uncertainties continue, the U.S. will experience reduced warfighting capabilities and increased challenges in pacing maturing adversary threats.

ALLIES AND PARTNERS

Strengthening and modernizing alliances and partnerships are top USPACOM priorities. USPACOM's forward presence, force posture, and readiness reassure allies and partners of United States commitment to a stable and secure Indo-Asia-Pacific. USPACOM is building a network of likeminded nations committed to the current rules-based order that is anchored by our treaty allies. Partnerships with many other countries and organizations create an environment of cooperation that allows us to work together on the shared challenges we face.

Bilateral and Multinational "Partnerships with a Purpose": USPACOM is directly connected to regional leaders. I am in frequent communication with my regional counterparts and appreciate the ability to reach out at any time to share perspectives. USPACOM maintains a close link with allies and partners through staff exchange and liaison officers, in addition to a series of formal bilateral mechanisms. In Australia, key engagements stem from the ANZUS treaty obligations, and are guided by USPACOM's principal bilateral event with Australia, the Military Representatives Meeting. Similarly, USPACOM's military-to-military relationship with Japan is guided by the annual Japan Senior Leader Seminar. Military Committee and Security Consultative Meetings are the preeminent bilateral mechanisms that guide the ROK and United States alliance. Each year, USPACOM, with the Armed Forces of the Philippines, co-hosts the Mutual Defense Board and Security Engagement Board to deal with 21st-century challenges. USPACOM conducts annual Senior Staff Talks with Thailand to address security concerns and reinforce United States commitment to democratic principles. Formal bilateral mechanisms also exist with non-alliance partners throughout the region, including India, Indonesia, Singapore, Malaysia, and Vietnam.

Our multilateral cooperation is further enhanced by numerous Flag and General Officer (FOGO) exchange officers that work for the U.S. at USPACOM. These foreign officers from our "Five Eye" (FVEY) partners (Australia, Canada, New Zealand, and United Kingdom) serve under my Command as fully integrated members of the USPACOM team. Our operations and intelligence watch centers are FVEY environments. Our service components also have embedded FOGOs serving as Deputy Commanders and senior staff officers.

The future lies in multilateral security mechanisms. USPACOM is broadening key bilateral relationships into multilateral partnerships with a purpose that will more effectively address shared security concerns. For example, United States-Japan-ROK trilateral coordination in response to North Korean provocative behavior is improving. The ROK and Japan each recognize that provocative actions by North Korea will not be isolated to the peninsula and greater coordination and cooperation are required. Historical tensions between the nations have lessened and cooperation and collaboration with the ROK [Republic of Korea] have improved. United States-Japan-ROK trilateral cooperation is benefitting from these developments. The November 2016 signing of the Japan-ROK General Security of Military Information Agreement (GSOMIA) is a major accomplishment in improving bilateral relations between Seoul and Tokyo, and lays an essential foundation for expanding cooperation enabling the United States to work more closely with both allies. This cooperation also led to two successful United States-Japan-ROK trilateral missile defense information link maritime exercises in 2016. I look forward to increasing the frequency and complexity of trilateral information sharing while simultaneously enhancing trilateral security cooperation.

To encourage multilateral cooperation, USPACOM hosts the Chiefs of Defense Conference (CHODs) annually. The CHODs conference location normally rotates between Hawaii and a regional partner. In 2016, 31 countries attended the CHODs conference in Manila, Philippines. USPACOM also participates in Australia-Japan-United States trilateral defense dialogues, including the Security and Defense Cooperation Forum (SDCF). The 2017 conference will be held in Victoria, British Columbia, in September.

The trilateral relationship between the United States, Japan, and India is growing stronger. All three countries share democratic values, interests in protecting sea lanes of commerce, and respect for international law. The three sides launched a trilateral HA/DR working group at the first Ministerial meeting in 2015 and agreed to establish a maritime domain awareness working group. On the security front, all

three countries participate in India's increasingly complex annual Malabar military exercise as well as the multinational Rim of the Pacific exercise. As a next step, USPACOM is encouraging the addition of Australia to form a quadrilateral partnership with a purpose. India, Japan, Australia, and the United States working together will be a force for the maintenance of the Global Operating System.

ALLIES

Australia: The United States-Australia alliance anchors peace and stability in the region. Australia plays a leading role in regional security, capacity-building efforts and addressing disaster response. Australia is a key contributor to global security and a significant contributor to counter-ISIS efforts in Iraq and Syria and the Resolute Support mission in Afghanistan. With the implementation of force posture initiatives, the Marine Rotational Force-Darwin successfully completed its fifth deployment while increasing its presence from 1,177 to 1,250 U.S. Marines. The sixth deployment began this month and will include four MV-22 Osprey aircraft, providing a more robust capability. Cooperative activities under Enhanced Air Cooperation, another force posture initiative, formally commenced in February 2017 with the deployment of F-22 aircraft to northern Australia. The United States and Australia are increasing collaboration in counter-terrorism, space, cyber, integrated air missile defense, and regional capacity building. Australia is procuring high-tech U.S. platforms that will further increase interoperability. These include the F-35A Lightning II, P-8 Poseidon, C-17 Globemaster III, EA-18G Growler, Global Hawk UAVs, and MH-60R helicopters. To enhance interoperability, the Australian Government provides a General Officer and Senior Executive (civilian) to USPACOM and a General Officer to United States Army Pacific on a full-time basis. Australia has also set a goal of reaching 2 percent of its GDP on defense spending over the next decade.

Japan: The United States-Japan alliance remains the cornerstone for peace and stability in the Indo-Asia-Pacific region. Operational cooperation and collaboration between USPACOM and the Japan Joint Staff continue to increase. Japan's Peace and Security Legislation authorizing limited collective self-defense and the revised Guidelines for United States-Japan Defense Cooperation have significantly increased Japan's ability to contribute to regional stability more broadly. Japan continues to support USPACOM activities to maintain freedom of navigation in the South China Sea, and remains concerned about Chinese activities in the East China Sea.

Republic of Korea (ROK): The United States-ROK alliance remains ironclad. We continue to work with our ROK allies as they move toward obtaining the capabilities required under the Conditions Based OPLAN Transition Plan (COT-P). In response to the evolving threat posed by North Korea, the United States and the ROK made an Alliance decision to deploy a Terminal High Altitude Area Defense (THAAD) system to the ROK to improve the Alliance missile defense posture. North Korea's provocative actions, and its refusal to engage in authentic and credible negotiations on denuclearization, compelled our Alliance to take defensive measures. The decision to deploy THAAD to the Korean Peninsula is based solely on our commitment to defend our allies and our forces from the North Korean threat.

The Philippines: The United States-Philippine alliance remains resolute. Through frank and frequent dialogue with Philippine leadership we continue to maintain a robust defense relationship comprised of 258 activities for calendar year 2017, which include joint and service-to-service exercises. All plans, activities, exercises, and construction in the Philippines are done in close coordination with, and with the full approval of, Philippine leadership. On January 12, 2016, the Philippine Supreme Court ruled in favor of the Enhanced Defense Cooperation Agreement and the new Philippine administration is also supportive of this agreement. Project development at various Philippine bases will improve interoperability and build partner capacity of the Armed Forces of the Philippines (AFP) in Maritime Security, Maritime Domain Awareness, and HA/DR capabilities. We remain committed to supporting the AFP to counter-terrorism not only in the Southern Philippines, but in the tri-border area in Sulu and Celebes Seas. At the request of several Philippine administrations, Special Operation Command Pacific (SOCPAC) continues to provide counter-terrorism support and assistance. We will continue to consult with the Government of the Philippines and tailor our activities and assistance to address our shared security concerns. I am convinced that with some strategic patience and mutual respect, our Philippine alliance will remain strong and continue to stabilize the region as it has for over 60 years.

Thailand: The longstanding United States-Thailand alliance is supported by deep bilateral military-to-military ties that go back to our 1950 Agreement Respecting Military Assistance between the Government of the United States of America and

Government of Thailand. Thailand offers unique training opportunities and essential logistical nodes for our forces. The most significant exercise being Cobra Gold, the largest multilateral military exercise in Southeast Asia. I spoke at the opening ceremony for this year's exercise in February and reiterated United States commitment to Thailand. Thailand is committed to a return to democracy with national elections in 2018, and we remain important alliance partners. I remain convinced that the best way for the United States to promote security and healthy civil-military relations in Thailand is to engage more, not less, with Thai military leadership.

PARTNERS

India: India continues to emerge as a significant strategic partnership in the Indo-Asia-Pacific region. In June 2016, India was designated as a Major Defense Partner to the United States. This declaration is unique to India and places it on the same level as many of our closest allies for the purposes of defense trade and technology sharing. United States and Indian militaries participated together in three major exercises and more than 50 other military exchanges this past year, in addition to conducting a joint course in peacekeeping for ten African partners. We signed the Logistics Exchange Memorandum of Agreement (LEMOA) after more than a decade of negotiation to further deepen our military-to-military relationship and serve as a force multiplier during exercises and real world HA/DR operations. We also held our first annual 2+2 United States-India Maritime Security Dialogue last year to help identify and implement our common strategic interests. The United States-India Defense Technology and Trade Initiative (DTTI) continues to expand opportunities for cooperation, adding new working groups to focus on areas of mutual interest. Defense sales are at an all-time high with U.S.-sourced airframes, such as P-8s, C-130Js, C-17s, AH-64s and CH-47s. We recently concluded a deal for 145 M777 howitzers. USPACOM will continue to advance the partnership with India as the "new normal" by strengthening our relationship and working toward additional enabling agreements that enhance interoperability between our forces.

Indonesia: Indonesia plays an essential role in the security architecture of the region. We maintain a robust defense relationship comprising 221 activities for calendar year 2017. USPACOM continues to partner with Indonesia, particularly in maritime security. Indonesia desires to play a larger role in international economic and security issues. Their goal to provide 4,000 deployable peacekeeping troops by 2020 is another important area where we can engage. Indonesia continues to build and exercise in strategic maritime border areas to bolster its defense capabilities, and has concerns with Chinese activities in the vicinity of the Natuna Islands.

Malaysia: Our close security ties with Malaysia are based on our Comprehensive Partnership. Malaysia's regional leadership role, technologically advanced industry, sizeable economy, and capable military make it an important partner in securing peace and prosperity in Southeast Asia. We continue to assist Malaysia in building an amphibious force to address non-traditional threats in and around their territorial waters. Malaysia has reached a trilateral agreement with the Philippines and Indonesia for improving the maritime security environment in the Sulu and Celebes Seas. Malaysia also has an on-going dispute with China with respect to the Luconia Shoals, which China also claims. Nevertheless, Malaysia has demonstrated the capacity and resolve to contribute to regional security, and we continue to support Malaysia's emerging maritime security requirements.

Mongolia: Mongolia endures as a small yet strong partner in Northeast Asia and continues to demonstrate staunch support for U.S. regional and global policy objectives—especially those linked to the Global Peace Operations Initiative and security operations in Afghanistan. The government engages with the U.S. and other countries as part of their "Third Neighbor" policy. Mongolia also markets itself as a model for emerging democratic countries such as Burma, Nepal, and Timor Leste. I visited Mongolia last summer and spoke at the KHAAN QUEST 2016 closing ceremony, reaffirming that USPACOM's goals are to assist the Mongolian Armed Forces through their defense reform priorities to include development of professional military education for officers and non-commissioned officers, developing a professional NCO corps, and developing an Air Force and ready Reserve Force. The Mongolians punch above their weight and we should continue to support them where we can.

New Zealand: Our military-to-military relationship has reached new heights over the past 2 years, despite longstanding differences over nuclear policy. Relations remain strong and are the most encouraging in decades. The November 2016 visit of the USS *Sampson* (DDG 102), the first ship visit to New Zealand in more than thirty years, marked a new milestone. New Zealand remains a respected voice in international politics and a leader in the South Pacific that shares common security con-

cerns with the United States, including the need to address terrorism, transnational crime, and maritime security.

Singapore: A key strategic partner in Southeast Asia, we depend on Singapore for its insights on regional dynamics and its support to United States security priorities. Singapore has been a major security cooperation partner for over a decade and provides us invaluable access including hosting of Littoral Combat Ships, Maritime Patrol and Reconnaissance Aircraft, and the Seventh Fleet's Logistics Force headquarters. Recently, our partnership expanded into new areas including cyber security and counter-proliferation. We conduct dozens of military exercises with Singapore each year and Singaporean military officers regularly attend United States professional military education. This combination of forward deployed forces, logistics, and deep training relationships contributes to readiness, builds deeper ties and allows the U.S. to promote maritime security and stability with regional partners.

Sri Lanka: President Sirisena, elected in January 2016, is serious about addressing Sri Lanka's human rights issues. Throughout the last year he continued Sri Lanka's path toward reconciliation and democracy following its civil war. I believe it is in America's interest to increase military collaboration and cooperation with Sri Lankan forces. Accordingly, I visited Sri Lanka last November—the first 4-star to do so since 2008. USPACOM has expanded military leadership discussions, rule of law training, increased naval engagement, and focused security cooperation efforts on defense institution building in areas such as demobilizing and military professionalism. I look forward to continuing to expand our relationship in the future.

Vietnam: Vietnam continues to expand cooperation with the United States at a moderate, but steady pace. USPACOM provides support for Vietnam's modernization and capacity building, focusing on maritime security, peacekeeping, and disaster response. The United States will transfer maritime security vessels including maintenance and training packages to Vietnam's Coast Guard over the next few years, which will build their capacity for maritime domain awareness. In addition, we are discussing a proposal to improve our mutual ability to cooperate in the field of HA/DR as well as enhance ongoing bilateral cooperative activities.

OTHER KEY ACTORS

Oceania: Maintaining strategic influence in Oceania is becoming ever more important to United States national security. The provisions included in the Compacts of Free Association with the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau are important mechanisms that guide the relationships, including U.S. obligations for their defense. In return, these agreements provide assured access to the three Compact Nations in a contingency situation. They also give the U.S. authority to grant or deny access to another nation's military forces which allows the U.S. to maintain a clear strategic line of communication across the Pacific. I strongly urge Congress to pass legislation to approve and implement the 2010 Palau Compact Review Agreement at the earliest opportunity. The passage of this legislation will have a significant impact on our defense relationship with Palau, and will provide a measurable advantage in our strategic posture in the Western Pacific. Continued U.S. commitment to defend the Compact Nations and to partner with other Pacific island countries enhances American influence and sends a strong message of reassurance throughout the region.

ASEAN: ASEAN turns 50 this year and the United States will commemorate the 40th year of United States-ASEAN dialogue relations. The United States and ASEAN share the common principles of a rules-based order, respect for international law, and the peaceful resolution of disputes. The ten ASEAN member states, under the chairmanship of Laos last year and the Philippines this year, continue to seek ways to improve multilateral security engagements and advance stability in the Indo-Asia-Pacific. During this past year, the United States strengthened its commitment to ASEAN with engagements at the Secretary of Defense and Presidential levels where agreement on whole-of-government approaches to shared challenges in areas of maritime security and maritime domain awareness were reached. Throughout the past year USPACOM participated in ASEAN exercises, key leader engagements, and practical multilateral cooperation related to the spectrum of shared transnational challenges. Malaysia and the United States will co-chair the ASEAN Expert Working Group on Humanitarian Assistance and Disaster Relief with Malaysia over the next three years.

Burma: Aung San Suu Kyi's National League for Democracy's election victory was a historic milestone. While challenges remain during the transition to civilian leadership, USPACOM's goal is to support and empower the civilian government, while encouraging the professionalization of its military. Our assistance through defense engagement programs is designed to bring together civilian and military officials to

promote cooperation and understanding. These limited programs also promote the development of a professional military in a democratic system of government and broaden the exposure of isolated military officials to international norms of conduct and civilian control.

China: The United States-China relationship remains complex. While Chinese actions and provocations create tension in the region, there are also opportunities for cooperation. USPACOM's approach to China is to cooperate where we can to collectively address our shared security challenges, but remain ready to confront its provocative actions where we must. USPACOM's engagements with the People's Liberation Army, governed by section 1201 of the fiscal year 2000 NDAA, improve transparency and reduce risk of unintended incidents.

USPACOM conducted numerous bilateral and numerous multilateral engagements last year with China. USPACOM co-led the United States-China Military Maritime Consultative Agreement (MMCA) plenary and working group focused on operational safety in November 2016. Encounters between our forces at sea and in the air are generally safe, but the MMCA provides a forum for continuous dialogue to identify and address safety issues when they arise.

Areas of common interest that allow military cooperation include counter piracy, military medicine, and disaster response. USPACOM forces participated in the annual Disaster Management Exchange with the People's Liberation Army in Kunming, China designed to share HA/DR lessons learned from real world events. USPACOM encourages China's participation in international efforts to address shared challenges in a manner consistent with international law and standards.

Taiwan: Democratic elections in January 2016 reflect the shared values between Taiwan and the U.S. The United States maintains its unofficial relations with Taiwan through the American Institute in Taiwan and we continue supporting Taiwan's security. USPACOM will continue to fulfill United States commitments under the Taiwan Relations Act. Continued, regular arms sales and training for Taiwan's military are an important part of that policy and help ensure the preservation of democratic institutions. As the military spending and capability of the PRC grow every year, the ability of Taiwan to defend itself decreases. We must continue to help Taiwan defend itself and demonstrate United States resolve that any attempt by China to force reunification on the people of Taiwan is unacceptable.

ACTIVITIES, DIRECT REPORTING UNITS, AND MISSION PARTNERS

Security Cooperation and Capacity Building: USPACOM's Security Cooperation approach focuses on building partner readiness, reducing partner capability gaps, and building partner capacity. One of the more powerful engagement resource tools is the State Department's Foreign Military Financing (FMF). FMF enables USPACOM to meet regional challenges to include border security issues, disaster response, counterterrorism, and maritime security.

USPACOM will continue to leverage the fiscal year 2016 NDAA section 1263 "Southeast Asia Maritime Security Initiative" authority to enhance maritime domain awareness and maritime capacities and capabilities of partners and allies in the South China Sea region, through assistance to, and training of, partner and allied country maritime security forces.

USPACOM will continue to rely on FMF as a source of providing major end items to eligible countries. MSI support notified pursuant to the section 1263 authority should be viewed as complementary and additive in nature to these FMF plans. Under MSI, PACOM plans to provide niche capabilities, more multi-mission types of equipment, and connective tissue that will help partners better deploy and employ these maritime security capabilities—both domestically to protect their sovereign territory and as a means of fostering greater regional interoperability.

Additionally, USPACOM is looking forward to leveraging the consolidated Security Cooperation authority in fiscal year 2017 NDAA as a responsive tool for building partner capacity as security situations and relationships evolve. I am concerned the changes in the fiscal year 2017 NDAA could impact both operational support to foreign law enforcement and capacity building efforts focused on countering narcotics flows and transnational crime. We are currently working with the rest of the Department of Defense to develop the policies needed to implement this new law.

Maritime Domain Awareness: Southeast Asian partners support United States security cooperation efforts in the area of maritime domain awareness. USPACOM will continue to leverage MSI and the new section 1263 authority and other existing authorities to develop multilateral approaches to information sharing to develop a regional maritime picture. USPACOM and the Daniel K Inouye Asia-Pacific Center for Strategic Studies (DKI APCSS) co-hosted a policy level workshop on best practice for information sharing. Additionally, the Philippines, Australia, and the United

States co-hosted an operational level workshop to discuss regional maritime security best practices. These workshops facilitate whole-of-government discussions on maritime challenges that support creation of a regional maritime domain awareness network to share information between Southeast Asian partners. USPACOM will continue to support these workshops to improve regional awareness. We need to go beyond Maritime Domain Awareness to improve our partners' and allies' multi-domain awareness and increase their domain denial capability so that they can better protect their territory and enforce their maritime rights.

Global Peace Operations Initiative (GPOI): Indo-Asia-Pacific countries provide over 30 percent of the world's uniformed peacekeepers to United Nations (UN) peacekeeping operations worldwide and of these peacekeepers, 62 percent of the peacekeepers come from the 12 GPOI partners in the Indo-Asia-Pacific where they support 15 of the 16 UN peacekeeping missions. Not only is GPOI helping to build the capability and capacity of our partners to deploy forces, the USPACOM GPOI is focused on providing high-quality, action-oriented, challenging scenario-based training so that peacekeepers are better prepared to implement the mandates contained in UN Security Council Resolutions—protecting vulnerable civilians, halting conflict-related sexual violence, working to put a stop to the use of children soldiers, addressing misconduct and trying to bring long-term peace and security to conflict torn regions. Partners are working towards meeting program goals of achieving self-sustaining, indigenous training capability. Most recently in March 2017, USPACOM and Nepal cohosted Shanti Prayas-3—a multinational peacekeeping exercise—training personnel from 34 countries for deployment to UN peacekeeping missions. USPACOM will continue improving partner military peacekeeping skills and operational readiness and provide limited training facility refurbishment. This program not only supports our efforts to improve UN peacekeeping, it is also helping to strengthen interoperability with U.S. forces and builds the trust required to improve interoperability in other relevant areas.

Joint Exercise Program: USPACOM's Joint Exercise Program deliberately synchronizes frequent, relevant, and meaningful readiness exercises and engagements across the Indo-Asia-Pacific region to ensure the joint force is prepared for crises and contingency operations. This important joint exercise program, funded through the Combatant Commander Exercise Engagement Training Transformation (CE2T2) program, provides the critical means and enablers to improve readiness of forward deployed assigned forces. It also advances many Theater Campaign Plan objectives to include strengthening our alliances and partnerships while sustaining USPACOM's military preeminence. USPACOM appreciates Congress' continued support of these important programs to maintain progress made in joint readiness.

Joint Interagency Task Force-West (JIATF-W): The drug trade in the Indo-Asia-Pacific is a growing concern that threatens regional stability as drug trafficking organizations expand into new markets and develop new and disturbing partnerships across the globe. USPACOM combats drug trafficking in the region through JIATF-W by disrupting flows of drugs and precursor chemicals that transit the region and hardens the theater against the continued growth of transnational criminal organizations.

Chinese and, to a lesser extent, Indian chemical producers continue to be the primary source of precursors for synthetic drugs, including powerful synthetic opioids like fentanyl, as well as more traditional drugs like cocaine and heroin. JIATF-W identifies avenues of cooperation with the government of China on this issue to assist United States law enforcement with seizures of these chemicals and drugs. JIATF-W identified and tracked chemical flows resulting in the seizure of roughly 140,000 kilograms of methamphetamine precursor chemicals in 2016.

As demonstrated by its effect on the Philippines, the illicit drug trade can have far reaching, and even strategic impacts. The internal pressures caused by criminal organizations and their operations, as well as the associated corruption and the demands placed on society by the need for treatment and prosecution, can and do cause enormous stress on governance. These stresses ultimately affect United States interests in the region. JIATF-W continues to build partner capacity to counter illicit trafficking of narcotics in the coastal areas of the Philippines, Vietnam, Cambodia, Indonesia, Malaysia, Maldives, Sri Lanka, and the border regions of Bangladesh and Thailand.

In Australia, cocaine prices reach ten times the retail prices in the United States, providing a strong incentive for drug traffickers to expand their reach across the Pacific. The drug trade feeds enormous amounts of cash back into the Mexican and South American drug cartels. This, in turn, contributes to challenges faced by our law enforcement agencies on the Southwest border. JIATF-W works closely with agencies throughout the South Pacific, including the French Armed Forces in Poly-

nesia, as well as both Australian and New Zealand law enforcement, military and intelligence services to counter this lucrative drug trade.

Center for Excellence for Disaster Management (CFE-DM): CFE-DM increases capacity of U.S. and partner nation military forces to respond effectively to disasters through its education training and applied research and information sharing programs. The Center annually trains about 8,000 military and civilian annually. This includes training deployable forces and foreign audiences. Broad based partnerships encourage a robust collection of best practices.

The Daniel K. Inouye Asia-Pacific Center for Security Studies (DKI APCSS): While DKI APCSS is no longer a Direct Reporting Unit to USPACOM, I have formally designated it as a “Mission Partner” to underscore its importance to the USPACOM mission set. DKI APCSS builds and sustains key regional partnerships and partner nation capacity and in enhances cooperation on regional security challenges. The Center’s courses, workshops, dialogues, and alumni engagements directly support OSD-Policy and USPACOM priorities and are integrated into USPACOM’s Theater Campaign Order. Focus areas include rule-of-law based governance emphasizing civilian oversight of militaries, defense institution building, enhancing regional security architecture—particularly ASEAN, collaborative approaches to maritime security and domain awareness and counterterrorism, and improved capability and cooperation in HADR. DKI APCSS has major competitive advantages in location, credibility, convening power, and alumni network. Those advantages and the Center’s focus on substantive and sustainable outcomes have broadly improved security sector governance. Specifically, this organization is leading DOD in the implementation of UNSCR 1325 (Women, Peace, and Security) and the U.S. National Action Plan to achieve greater inclusion of women in the security sector.

Joint Enabling Capabilities Command (JECC): U.S. Transportation Command’s JECC responds rapidly and effectively to events in the Indo-Asia-Pacific. JECC’s support is critical to USPACOM’s ability to facilitate rapid establishment of joint force headquarters, fulfill Global Response Force (GRF) execution, and bridge joint operational requirements by providing mission-tailored, ready joint capability packages. JECC supports real-world real world contingencies and operational plans.

Logistics Support Agreements (LSAs): USPACOM continues to view LSAs as critical Theater Security Cooperation (TSC) enablers. We have 14 agreements in the region, to include the recent agreement with India. We continue to actively work with eligible but as yet uncommitted partners to conclude as many of these agreements as possible, and I personally stress their importance in my engagements with partner country leadership. The logistics agreement with Japan was especially useful during the Kumamoto earthquake disaster, and I often share this experience with our other partners.

Pacific Area Senior Officer Logistics Seminar (PASOLS): PASOLS is an annual forum that brings together senior logisticians from 30 countries in the Indo-Asia-Pacific. The goal is to strengthen regional cooperation, improve interoperability, and develop partner capacity to cooperatively address regional challenges. Singapore hosted PASOLS 45 in November 2016. PASOLS is our most important annual logistics engagement event.

Pacific Amphibious Leaders Symposium (PALS): PALS is an annual forum that brings together senior leaders of allied and partner nations throughout the Indo-Asia-Pacific to discuss key aspects amphibious operations, capabilities, crisis response, and interoperability. 22 countries participated in PALS 2017, which was hosted by the Republic of Korea Marine Corps.

CONCLUSION

United States interests in the Indo-Asia-Pacific are real and enduring. The growing challenges to our interests are daunting and cannot be overstated. In order to deter potential adversaries in the Indo-Asia-Pacific, we must continue to invest in critical capabilities, build a force posture that decreases our vulnerabilities and increases our resiliency, and reassure our allies and partners while encouraging them to be full and cooperative partners in their own defense and the defense of the rules-based international order. Our allies and partners are hedging and need reassurance. We must demonstrate our commitment in actions. The good news is that America’s resolve is strong. I ask this committee to continue support for future capabilities that maintain our edge and prevent would-be challengers from gaining the upper hand.

Thank you for your enduring support to the USPACOM team and our families who live and work in the Indo-Asia-Pacific—a region critical to America’s future.

Chairman MCCAIN. Thank you, Admiral, and thank you for the outstanding job and your outstanding leadership that you are exhibiting in these very difficult and challenging times.

Admiral, would you say that it is an accurate statement to say that the crisis on the Korean Peninsula now is reminiscent? It reminds one of a gradual Cuban Missile Crisis.

Admiral HARRIS. Sir, I will just say that I think the crisis on the Korean Peninsula is real. It is the worst I have seen. I am not a student of the Cuban Missile Crisis, but what I know of it, it seems that we are faced with a threat and a leader who is intent on achieving his goal of a nuclear capability against the United States.

Chairman MCCAIN. That leader does not always behave in a rational fashion. Is that correct?

Admiral HARRIS. That is correct, sir. I believe to ascribe terms like "rational" or "irrational" to Kim Jong-un is probably not helpful because he is what he is and we have to deal with the Kim Jong-un that is. I believe that he does have some kind of calculus that ends up in decisions. He takes the information and makes a decision, and those decisions are often brutal and the decisions are there to keep him and his family in power in North Korea.

Chairman MCCAIN. It is clear that his goal is a nuclear weapon and the means to deliver it to the United States of America. Is there any doubt in your mind?

Admiral HARRIS. There is no doubt in my mind, Chairman.

Chairman MCCAIN. There is some question, given the difficulty of getting real reliable intelligence as to how close he is to reaching that goal?

Admiral HARRIS. There is some doubt or questions within the intelligence community whether he has that capability today or whether he will soon have that capability. I have to assume that he has it, as do my fellow combatant commanders, Lori Robinson and John Hyten. We have to assume that the capability is real. We know what his intentions are and he is moving toward them.

Chairman MCCAIN. It is not a matter of whether. It is a matter of when.

Admiral HARRIS. It is clearly a matter of when.

As I said yesterday, KJU [Kim Jong-un] is not a leader who is afraid to fail in public. I talked about Thomas Edison. He tried a thousand times before he got the light bulb to work. KJU is going to continue to try until he gets his ICBMs to work.

Chairman MCCAIN. What does THAAD do for us in South Korea?

Admiral HARRIS. I think the point that KJU's rhetoric—and he has threatened the United States and cities by name, and just this week, he threatened Australia by name. I think his rhetoric, if you were to project it on a graph, is going in one direction. Then his capability is approaching—the line of his capability is approaching the line of his rhetoric. Where those lines cross, I believe we are then at an inflexion point and we wake up to a new world.

Chairman MCCAIN. What does THAAD do for us?

Admiral HARRIS. THAAD enables us and our South Korean allies to defend South Korea or a big portion of South Korea against the threat from North Korea. It is aimed at North Korea—the systems. It poses no threat on China.

Chairman MCCAIN. Is it not incredibly difficult to counter the 4,000 artillery pieces that the North Koreans have on the DMZ [demilitarized zone] which could attack a city of 26 million people?

Admiral HARRIS. It is, sir, and THAAD is not designed to counter those kinds of basic weapons.

Chairman MCCAIN. What is designed to do that? Anything?

Admiral HARRIS. We do not have those kinds of weapons that can counter those rockets once they are launched.

Chairman MCCAIN. They can launch—they have the capability of a launch of those rockets.

Admiral HARRIS. At this very moment, they have that capability, Senator.

Chairman MCCAIN. What do you make of China's reaction to our emplacement of THAAD, a purely defensive system? Does that give you an idea of China's real intentions about North Korea?

Admiral HARRIS. I have said before, Chairman, that I believe it is preposterous that China would criticize South Korea or the United States for emplacing a purely defensive missile system against the North Korean threat when that North Korean threat owes its survival, if you will, to China. I believe that China, rather than criticize the United States or South Korea for defending ourselves, should rather put that energy toward convincing Kim Jong-un to stop his nuclear ambitions.

Chairman MCCAIN. We should be a bit skeptical about our ability to persuade the Chinese to break Kim Jong-un's quest for nuclear weapons and the means to deliver them.

Admiral HARRIS. I have been skeptical up to the recent discussions between President Trump and President Xi. I think that we are seeing more activity, proactive, positive activity, from China in this case than we have seen in a long time. I remain cautiously optimistic but certainly hopeful.

Chairman MCCAIN. You would not rely on that.

Admiral HARRIS. It is too early to tell, sir. It has only been a month or so, and it is too early to tell.

Chairman MCCAIN. I mean you would not rely on it at this time.

Admiral HARRIS. I would not bet my farm on it.

Chairman MCCAIN. We thank you, Admiral. Senator Reed?

Senator REED. Thank you, Mr. Chairman. Thank you, Admiral Harris.

Admiral Harris, I understand yesterday that you, in response to the House questions, took responsibility for the miscommunication regarding the Carl Vinson carrier group. First of all, I commend you for standing up and being accountable and responsible. That is what naval officers do. I think we better take significant steps to avoid such confusion in the future. It was quite detrimental not only here but, as you know, in South Korea particularly where there was a great deal of concern. In some quarters, they felt that they had been misled, indeed. I would urge you to ensure that such a miscoordination or miscommunication does not happen in the future.

Admiral HARRIS. Yes, sir. Again, as I said yesterday, I am accountable and responsible for the communications that came out of that evolution. I am sorry that it happened, and all I can say is I will do better in the future.

Senator REED. Let me raise an issue that is linked to our diplomacy. We are asking China to take a much more assertive role in urging the North Koreans to deescalate and desist. Your view in terms of what concessions we should make, if any, to the Chinese to get them to cooperate. As both the chairman and I pointed out and as you pointed out, they are posing significant challenges to the rule of law in the Pacific, and we cannot ignore that. Your comments on this issue.

Admiral HARRIS. Senator, I believe that great powers can walk and chew gum at the same time, and by that, I mean I think we can compliment and be grateful for China's efforts in North Korea even as we criticize them, rightfully so, and hold them accountable for actions that run counter to the international rules and norms elsewhere, in this case the South China Sea. I think we can do both, and we should do both. I do think China as a great power can handle that criticism on the one hand while they are dealing with this important critical international security issue on the other.

Senator REED. Thank you.

Obviously, we are trying to approach the North Korean issue with a comprehensive strategy, diplomacy, military action, military preparedness certainly. One aspect is information warfare. My sense—and I am not the expert you are, but Kim Jong-un is paranoid about his own people and what information they are getting. Do you think we are making a sufficient effort to get information into North Korea through various means so that we can begin to bypass the Dear Leader and go to the people and that could create pressures on him to forestall his nuclear ambitions?

Admiral HARRIS. I believe we are making an effort. I am not witting of the totality of that effort. I do believe that the people in North Korea revere Kim Jong-un. I believe that the idea that somehow we could—or somehow that they could rise up against Kim Jong-un, if the situation in North Korea became so dire, I think that might be a hollow hope. I believe that they consider him a god king, and they truly revere him as their leader. That is just based on what I have read in the press and reports of reporters who see the North Korean people start to cry and all of this and get emotional when he comes out on stage, and they seem to be real tears. I think that he has a hold on his people, that they are not going to rise up from beneath and topple him.

Senator REED. Again, I think your perception is much closer to the situation on the ground, but anything we can do to either raise questions—I do not think they will prompt an uprising immediately—not only questions among the population but questions among the Dear Leader, Kim Jong-un, that his people are being sort of influenced or there might be elements within the country that are thinking and embracing other ideas could be some leverage. I think we have to pursue aggressively this information operation. My sense is we are not.

Admiral HARRIS. I must agree with you there.

Senator REED. Just one other issue. China has refused arbitration—to acknowledge the decision of the arbitration clause under the Law of the Sea with the Philippines, et cetera. We do have a successful example of Timor-Leste and Australia of working to-

gether, and that might be a model maybe just rhetorically that we could use with the Chinese and see if we could move them towards more cooperative aspects with the Philippines.

Admiral HARRIS. I agree with you there.

Senator REED. Thank you.

Admiral HARRIS. There are several good examples just in the Indo-Asia-Pacific where arbitration has worked, both parties have given a little and gotten a lot, and the overall picture in the region has been one of increased civility rather than decreased stability.

Senator REED. Thank you very much, Admiral.

Chairman MCCAIN. Senator Inhofe?

Senator INHOFE. Admiral, I think what has happened in the last few days has served as a wakeup call to the American people. Of course, we had our hearing on Tuesday. Four pretty smart people came to the same conclusion. We have you today, and of course, we have what happened yesterday at the White House, as well as other places in the House.

We actually talked about this, and it has been obvious to those of us at this table that over a period of time, North Korea has, going all the way, arguably, back to the Scud, the times of the middle 1970s, progressing up to the Nodong and the Taepodong 1 and Taepodong 2, and then ultimately coming up to the statement that he makes that declares that North Korea—this is Kim Jong-un declares that, “It is in final stages and preparations to test an intercontinental ballistic missile.”

I think people now realize that it is an imminent threat. They really have not. I know that you deal in military circles and you are dealing with people who know what threat is. Those of us around this table are dealing with the general public, many of whom do not understand that.

We had the hearing on Tuesday. They agreed that North Korea currently represents the single most imminent—they use “imminent”—threat. Victor Cha testified, and this was his quote. He said the pace of North Korea’s development shows that it wants to be able not just to field one missile that could reach the United States but a whole slew of them. The panel all agreed on that. We are getting to really talking about serious things here.

You just now in response to a question or a comment by the chairman said that it is not a matter of if, but a matter of when.

I think it is our job, and it is incumbent upon the military as well as us to let the American people know the nature of the threat that is out there.

Now, last year, Senator Rounds and I led a group to your area, and we talked about some of the things that were taking place at that time. We came back and we had that hearing that you referred to. In the hearing, you were asked the question as to what are your needs there in terms of resourcing yourself adequately to meet the threats. Let us keep in mind that was a year ago, and the threat has totally been enhanced since that time. What would those needs be today as opposed to what we thought they were a year ago?

Admiral HARRIS. Sir, last year, I commented that I had the forces to fight tonight, to respond tonight to any threat from North Korea

or anywhere else for that matter. I still believe that today. I have the forces in place to fight tonight if necessary.

What I am concerned about are those follow-on forces, the forces themselves, and also how those follow-on forces would get to the region in terms of airlift and sealift. I am worried about that.

I am also worried about things like small diameter bombs and other kinds of munitions, anti-air warfare weapons for our fighter aircraft, adequate numbers of AIM-9D and AIM-120 missiles. I worry about the shortage of anti-ship missiles, whether it is long-range anti-surface missiles, more Tomahawk, whatever, but a long-range anti-surface missile.

I would like to see a fifth SSN in Guam, but more than the fifth SSN in Guam, our Nation is facing a significant shortage in terms of submarine numbers. As the combatant commander, for example, I only get 50 percent of the submarines that I think I need, but that is based on a 52-submarine force, and by the end of 2020, the Navy projects that attack submarine force will go down to 42. My requirements will not go down, but the pool from which they will be sourced is going to drop dramatically. I worry about that significantly as I look at the threat from North Korea, potential threat from China and from Russia.

Senator INHOFE. Yes. We are going to be depending on you to advise us in not generalities but as you are getting into right now, priorities and the needs that you have. We will depend on that.

I am also encouraged that our allies are more dependable than what they have been in the past. Is it your impression that they see this threat that is out there as we do? Does this open the door for maybe even more allies coming in our direction?

Admiral HARRIS. I believe it does. If we define allies as partners like you are talking, you know, we only have five defense treaty allies in the world, and they are all in the Indo-Asia-Pacific. We have other countries that are close to us, that are partners with us. Singapore comes to mind, for example, Malaysia, Indonesia, India, Vietnam. These are countries that I think seek the United States as a security partner of choice.

Senator INHOFE. Yes. Well, I appreciate that very much. My time has expired, but I would like to just ask one more question. You made the statement we should cease to be cautious about the language we use to describe these activities. Can you define that a little bit for us?

Admiral HARRIS. I am not sure in what context you are referring to.

Senator INHOFE. Okay. That was a quote. I will do that for the record and give you the context because it is something that a lot of us did not understand.

Admiral HARRIS. Yes, sir.

Senator INHOFE. Thank you very much.

Chairman MCCAIN. Senator Nelson?

Senator NELSON. Admiral, thank you for your service, and you are certainly in the center of the action.

Let me just reiterate here what you have said. You said that the Korean leader is intent on accomplishing his goals as a nuclearized nation. His goal is a nuclear warhead—these are my words, but I think it is what you meant—married to an ICBM that would have

the capability of getting to the U.S. You said it is, in your opinion, not a matter of if, it is a matter of when. Is that a correct interpretation of what you have said?

Admiral HARRIS. It is correct, sir.

Senator NELSON. Okay.

You also offered your opinion that you would not bet that China can basically deter the DPRK. Is that correct?

Admiral HARRIS. To be clear, I have felt in the past that China, though it has the capability to influence and affect North Korean behavior, for a number of reasons it has chosen not to exert the full range of its influence.

I think we are in a different place now. I think the jury is out. It is early days? We will have to see if China has changed its view of its willingness to influence KJU.

Senator NELSON. Based on their previous activity, there is no indication that you think that that is going to occur, although you are hopeful.

Admiral HARRIS. Right, sir. I mean, past performance is no indicator of future productivity. Up to a month or two ago, I would agree with that statement completely. After all, I made the statement. From a month ago forward, we are seeing some positive behavior from China, and I am encouraged by that. I think we should let this thing play out a little bit and see where it goes.

Now, part of that, though, Kim Jong-un and the North Korean regime—you know, they can do something precipitative in the intervening period to test us, so we have to be careful and sensitive to that as well.

Senator NELSON. Precisely.

Up to this point, has China done anything that would give you an indication that they are going to be helpful to the United States in getting the Leader to back off of his intent to nuclearize an ICBM?

Admiral HARRIS. Sir, I do not know for a fact what China has done in the last month or so. I know that they are active in working the problem set, but I do not know the specifics of what they have done. All I see are the activities that Kim Jong-un has done in the last month or so.

Senator NELSON. That is still on his march to a nuclearized ICBM.

Admiral HARRIS. I think it is, though in the last month, he has not tested a nuclear weapon. He has tested five this century and he has not tested a sixth. He has not launched an ICBM in the last month or ever. I do not know if there is a cause and effect or whether it just did not fit his schedule. Again, it is early days on this. I think we would be best served to see if this has a positive outcome or not and let President Xi work this issue as he and the President said they agreed they would.

Senator NELSON. Sure.

If China does not deter him, there is only one deterrence left, and that is the United States kinetic action. Is that what it looks like?

Admiral HARRIS. I do not want to say that there is only that option left. I think if China's efforts fail, then we are back to where we were, status quo ante, if you will, to try to throw some Latin

in there. At that point then, as the President has said, all options are on the table. I think he means just that: all options are on the table. My job in that framework is to provide military options, but there are other options I am sure. I would leave it to those experts to come up with those options. My options are hard power options.

Senator NELSON. In your hard power options, you need additional materiel.

Admiral HARRIS. I need additional materiel in the long run, but that is not to suggest that the hard power options that the U.S. military can provide the President would not be effective tonight, and they would be effective tonight if called upon to execute them.

Senator NELSON. Final question. There was a report in The Washington Post—I think it was David Ignatius—several weeks ago in essence saying that the failures of the North Korean launches are directly attributable to the United States. Is that anything that you want to talk about here?

Admiral HARRIS. No, sir. It is not anything I want to talk about here.

Senator NELSON. Okay.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Wicker?

Senator WICKER. Admiral Harris, thank you for being here.

As PACOM Commander, did you participate in authoring the 2016 Force Structure Assessment?

Admiral HARRIS. I participated in the run-up to that.

Senator WICKER. Okay.

Well, the Force Structure Assessment (FSA) called for a 355-ship Navy, and in that regard, I want to follow up on a line of questioning from Senator Inhofe and drill down on that.

Actually what the FSA said is that in a perfect world unconstrained by the budget, the requirement is 653 ships fleet-wide, but by accepting risk and understanding the financial restrictions that we have, the requirement is 355 ships.

Now, I want to help you get the ships you need. I want to help the Navy get the ships they need. When I am told 355 ships is the requirement, I believe that.

Now, you mentioned to Senator Inhofe that you do not have enough submarines. You also mentioned some ammunition there. Let us talk about ships. How many submarines do you have now and how many do you need?

Admiral HARRIS. Sir, I would prefer to give you those in a different setting on precise numbers.

I will say that I only get half of what I need. I have a stated requirement that is based on steady state things that we do with our submarines today, and then I have a requirement that is based on warfighting, so in our war plans, these war plans state a requirement for X number of submarines in Y number of days. Those are two kinds of metrics. You got a number of submarines that you need to fight the war if it happens, and then you have got a number of submarines that I need today to do the day-to-day operations in the region. In today's numbers, I get about half of what my formally stated requirement is.

Senator WICKER. You get half of 52.

Admiral HARRIS. No, sir. I get half of my requirement. Fifty-two is the total number of attack submarines that the Navy has. My number of requirements is irrespective of the number of submarines the Navy has, but the number of submarines that I get are based on the number of submarines the Navy has. It is not just me. It is all the combatant commanders have these requirements, Central Command, EUCOM, and every other COM.

Senator WICKER. Let me just ask you. If the Navy gets its 355 ships and you get your portion of it, what will you be capable of doing that you cannot do now?

Admiral HARRIS. The first thing is my steady state requirements in order to do the things that we do today in the climate that we are in will be much better. My fight tonight forces that I have to have ready to respond to a North Korean aggression or Chinese coercion or something like that—those forces will be more robust. Most importantly, the follow-on and surge forces will be available on shorter timelines. Today those follow-on forces are delayed by any number of reasons, and that delay is felt in terms of increased risk, longer timelines, and increased depths of Americans. If I have the number of ships that the Navy is asking for and the number of jets the Air Force is asking for and on and on, then both my ready to fight tonight forces will be richer, the timelines to get follow-on forces will be shortened, and the density of those follow-on forces will be thicker.

Senator WICKER. Well, let me just say I think at some point it is going to be helpful to this committee if you are a little more specific about those details.

Let me just follow up on something that Chairman McCain asked about. The threats that we have from North Korea now—there is the intercontinental ballistic missile. There is a better chance than not that we could shoot that down if that happened. There are these 4,000 short-range missiles. Your testimony is that there is essentially no defense from the South for those short-range missiles.

Admiral HARRIS. Those are not missiles. Those are mostly artillery.

Senator WICKER. Artillery, okay. There is no defense.

Admiral HARRIS. Right. I mean, you are trying to shoot down an artillery round.

Senator WICKER. Then the chairman asked you—and I do not think I understood the answer—what does THAAD get us.

Admiral HARRIS. THAAD allows us an intercept capability to shoot down at the high altitude level ballistic missiles that go from North Korea to South Korea. It is a Terminal High Altitude Area Defense System aimed at ballistic missiles from North Korea against South Korea. That is a short distance across the earth, but the missiles have a high atmospheric altitude. That is what THAAD gives you.

THAAD is part of a system that the South Koreans have. They have Patriot and they have the like. That is what those systems are designed for, to give an umbrella, if you will, to protect South Korea.

Senator WICKER. It seems to me the chairman's point is the dramatic point, and that is that there is this short-range artillery and we have no defense should North Korea decide to unleash those.

Admiral HARRIS. I think we should develop that capability.

Senator WICKER. Thank you.

Admiral HARRIS. Yes, sir.

Chairman MCCAIN. Senator Shaheen?

Senator SHAHEEN. Thank you, Mr. Chairman. Admiral Harris, thank you very much for your service to the country and for your leadership at this challenging time.

One of the things that we heard from a panel of private sector but some former officials on North Korea on Tuesday was that the only impetus to encourage China to engage with North Korea in the way that we would like in order to help us get them to back down on their nuclear program would be if we initiated much more extensive sanctions on China with respect to their financial system or if they believed that there was imminent threat of war on the Korean Peninsula. Do you think that is an accurate analysis based on your experience with China in the region?

Admiral HARRIS. Senator, I think it is an accurate analysis. I think there is some room in the sanctions regime, but there is not a lot left in there but there are some and we should apply all of those that we can before we are left with only the other choice.

Senator SHAHEEN. Again, to be clear, they were suggesting that the sanctions should be on China on their financial system.

Admiral HARRIS. There are some areas in the sanctions regime that we have not yet explored, and I think we should explore those before we do the kinetics.

Senator SHAHEEN. Thank you.

Everyone has acknowledged, obviously, that North Korea is working towards a nuclear weapon, and that is one of the things that has changed in North Korea. Have we seen an escalation of rhetoric from Kim Jong-un or are we seeing very much the same kinds of rhetoric but we are paying more attention to it today because of the nuclear threat?

Admiral HARRIS. I think we are seeing increased rhetoric. I mean, just this week, he threatened Australia. This week, he said he was going to shoot out—sink the Carl Vinson with a single shot, which is ridiculous, but he said it. He is increasing his rhetoric. At the same time, he is continuing his aggressive weapons development. I think they are both going hand in hand. He had that parade last week which showed off all the weapon systems and stuff like that. I think all of that in combination lets me know and should let us all know that he is intent on his objective and he is moving toward that objective apace.

Senator SHAHEEN. How much of a concern is it that at a time when we are trying to get China to work with us on North Korea, we are also very concerned about what they are doing in the South China Sea, their increasing effort to expand control of the seas in Southeast Asia? How much of a difficulty does that present for us as we are trying to work with them?

Admiral HARRIS. As I said earlier, I do not think that it poses too much of a difficulty for a Nation like the United States. We should be able to compliment and applaud China's efforts on the one hand and then be willing to criticize them for the bad things they do on the other. I think from China's perspective, they can receive that criticism and continue to do the thing that benefits not

just us but benefits them. A nuclear North Korea or the United States response to a nuclear North Korea, as you said, affects China almost as much as it would affect North Korea. I think it is in their best interest to do this and listen to what the international community, not just the United States, but the international community is saying about this.

Senator SHAHEEN. I appreciate that you have taken responsibility for the Carl Vinson, and I understand as the Commander you would do that. As we are thinking about the messages that we send to North Korea, to China, to both our allies and enemies, how concerned should we be about that kind of a mixed message? Yesterday, one of the things that obviously got a lot of attention was the briefing at the White House of all of the Senators, which I assume North Korea watched very closely, as did most people. How should we think about being consistent about the messages that we are sending to the region?

Admiral HARRIS. I agree with you. I think we should be consistent. The messaging was my fault not simply because I am the combatant commander, but it was my fault. I take the responsibility for it.

What I said at the time was that we were going to pull the Carl Vinson out of Singapore. We were going to truncate the follow-on exercise that it was going to have with Australia, cancel the Australian port visit, and then send it to Northeast Asia. I did not specify a time in there. There was a lot of press reporting on that that implied that it was now, now, now. I could have stepped in and corrected that, and I did not. I feel responsible for that and I am remiss for not doing that. That is all on me. The messaging on this comes out of Pacific Command. I regret that it happened. I will try to do better, but it is on me.

Senator SHAHEEN. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Fischer?

Senator FISCHER. Thank you, Mr. Chairman.

Thank you, Admiral Harris, for being here today.

Some believe that our nuclear forces exist only to deter a nuclear attack on the Homeland here in the United States, but I think the recent events on the Korean Peninsula demonstrate the value of our extended deterrence commitments and the role that our nuclear forces play in assuring our allies of our resolve as well.

Can you talk about the value that our allies place on our nuclear umbrella and the importance of modernizing our nuclear forces so that we can continue to deter our adversaries and also to reassure our allies?

Admiral HARRIS. Ma'am, I think our allies are as dependent on our nuclear umbrella as we are. I think the shows of force that we provide against our adversaries are important. We have the USS *Michigan*, a guided missile SSGN—it is not a ballistic missile deterrent, but it is a guided missile submarine—is in Busan, South Korea right now. I think that sends a powerful signal of solidarity with our South Korean ally, and at the same time it shows the North Koreans that we are serious about our defense commitment to our ally on the peninsula.

I think that the modernizing of our nuclear deterrent is absolutely critical to our Nation for our survival, and that means the follow-on *Ohio*-class submarines. That means the long-range strike bomber and upgraded ground-based ICBMs. I think the three together, the triad, is a proven success story. We should not experiment with some other formula. It has worked so far, and I think it will work well into the future. We must commit as a Nation to modernizing that force.

Senator FISCHER. Thank you, sir. If we are going to have the message of deterrence and assurance, we need to stick to that modernization plan then. Correct?

Admiral HARRIS. Yes, ma'am.

Senator FISCHER. Last year, General Scaparrotti, who was then the Commander of the United States Forces in Korea, stated that the ISR was his top readiness challenge. He said, "The United States Forces Korea requires increased multi-discipline, persistent ISR capabilities to maintain situational awareness and provide adequate decision space for the USFK, PACOM, and national senior leaders."

Can you discuss how the ISR enables your operations in the PACOM region and also in relation to the Korean Peninsula specifically?

Admiral HARRIS. Yes, ma'am. I will try to stay on the right side of the classification here without getting into too many specifics.

ISR, intelligence, surveillance, and reconnaissance, is the term that we apply to our ability to watch our adversaries, and we want to watch them all the time. There is not enough ISR to go around to meet all of the requirements of all of the combatant commanders. I have stated my requirements. This is like the submarine discussion. Central Command, who is fighting the fight today in the Middle East, AFRICOM in North Africa, and so on—they have their requirements for ISR also. It comes out of a pool, and all the services contribute to the pool in different ways.

So I do not have what I need. I do not have the ability to persistently watch my adversaries all over the Indo-Asia-Pacific, over half the globe, 24/7. And I need it 24/7. I need it whatever 60 times 24 hours is. I need that minute by minute, and I do not have that. That is what General Scaparrotti was getting at, was persistent ISR. I am convinced that today, even though he is the European Command Commander, he would like more ISR as well.

Senator FISCHER. Can you give us some kind of idea on what percentage of those requirements you have fulfilled, if you have half? Do you have two-thirds?

Admiral HARRIS. No. I probably have a tenth of my requirements are fulfilled.

Senator FISCHER. Thank you, sir.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Peters?

Senator PETERS. Thank you, Mr. Chairman. Thank you, Admiral Harris, for your testimony here today.

Admiral Harris, you referenced in your written testimony that 9 out of 10 mega-cities in the world are in the Pacific Command's area of responsibility, and certainly given our conversation here today, Seoul is in the front and center of what we are talking

about. It is my understanding that the number of mega-cities in the world is expected to expand in the coming years, and I expect that growth will continue in the Indo-Asia-Pacific theater as well.

I am concerned, as well as I know a number of other folks, that our military is not adequately prepared for operations in mega-cities, so whether it is to fight or it is to assist in humanitarian assistance or disaster relief missions.

I would like your opinion, Admiral, on how we should conduct training, and do you believe that additional training, particularly with the Army and Marine Corps, should focus on operations within mega-cities?

Admiral HARRIS. Thanks, Senator. Just to be clear, that 9 of 10—I stole a city from Joe Votel. One of those cities is Karachi, Pakistan, which is in his AOR but right next to mine.

I believe the Army and the Marine Corps are getting after this issue of fighting in heavily urban terrains. I believe that they need to continue to do that for the reasons you have outlined, but also we are working with our allies and friends in the region to improve their capability at the same time we are working to improve our capability to fight in those dense urban environments.

Senator PETERS. Admiral Harris, as you know, China's One Belt, One Road strategy seeks to secure China's control over its continental and maritime interests but with the hopes of dominating Eurasia and exploiting natural resources for future economic gains. Such designs place the country at odds with the United States but also nations like Japan and India. Currently China's economy budget is four times greater than those of India. I want to talk a little bit about India and its importance to us.

However, India is an ambitious and growing country both in population and its economy. China and India naturally have competing interests at stake on the continent and adjoining maritime domain. India has expressed concerns over China's recent expansion into the South China Sea and perceived strategic goals in the region, also given the fact that India is a democracy, certainly shares many values with us here in the United States.

I would be curious as to how you view India's role in the future in the Indo-Pacific region and what we should be doing to strengthen that relationship and if there anything in particular that you would like to see expanded so that we can work more closely with our friends in India.

Admiral HARRIS. Thank you, sir.

I have made India a formal line of effort at Pacific Command because I believe it represents a tremendous opportunity for the United States at large and for PACOM in particular in the mil-to-mil space.

We share democratic values with India. We are the world's two largest democracies. We share cultural values with Indian Americans that live and work and lead in our country. I think in the mil-to-mil space, we are in a very good place and getting better. India is purchasing a lot of American equipment. The world's second largest C-17 fleet, for example, is Indian. The Indians have P-8 Poseidon aircraft, U.S. helicopters, Howitzers, and on and on. I think there is a lot of opportunity there, and I think we should continue to work that.

We are heavily involved—when I say “we,” the Navy is heavily involved in working with the Indians on the development of their aircraft carrier, their indigenous aircraft carrier. That is an exciting program. I think that India’s geostrategic interests align perfectly with ours in terms of being concerned about China and in terms of the intersection of China and India, including along their long land border but especially in the Indian Ocean, especially in the approaches to the Indian Ocean, the Andaman Islands and the like.

I welcome an improved relationship with India. They have invited me twice in the last 2 years to speak at their Raisina Dialogue, which I have accepted, and I want to continue to improve and grow the relationship between our two countries.

Senator PETERS. Thank you, Admiral.

Chairman MCCAIN. Senator Cotton?

Senator COTTON. Admiral, welcome back. Thanks to you and all the men and women you lead in Pacific Command.

I want to talk today about the strength of missile forces in the Indo-Pacific. Given the vast distances in that theater, missiles are a critical component of any country’s security, including ours.

How many of China’s land-based missile forces do you estimate have a range of 500 to 5,500 kilometers?

Admiral HARRIS. In an unclassified venue, Senator, over 90 percent fall in that range.

Senator COTTON. How many missiles do you have that fall into that range?

Admiral HARRIS. I have none, sir.

Senator COTTON. You have none.

Admiral HARRIS. Right.

Senator COTTON. Why do you have none?

Admiral HARRIS. Because that range, 500 to 5,500 kilometers, is defined in the INF [Intermediate-Range Nuclear Forces] Treaty, the Intermediate Nuclear Force Treaty, which prohibits nuclear and cruise missiles and ICBMs—or nuclear and conventional cruise and ICBMs or ballistic missiles in that range. We adhere to the INF Treaty religiously, as we should. It is a treaty that we signed on for.

China is not a signatory to the treaty. They are not obliged to follow that treaty, and we cannot legitimately, in my opinion, criticize China for developing weapons that contravene the treaty because they did not sign onto it.

Senator COTTON. The only two parties to the treaty are Russia and the United States.

Admiral HARRIS. That is correct. There are some successor states from the Soviet Union that the treaty applies, but it is really us and Russia are the signatories to the treaty. General Selva just testified recently that Russia has violated the treaty in the conventional sense with a conventional cruise missile. At the end of the day, what you have is you have a treaty that binds theoretically two countries, one of which violates it without being held to account. The other adheres to it rigidly, as it should. Then all the other countries in the world are not obliged to follow the treaty, and they do not. Those countries that are of concern, of course, are China in my region and Iran in General Votel’s.

Senator COTTON. Since you mentioned General Selva's testimony, I think this is what you are referring to. He spoke to the House Armed Services Committee last month in which he said the Russians have deployed a land-based cruise missile that violates the spirit and intent of the Intermediate Range Nuclear Forces Treaty and they do not intend to return to compliance. Is that what you were referring to?

Admiral HARRIS. It was, sir.

Senator COTTON. You agree with that assessment?

Admiral HARRIS. I do.

Senator COTTON. The INF [Intermediate-Range Nuclear Forces Treaty] Treaty was originally reached between the United States and the Soviet Union after the buildup of, first, Soviet forces in the late 1970s and then our own forces, along with NATO, in 1983, so it was geared primarily towards the European theater. Is that correct?

Admiral HARRIS. It was geared toward the Soviet Union, Senator, in a bipolar world. This was at the height of the Cold War, and now we are in a multi-polar world where we have a lot of countries that are developing these weapons, including China that I worry about. I worry about their DF-21 and DF-26 missile programs, their anti-carrier ballistic missile programs, if you will.

INF does not address missiles launched from ships or airplanes, but it focuses on those land-based systems.

I think there is goodness in the INF Treaty. Anything you can do to limit nuclear weapons at large is a general good probably. The aspects of the INF Treaty that limit our ability to counter Chinese and other countries? cruise missiles, land-based missiles, I think is problematic.

Senator COTTON. As you say, since the United States and Russia are the only two parties to the treaty and you and General Selva and several other United States Government officials have said that Russia is violating the treaty, that means the United States is the only country in the world—the only country in the world—that unilaterally refuses to build missiles that have a range of 500 to 5,500 kilometers.

Admiral HARRIS. That is correct.

Senator COTTON. Do you think that we should consider renegotiating or withdrawing from the treaty or declaring Russia in material breach?

Admiral HARRIS. I would never advocate unilateral withdrawing from the treaty because of the nuclear limitation part of it. I do think we should look at renegotiating the treaty. We should consider that because, as you say, there are only two countries that signed onto it, and one of them does not follow it. That becomes a unilateral limitation on us.

Senator COTTON. One final question then. There are three scenarios. One is Russia comes back into compliance. The United States and Russia comply. Two is we somehow withdraw from or abrogate or declare Russia in material breach so we are no longer unilaterally controlled. Or we continue the status quo where we unilaterally are the only country that refuses to develop those missiles. Surely, whatever you think between one and two, we cannot accept three going forward. Can we?

Admiral HARRIS. Right.

Senator COTTON. Thank you.

Senator REED [presiding]. Thank you.

On behalf of the chairman, Senator Warren, please.

Senator WARREN. Thank you, and thank you for being here, Admiral Harris.

In your posture statement last year, you described the Asia-Pacific rebalance as, quote, a strategic whole-of-government effort that guides and reinforces our military efforts integrating with diplomatic, political, and economic initiatives. Do you still agree with that statement, Admiral?

Admiral HARRIS. I do, ma'am, but, you know, we labeled it "the rebalance" in the previous administration, and in the early days of the previous administration, we labeled it "the pivot."

Senator WARREN. Yes.

Admiral HARRIS. I think the labeling of whatever it is we do is less important than the whatever it is we do.

Senator WARREN. That is actually the part I wanted to focus on because I agree with you on this.

I just have a simple question right here and that is whether or not funding cuts to agencies that conduct diplomacy and development and perform other civilian functions would make your job easier or more difficult.

Admiral HARRIS. I believe it would make it more difficult. I am reminded of what a famous French foreign minister Talleyrand said to the head of the French army, Marshal Ney—he said when my profession fails, yours must come to the rescue. I think that we are not in a good place if we are that bifurcated, but also I believe if the State Department fails earlier because of funding, then we will have to, "Come to the rescue sooner." I would rather push that off to the right rather than bring it to the left.

Senator WARREN. Yes. That is a very powerful point.

I just want to note for the record that the Trump administration in its budget blueprint calls for about a 29 percent cut to the State Department and significant cuts to other agencies with international responsibilities. Obviously, there is a strong military component to the Asia-Pacific and keeping us safe there, but as you say, it takes a lot more in this vital region to keep us safe.

I want to shift, if I can, to North Korea. We are dealing here with a real threat from a dangerous, unstable nuclear-armed state. Despite tough sanctions, North Korea continues to be provocative. I am concerned that this is a brewing crisis that would escalate without warning.

We went over to the White House yesterday, and the administration said again that the time for strategic patience is over. Now, I think it is still not clear precisely what their new strategy is. By all accounts, North Korea is continuing its effort to develop a nuclear-armed intercontinental ballistic missile system that could reach the continental United States coastline. In recent days, administration officials have talked about shooting down a North Korean ballistic missile test.

So, Admiral, could you talk a little bit about the strategic considerations that we must take into account before taking such an ac-

tion? What are the up sides and down sides to shooting down one of their test missiles here?

Admiral HARRIS. There is a capability issue. There is a geometry issue of where that missile is going and all of that. If they are launching a test missile that we think is going to land in Korea or Japan, then I think we are obligated to do what we can.

Senator WARREN. I understand that. Just shooting down a test missile in general. You know, as I understand it—I have been trying to read about this—experts on North Korea's war plans say that Kim Jong-un would likely respond to United States military action with massive escalation against South Korea, Japan, perhaps even the United States if we shot down a test missile. I am just asking. Do you agree with that assessment? If so, how is it that the administration should take this dynamic into account as it formulates its North Korea policy?

Admiral HARRIS. A lot of what you are asking, Senator, is being deliberated in the administration now. I am in a difficult position when asked to comment on ongoing process deliberations. I am going to defer on that.

But I will say that if we do not maintain credible combat power to confront Kim Jong-un's testing and his development goals, then we are going to be in a position to be blackmailed by KJU. I think that is probably a worst place to be. I think that we will all agree that everything that has been done up to this point has not worked in deterring Kim Jong-un, so all of the military capabilities that we have, all of our alliances, and all of that, have not deterred Kim Jong-un's desires to achieve a nuclear weapon that can reach the United States. We must stop that somehow. Those options I think are on the table. All of those options are on the table.

Senator WARREN. The "somehow," though, is the question. I see that I am out of time. I am going to quit here and we can continue this conversation later. That is precisely the question we are trying to ask about and why it is that I am asking the question about what the up sides and down sides are if we take action directly on one of these testing missiles, whether or not it escalates and this gives him provocation to invade South Korea, to bomb Japan otherwise.

Admiral HARRIS. I think he can manufacture whatever provocation he wants to attack South Korea or Japan or us. I think that the manufacture of provocations resides with him.

Senator WARREN. I appreciate that, but I have to say on this one, Admiral, I think that we need the administration to be clearer about what they have in mind here. You rightly say this is under discussion, but what that means to me at this point is that no one knows exactly what it is that we plan to do here. If no one knows here in the United States, if the American people do not know, if Kim Jong-un does not have some idea of what the response will be if he continues this testing, I think it is difficult for it to have any kind of deterrent effect. Thank you, Mr. Chairman.

Chairman MCCAIN. On behalf of Chairman McCain, Senator Ernst, please.

Senator ERNST. Thank you, Mr. Chair.

Admiral, thank you very much for being here today. I know the region is in a really precarious time and situation, but we do appreciate you taking time out to be with us.

In a February speech, you warned the audience of the perils of linear thinking, saying instead that we need to think exponentially in order to develop strategies and technologies that give us an asymmetric advantage over regional threats. I absolutely 100 percent agree with you.

As chair of the Emerging Threats and Capabilities Subcommittee, I am very, very frustrated with the oftentimes slow and very, very expensive nature of our defense acquisitions. You have even said this. You said that Lady Gaga was able to use over 300 drones during her Super Bowl halftime show, and why is it that she has that technological advantage and we cannot capitalize on that.

How important is it that we are able to rapidly develop things like directed energy weapons and swarming micro-drones and, more importantly, if we had these technologies today, would we have more and better options in order to manage threats that are posed by North Korea and China?

Admiral HARRIS. I think, Senator, that innovation, in general, is one of those asymmetric advantages that America enjoys over every adversary. We are in a place now where our adversaries recognize that, and they are trying to close that innovation gap.

They do it in a number of ways. They send their best and brightest students to American universities, and then they get educated here and they go back home and they carry that knowledge back to them. They also do it illegally. They steal our secrets. They steal our industrial processes, and they shorten their acquisition timelines dramatically, so they can field things at a rate faster than we can.

We are often encumbered, rightly so, by law, regulation, and policy, and I think that we should look at trying to figure out how to shorten that process. The law is important, obviously. Regulations are important. Policy is important, but when the three in combination allow us to be overtaken in technological development by those countries that would do us harm, I think we should step back and look at that and ask ourselves is this the right way forward.

I am pleased with things like the DIUx effort that has been undertaken by the Department, the SCO effort, the Special Capabilities Office, that resides in OSD to try to go flash to bang quicker, and things like that.

Senator ERNST. Thank you. I do agree. I think it is important that we are able to move rapidly. You are absolutely correct about the regulations and the laws. Great. They were there for a purpose, but we do have to go back and I think scrutinize some of those regulations to make sure that we are able to move as rapidly as some of our near-peer competitors or even those that are not near-peer competitors with off-the-shelf technology.

You mentioned ISIS in some of your comments, and in your testimony, of course, active engagement between the United States and our partner countries is very critical to maintaining the stability in that region, not just with those state actors like North Korea but

also with partners, engaging those partners in the fight against ISIS.

If you could, can you speak to the importance of engaging some of those partners and how we are moving forward in that fight against ISIS?

Admiral HARRIS. Sure. In the Indo-Asia-Pacific, the countries that we work closest with in the ISIS fight are Malaysia, the Philippines, Indonesia, and Bangladesh. That is us, Australia, and New Zealand that are involved in this effort to work with those countries to help them fight that threat themselves. The entity that does that for me is SOCPAC, Special Operations Command Pacific, and Major General Bryan Fenton and his team are actively engaged in providing advice and assistance to those countries, most principally right now in the southern Philippines. I am encouraged by the work they are doing. I think it is God's work and I am pleased with where we are in that fight in the Indo-Asia-Pacific.

Senator ERNST. Thank you very much. Thank you, Admiral. Thank you, Mr. Chair.

Senator REED. Senator Sullivan has to go to the floor to preside. Senator Hirono has graciously yielded to Senator Sullivan.

Senator SULLIVAN. Thank you, Mr. Chairman, and my colleague, Senator Hirono, from Hawaii, I very much appreciate letting me jump ahead.

In Alaska and Hawaii, we have a lot invested in this, as you know, Admiral, given that our citizens are going to be impacted sooner than anyone else with regard to the intercontinental ballistic missile threat.

I just want to begin by thanking you again for your service, Admiral.

Would you agree that we are clearly in a more direct threat phase with regard to the North Korean challenge to our citizens?

Admiral HARRIS. I agree, Senator.

Senator SULLIVAN. We were all over at the White House describing a strategy, integrated strategy, that the administration is putting together with regard to very focused initially on enhanced diplomacy. Do you also believe that the threat of military force or at least keeping it on the table actually enhances our diplomatic efforts?

Admiral HARRIS. It does. I believe that the best enhancement to diplomacy is a strong military capability.

Senator SULLIVAN. You mentioned the unprecedented weapons testing. I have a chart that I want you to take a look at and also not if but when North Korea will have a capacity to range the continental United States. Again, Alaska and Hawaii would be ranged earlier with the ICBM. The chart shows that Kim Jong-un has actually conducted more tests than his father and grandfather combined. Do you see that abating at all?

Admiral HARRIS. I do not see it abating at all if the trajectory remains as you have depicted it on the graphic.

Senator SULLIVAN. He is learning even when he fails.

Admiral HARRIS. Right, and he is not afraid to fail in public.

Senator SULLIVAN. One thing just for my colleagues here, we are going to be working on a bipartisan enhanced Homeland missile defense bill, and I certainly think that is in order and hopefully we

will be able to get a number of members on this committee to be cosponsors of that.

Admiral, I next want to turn to the South China Sea and the issue of freedom of navigation operations. Earlier you had mentioned at high level assurances that the Chinese were not doing that. Standing next to the President in the rose garden, President Xi stated, "China does not intend to pursue the militarization of these islands." What do you make of that statement by the President of China?

Admiral HARRIS. I wanted to believe him.

Senator SULLIVAN. Since he made that I think it was a year and a half ago, what has happened?

Admiral HARRIS. They have militarized the South China Sea, sir.

Senator SULLIVAN. Despite the fact that the president was standing next to our President, that was not an accurate statement.

Admiral HARRIS. The reality is that China has militarized the South China Sea.

Maybe it is the other graphic, but if you look at a graphic of Fiery Cross Reef, you will see a 10,000-foot runway, weapons emplacements, fighter aircraft hangars, and barracks for troops. Clearly that facility which is 700 acres, a military facility—all that capability does not exist to rescue the odd fisherman that gets lost out there.

Senator SULLIVAN. This committee, as you know, has been very interested in our policies and execution with regard to freedom of navigation operations in the South China Sea. The Trump administration is developing its own policies. I was supportive of Secretary Carter's pronouncements of flying, sailing, and operating anywhere international law allows, but the execution of that was done rather meekly.

Could you give us a sense as the new administration is developing these policies, what principles they should be looking at, the important role of whether we are doing it under innocent passage or not? Also when you look at this last graph, this last chart, you see that the Scarborough Shoal has not been militarized yet, but it is very strategic. What would happen if that became militarized by China? What should we do to stop that militarization? Should we draw a red line at that important geographic point in the South China Sea? Just give us a sense on those issues, innocent passage, allies, Scarborough Shoal, what we should be looking at, what the new Trump administration should be looking at in terms of their FONOPS [U.S. Freedom of Navigation Operations] policy in the South China Sea.

Admiral HARRIS. So, Senator, I have made it clear to this committee and other testimonies in other committees that I am a supporter of freedom of navigation operations. I think we should do them not to send a signal about territoriality or sovereignty or anything like that. We should send a signal that we do, in fact, fly, sail, and operate wherever international allows. The freedom of navigation operations exist just for that reason, to exercise our freedom of navigation and the freedom of navigation that is exercised or could be exercised by all countries in the world.

One of the beneficiaries of our freedom of navigation operations in the South China Sea would be China, for example, in other

waters. That is the right of all nations to operate in accordance with international law. I believe we should continue to do those.

There is a whole range of them, whether you challenge what is considered an illegal baseline claim, whether you do innocent passage and do not notify a country who maintains that you must notify them before you do an innocent passage, or you can go within a 12-mile territorial limit of an island or feature or whatever that does not deserve one under international law. There is any number of ways to conduct freedom of navigation operations, and we should not limit ourselves to any of those.

With regard to Scarborough Shoal, I think it is an important part of this region for the reasons depicted on that chart. It would give China a, "trifecta of bases in the South China Sea with Woody Island, the Paracels to the northwest, the Spratlys and their seven bases there to the south, and then Scarborough Shoal would give them a key base in the northeast." They have not done that yet.

I hesitate to draw red lines. I think red lines are problematic for a number of reasons, but we should communicate clearly with China that we do not want them to reclaim and then militarize Scarborough Shoal.

Senator SULLIVAN. Thank you, Admiral. Thank you, Mr. Chairman.

Senator REED. On behalf of Chairman McCain, Senator Hirono, please.

Senator HIRONO. Thank you, Mr. Chairman.

Aloha, Admiral Harris. Always good to see you. Thank you for your service.

There is a lot of focus, of course, on the ongoing and the heightened threat from North Korea, and in light of that, of course, I want to ensure that Hawaii is adequately protected.

PMRF [Pacific Missile Range Facility] is a national treasure that cannot be replicated anywhere else with its undersea and missile testing ranges. There has been discussion about operationalizing Aegis Ashore located at PMRF. Is Hawaii adequately protected at this time given intelligence assessments of North Korea's current capability and the missile defense systems we have in place? Going forward, as North Korea's capabilities advance, what will be needed to defend the United States and in particular Hawaii from North Korean advancements?

Admiral HARRIS. Thanks, Senator. I agree with you that Pacific Missile Range Facility on Kauai is a national treasure. I have gone on record as supporting the idea that we should develop and acquire a defensive Hawaii radar that gives Hawaii the ability to see the space, if you will, in the face of potential ballistic missile attacks. We have the SBX. That is the X-band radar that sits on a self-propelled oil platform that has to be sustained and refurbished and all of that. I think a land-based permanent facility to do that—a defensive Hawaii radar—is necessary.

I believe today General Robinson will tell you that Hawaii is adequately defended. I think in the future as North Korea continues its weapons development program, that we need to look at all ways to improve the defense of Hawaii, including ground-based interceptors. I think we should study putting ground-based interceptors in Hawaii. I am not smart enough to know if we should or not, but I

think we should study it and I think that would be the complement to a defensive Hawaii radar.

Senator HIRONO. Do you have any sense as to the time frame for moving from the radar capability that you say we need to develop right now and going with the ground-based?

Admiral HARRIS. No, ma'am. I do not have an idea.

Senator HIRONO. Thank you.

Congress has called for headquarters reductions in recent years, and while I agree with reducing redundancy where it makes sense and eliminating waste, I am not a fan of salami sliced percentage cuts across headquarters entities. I am a strong advocate of taking a look at each headquarters operations, the personnel mix, the evolving threats and challenges that face us, as well as previous growth of a particular headquarters before recommending any cuts.

As you mentioned in your testimony, PACOM has been in its AOR [Area of Responsibility] for four of the five challenges which drive United States defense planning and budgeting. That is in your AOR. Can you talk about PACOM headquarters in terms of staffing levels over the last 20 years or so, reductions you have taken or are about to be applied in light of the challenges you face, including a hostile North Korea, a rising China, Russia, and ISIS in your AOR? How will actual and proposed staffing reductions impact PACOM's ability to succeed with all of the challenges you face?

Admiral HARRIS. Yes, ma'am. Over the past 40 years, PACOM has averaged less than 800 personnel, and that is officers, enlisted personnel, and DOD civilians. We have been pretty consistent over 40 years at that level, and PACOM is the largest geographic combatant command with one of the smallest staffs.

That said, I think we all should seek efficiencies where we can, but I am not supportive of the idea of salami slicing either. Across that 40 years of staff manning levels at PACOM, the threat has increased because in that intervening 40 years, we do not have a bipolar world anymore. We have the threats I talked about in my testimony, China, Russia, North Korea, and ISIS. I continue to—and my staff—we continue to work closely with OSD, Office of the Secretary of Defense, and the Joint Staff on our manning levels.

Senator HIRONO. I would like for us to be very cognizant of the kind of impacts the across-the-board types of cuts will have.

You have already mentioned—if you do not mind, Mr. Chairman, I would like to get to one more question. You have already mentioned the support that you have for AFSEA. In your written testimony, you state that you have concerns about some of the changes made to security cooperation authorities in the 2017 NDAA. I just wanted to give you an opportunity to tell us how these changes could impact the DOD counternarcotic interests, national crime programs in the PACOM AOR.

Admiral HARRIS. It could potentially, depending on how the cuts are actually effected, it could dramatically affect Joint Interagency Task Force West, which goes after counternarcotics programs.

I am also concerned about programs like IMET, International Military Education and Training, which I think is one of the best foreign assistance programs out there because that is where we bring foreign bright, up and coming mid-grade officers to the

United States for senior military education for a year at a time with their families, and they get immersed in American culture, ideas and living in an environment where we practice daily civilian control of the military. I think it is important that we fund these programs, and I am concerned if those programs were to be cut.

Senator HIRONO. Thank you for that.

Thank you, Mr. Chairman.

Senator REED. On behalf of Chairman McCain, Senator Rounds, please.

Senator ROUNDS. Thank you, sir.

Admiral, first of all, thank you for your service to our country. I think the first time that we met was in Hawaii. I was on Senator Inhofe's CODEL with him. Your briefing to our CODEL that day was alarming, to say the least, and an eye-opening with regard to the breadth, the scope, the size of the area in which your team was responsible for the security not just of our forces but in conjunction with our allies as well.

One item that caught our attention at that time was simply the time frame in which to respond to adversarial activity. I would like to talk about some of the newer technologies that are being employed or that may be very well employed in the near future. In particular, when we talk about the unique problem set that you have got there, the trifecta of few land-based areas from which to operate extreme distances, some of the most challenging and contested environments to operate in, I believe the deterrence value of long-range strike to hold targets at risk, targets that are quickly becoming harder and harder to access, what are your thoughts on the possibility of a conventional warhead variant of the proposed long-range stand-off weapon?

Admiral HARRIS. So, Senator, I think that we are going to have to look at that in terms of INF because currently that is the law, that is the treaty that we follow if you are talking a land-based capability. We are not limited in air and surface launch.

Senator ROUNDS. Thinking about air-launched—

Admiral HARRIS. I think we should explore all of that because more capability against the threats we face is what is needed in the Pacific Command.

Senator ROUNDS. What about with regard to hypersonics? Right now I think in open source documents, there is some pretty clear evidence that both Russia and China have been looking at hypersonics, the ability to deliver weapons at mach 5.0.

Admiral HARRIS. I have to be careful when I talk hypersonics in an open hearing. I am concerned about Chinese and Russian hypersonic weapons development, and I have expressed those concerns in the right places.

Senator ROUNDS. Is this an area where perhaps our own technology development needs to be reviewed in terms of our ability to respond to those possible threats?

Admiral HARRIS. I think that we must improve our ability to defend against and conduct—defend against hypersonic weapons and develop our own hypersonic weapons. Again, in the development of hypersonic weapons, offensive hypersonic weapons, we are going to run up against treaty restrictions.

Senator ROUNDS. We have been talking now about some unique types of new weapon developments, both ours and theirs. At the same time when we talk about readiness, it seems that we get caught up and we assume that we are simply being able to maintain the readiness that is necessary.

I would like to give you an opportunity to talk a little bit about perhaps our lack of readiness in some areas. In particular, I am thinking right now, as an example, every time we get together with a team of experts such as yourself, we hear some perhaps horror stories about the inability to even take care of some of our existing assets. In particular, I am going to draw attention to the fact that we have got the USS *Boise* sitting at port, not in depot but at port. Here is a nuclear-powered submarine, which is not operational at this time, and I understand that there are two other boats in the same category.

Can you give us any anecdotal or additional information on other areas in which you have seen or have been frustrated by our inability to maintain the readiness necessary for you to do your mission?

Admiral HARRIS. That is one of the issues that fall into the service chiefs bailiwicks, if you will. Their responsibility is to man, train, and equip the force for use by the combatant commanders and meeting the national command authority's responsibilities. I too share your concerns when I look across the enterprise, not just at the Navy but across the enterprise, at shortfalls in follow-on force and surge force readiness.

Senator ROUNDS. Are you prepared to give us any examples?

Admiral HARRIS. No, sir, not in this hearing.

Senator ROUNDS. All right. Thank you, sir.

Admiral HARRIS. Thank you, sir.

Senator ROUNDS. Once again, thank you for your service, sir.

Admiral HARRIS. Yes, sir.

Senator REED. Thank you.

On behalf of the chairman, let me recognize Senator Donnelly.

Senator DONNELLY. Thank you, Mr. Chairman.

Admiral, thank you so much for your service to the country.

When we were home here in the Senate working in our States was when this developed with the aircraft carrier. Based on the words of the President and Secretary Mattis, I spent that time in meeting after meeting with people in Indiana telling them how serious we take this North Korea situation and telling them we take it so serious that we have our aircraft carrier, the Carl Vinson, heading to North Korea right now. It turned out that was wrong. I felt misled and I think my constituents were misled as well.

What I do not understand is that when those comments were made, how nobody said anything that, hey, this is wrong. This is not correct. My question is how do we make sure this does not happen again. I know other members asked about this as well. I do not want to be in a position of having the people in my State think one thing and the reality is something else when we all take a pledge that we will speak truth to power, that if we see something that is not correct, we will tell people. We will let them know. You know, I have a great concern about that.

Admiral HARRIS. Sir, I cannot say I am sorry enough, but I will try—

Senator DONNELLY. No. I am not asking you to say you are sorry.

Admiral HARRIS. I am accountable for and responsible for the messaging that came out of that Carl Vinson issue. At the end of the day, what we said was the Carl Vinson was leaving Singapore, truncating its exercise, canceling its port visit, and heading to Northeast Asia. That is where it is today. It is within striking range of North Korea if the President were to call on it.

Now, that messaging was not done well, and that messaging is on me.

Senator DONNELLY. Actually it was—we heard the President and Secretary Mattis say exercises are being canceled. It is heading to North Korea right now. Some day I am going to the cemetery. I hope it is not next week. I hope it is not next year, but at some point I am going to the cemetery. I would say I am going to the cemetery. That is technically correct. I just want to make sure that the information I give to the people in my State is accurate, and if you can make sure, if you see something that you look at and you go, look, this really seems sideways, that it be communicated right away so that the people of this country actually know what is going on and our allies know what is going on.

Have you seen any sanctions against North Korea that have worked or that have slowed down Kim Jong-un's efforts?

Admiral HARRIS. None.

Senator DONNELLY. None.

Have you seen in the last month or the last couple of months Kim Jong-un slow down his efforts to achieve his goals of mating up the nuclear warhead with missiles?

Admiral HARRIS. I have not seen anything in the last—since I have been at Pacific Command. In the last month, though, since President Trump and President Xi got together and President Xi and China seemed to be more willing to exercise their influence on North Korea, North Korea has not done any of the testing that Senator Sullivan showed on his graph, the bad testing, the nuclear test or ICBM testing. I think it is early days yet to draw a direct correlation. I think we are going to have to wait and see and give President Xi and China a chance, assuming that in that interim period, Kim Jong-un does not do a nuclear test or an ICBM test or something like that.

Senator DONNELLY. What is your understanding—and by that I mean PACOM's understanding—of China's biggest influence point pushing back against North Korea where North Korea will pay attention?

Admiral HARRIS. Where China's?

Senator DONNELLY. Where China's biggest strength to slow down North Korea and their efforts is.

Admiral HARRIS. I think their biggest strength in doing that is economic. Eighty percent of North Korea's economy is China-based. 80 percent. I think China has a powerful lever to apply on North Korea. From China's perspective, you know, they are concerned about two things. They are concerned about a unified Korean Peninsula that is aligned with the United States, and they are worried about refugees, should North Korea collapse precipitously.

Senator DONNELLY. The time went by so fast. I have a million more questions for you, but I will only ask one more and that is

the rules of engagement for our ships. Are any of our ships sailing solo right now near North Korean waters? If so, do we have a plan that if they are intercepted or engaged, that we have air cover for them immediately, that we have fellow ships coming by immediately so that they are protected and we do not have another Pueblo type situation?

Admiral HARRIS. That is a great question. All of our ships that are operating in the Sea of Japan east sea area operate under standing rules of engagement. They have what they need in my opinion and belief to defend themselves.

Senator DONNELLY. Thank you. Thank you, Mr. Chairman.

Senator REED. On behalf of Chairman McCain, Senator Perdue, please.

Senator PERDUE. Thank you, Mr. Chairman.

Admiral, thank you and thank you for all the men and women in your theater.

You know, since the Barbary pirates and our first spy frigates, the United States has always dealt with our foreign policy and our national interest from a position of strength. I am very concerned, as we sit here today, that we are in the middle of a paradigm shift relative to the other super powers.

In your mind since 2000, China has spent or is spending today approximately six times more on their military. These are constant dollars, 2016 dollars. Is that directionally correct in your mind, about six times compared to just 15 years ago?

Admiral HARRIS. Probably, sir, but I do not have the data. I have sent the curve, and the curve is dramatic in the amount of defense spending that they are doing based on just what they tell us and they are probably spending higher.

Senator PERDUE. Well, that is what I want to get to. The Stockholm International Peace Research Institute—and I believe that China is spending more than even these numbers reveal. That is an 11 percent compound annual growth rate just since 2000.

Here is the real problem. In 2017, they are going to spend about \$240 billion, but adjusting for purchase power parity, in real terms, apples to apples to the United States, that is \$826 billion compared to our \$630 billion. Directionally would you think that is reasonable to look at it that way?

Admiral HARRIS. I think it would be. We have looked at purchasing power parity in a general sense with regard to China, and they reached that purchasing power parity point already in comparison with the United States.

Senator PERDUE. I lived over there. I have manufactured over there. I have sold over there. When you adjust the currency and the ability that they have to buy their weapons and their systems cheaper than we are and I look at the developments just this year—you know, you educated me a year or so ago about their DF-26, the carrier killer, the first aircraft was coming online this year, the fact that 95 percent of their missiles violate the INF Treaty, and that they far outrange our capabilities today. Would you say today, sir, that China is on parity with the United States military capability in the Pacific region?

Admiral HARRIS. I would not in terms of our asymmetric advantages and the quality of our equipment and our people. That said,

quantity has a quality all its own, and they are swiftly moving to exceed the United States in terms of numbers of ships and submarines and aircraft and the like, so we have to continue to work and resource those asymmetric advantages that we have. Certainly China is trying to close that gap in every regime.

Senator PERDUE. Within the next five years, if you continue that trajectory, there is every reason to believe on a purchasing power parity basis that they will actually double the amount of investment that we have in the military. That is just a projection.

What I am concerned about is this. Independent of the money, I believe we have a supply chain war. You have talked about it today. It takes us much longer. It is much more expensive. We have many more regulations to go through. Tell us what we can do to help you as a combatant commander compete in the supply chain war that you have to deal with as well. Your quote here today is I do not have what I need today against the current threats. We know that their threats are only going to increase geometrically over the next 5 to 10 years. I believe they have got a 2025 strategy, and I am very concerned. You have talked about that as well. Tell us what we can do to help you, sir.

Admiral HARRIS. Senator, I think that the best thing that the Congress can do to help me today is end sequestration and give us a budget.

Senator PERDUE. When you look at the China strategy in the Southeast Asia region, particularly in the South China Sea, it is pretty easy. You have said they militarized it. I agree with that. What are their intentions for that outer ring of islands? It looks like the next level of national interest—I am talking about Marianas and Guam, all the way to Palau in that area. Have you seen any indications now that they have sights on those as well?

Admiral HARRIS. Not indications like what we are seeing in the South China Sea where they are doing land reclamation activities and that kind of stuff, island building. They are working to influence countries in that region, small island nations, economically to bring them in line with their world view.

Senator PERDUE. Two last questions real quick. Are you concerned about the PLA's recent reorganization? Then also the Russia-China cooperation is at a higher level now than it has been in 30 years. Are you concerned about those two developments?

Admiral HARRIS. I am concerned about the former, which is the PLA's reorganization into joint theater commands. We went through a period of joint integration, if you will, as a result of the Goldwater-Nichols Act in the late 1980s—mid 1980s. Since then I think we have become a much more effective joint fighting force across our military. I think China is learning from that. They watch it, they study. They are going to this theater joint combined command structure. I think that will make them better. It certainly made us better. I worry about that.

Then your second question?

Senator PERDUE. The Russia-China cooperation, their military cooperation.

Admiral HARRIS. I think that is more temporary because they need each other right now more than anything else. I would not be

concerned about a long-term alliance with Russia and China if history is a guide.

Senator PERDUE. Thank you, sir.

Admiral HARRIS. Thank you.

Senator REED. On behalf of the chairman, Senator Blumenthal, please.

Senator BLUMENTHAL. Thank you, Mr. Chairman.

Thank you, sir, for being with us again, and thank you to you and the men and women under your command for their extraordinary service to our Nation.

When you were here last year, you told me that you were concerned about Russian and Chinese undersea warfare capabilities, specifically their modernized submarines. You noted, number one, the Russians took no break from developing submarine capability following the Cold War and they have ballistic missile submarines now in their force fleet in the Pacific. Number two, the Chinese are building a new class of such submarines that may have the capability to threaten us. You also told us that your submarine requirement in PACOM still has not been met.

In your testimony this year, you mentioned a second ballistic missile submarine in the Pacific and the Russians plan to build and send six new attack submarines to the Pacific by 2021. You state—I am quoting—“Potential adversary submarine activity has tripled from 2008 levels—tripled—requiring a corresponding increase of U.S. activity to maintain undersea superiority.”

You, I think, support the Navy’s 2016 force structure assessment which calls for an increase from 48 to 66 attack submarines as part of a larger 355-ship Navy. In February, Acting Secretary of the Navy Sean Stackley submitted to Secretary Mattis an accelerated fleet plan which supports three additional *Virginia* submarines, one more in fiscal year 2021, fiscal year 2022, and fiscal year 2023, respectively. Are you supportive of this accelerated plan, and do you believe that it will give you, give our Nation the necessary capability to address these looming and increasing threats from both Russia and China in the Pacific?

Admiral HARRIS. Sure, sir. I am completely supportive of the plan, and I am completely supportive of the effort to move to the left construction of these *Virginia*-class submarines. They will clearly increase our Nation’s capability and, if assigned to PACOM, PACOM’s capability. Three or four are inadequate in the grand scheme based simply on my requirements, which have to be adjudicated with the requirements of all the other combatant commands who have legitimate needs for submarines in their regions as well.

Senator BLUMENTHAL. Can you give us an assessment of our adversaries’ anti-submarine warfare capability?

Admiral HARRIS. Today the U.S. reigns supreme in the undersea realm and in anti-submarine warfare. Our adversaries, particularly China and Russia, are closing that gap because they understand that the gap exists and they are working to reduce our asymmetric advantage. I think that we have to continue to keep that advantage. I do not want it to be a fair fight if we have to go into a fight with these folks. That means that we have to continue to resource

the development and to continue development of our undersea capability and our anti-submarine warfare capabilities.

Senator BLUMENTHAL. Does North Korea have significant anti-submarine warfare capability?

Admiral HARRIS. They do not.

Senator BLUMENTHAL. Are they developing that capability?

Admiral HARRIS. They are working on it. They are trying. They have submarines. They have a lot of them, a lot smaller submarines. They are diesels. They have an SSB which is a ballistic missile capable diesel submarine. They recognize the advantages and what the submarine gives them in terms of warfighting, but they are a long way from developing a submarine force that is comparable to any other country that we talk about in the region.

Senator BLUMENTHAL. On the F-35, in your testimony you note, "the forward stationing and deployment of the fifth generation airframes to the region continues to be a priority for your command." Do you continue to believe that the F-35 is necessary in that part of the world for the defense of our allies? Japan is going to be acquiring them and others.

Admiral HARRIS. Senator, I believe that the F-35 is critical most in PACOM than any other region of the world because of the threat that we face and what the F-35 brings to the fight. The F-22's also from Hawaii and Alaska. Those fifth generation fighters will allow us to get inside the A2/AD, area denial/area defense, capabilities of our adversaries, particularly China and the region. We are going to need fifth generation fighters to get in there, and they provide that.

Senator BLUMENTHAL. Thank you very much, Admiral. Thanks for your great work at PACOM and throughout your career. Thank you.

Senator REED. On behalf of the chairman, Senator Graham, please.

Senator GRAHAM. Thank you.

Admiral, I want to echo that, to thank you for your service and all those who are with you here today and in your command.

Is China's activity in the South China Sea, in terms of militarizing the region, getting better or worse or about the same?

Admiral HARRIS. I am not sure what better means, but they are militarizing more now than they were last year.

Senator GRAHAM. I would say that is worse.

Admiral HARRIS. From our perspective, that is worse.

Senator GRAHAM. Did they understand that we are serious about that is a bad thing?

Admiral HARRIS. I believe they are.

Senator GRAHAM. They apparently do not care.

Admiral HARRIS. To date.

Senator GRAHAM. How do we make them care?

Admiral HARRIS. I think we have to demonstrate credible combat power on the one hand and powerful diplomacy on the other.

Senator GRAHAM. Is it fair to say that unless something changes, North Korea is likely to have an ICBM with a nuclear warhead that can reach America by 2020?

Admiral HARRIS. I do not want to put a timeline on that, sir, in this hearing. It is safe to say that they will have one soon. They will match rhetoric to capabilities.

Senator GRAHAM. Okay, great.

Why do they want that missile?

Admiral HARRIS. I beg your pardon?

Senator GRAHAM. What is the purpose of having that missile?

Admiral HARRIS. One, they want to be recognized as a nuclear power, and two, they want to ensure their survival.

Senator GRAHAM. In their mind, it is an insurance policy?

Admiral HARRIS. Partly.

Senator GRAHAM. From an American point of view, what kind of threat does that present to us?

Admiral HARRIS. It presents today, even though I do not believe they have the full capability today, they threaten the 28,000 American troops in South Korea plus their families, 55,000 American troops plus their families in Japan, our South Korean and Japanese allies and—

Senator GRAHAM. What about the Homeland? If they get an ICBM with a nuclear weapon attached, what kind of threat do you see at the Homeland?

Admiral HARRIS. Depending on the nuclear weapon, depending on the missile, it could reach the eastern seaboard. They could reach us right here in this building.

Senator GRAHAM. Is it fair to say that is what they want to do in the western part of the United States? California is probably an easier target initially.

Admiral HARRIS. I believe they want to be able to threaten the United States.

Senator GRAHAM. Well, what kind of threat would that be to us? That would be a bad thing. Right?

Admiral HARRIS. That would be a terrible thing, sir.

Senator GRAHAM. Do you believe it should be the policy of the United States never to let that happen?

Admiral HARRIS. I beg your pardon?

Senator GRAHAM. It should be the policy of the United States to never allow North Korea to develop an ICBM with a warhead that could hit America.

Admiral HARRIS. I believe that is correct.

Senator GRAHAM. Do you believe that the only way they will change that policy—their desire—is if they believe that the regime could be taken down by us if they continue to develop an ICBM? Without credible military threat in the mind of North Koreans, they are going to plow ahead.

Admiral HARRIS. I believe that generally, but I believe that China might be able to exert its influence.

Senator GRAHAM. Do you believe China could change North Korea's behavior absent a belief by North Korea that we would use military force to stop their ICBM program?

Admiral HARRIS. I do not.

Senator GRAHAM. Do you believe that China would act stronger and more bold if they believed credible military force was on the table to stop North Korea?

Admiral HARRIS. I do.

Senator GRAHAM. It seems to me that the policy of the United States, given the Admiral's advice—and you are really good at what you do—that we should all agree that it is not good for America for North Korea to have an ICBM with a warhead attached, and it is really not good for China. Is it?

Admiral HARRIS. I believe it is not good for China.

Senator GRAHAM. Why do they not believe that?

Admiral HARRIS. Because they have their own calculus, their own——

Senator GRAHAM. Do you think they are beginning to reshape their calculus in light of our reaction to North Korea?

Admiral HARRIS. I hope so, but it is early days.

Senator GRAHAM. In terms of China—leverage on North Korea, you said it was substantial.

Admiral HARRIS. Their leverage is potentially substantial.

Senator GRAHAM. The best way to avoid a military conflict with North Korea over their missile program is for China to wake up North Korea to the reality of what threat that presents to North Korea and China. Is that fair to say?

Admiral HARRIS. That is fair to say.

Senator GRAHAM. Is it also fair to say that we do not have any intentions of invading North Korea at all? Nobody has told you get ready to invade North Korea.

Admiral HARRIS. That is not fair to say, sir. I believe the President has said that all options are on the table.

Senator GRAHAM. Yes, but I mean we are not going to just go in and take North Korea down.

Admiral HARRIS. Sir, I do not want to get into what we could or could not do.

Senator GRAHAM. Well, North Korea thinks we are going to invade at any moment. Do you think that is part of our national security strategy is without provocation to attack North Korea?

Admiral HARRIS. I think North Korea has provided provocation already in terms of——

Senator GRAHAM. Without provocation, it is not our policy to attack North Korea.

Admiral HARRIS. They have provoked us already, sir.

Senator GRAHAM. I said but if they stopped it, they do not have anything to worry about.

Admiral HARRIS. Then we will have to look at it.

Senator GRAHAM. That is all I am saying.

Admiral HARRIS. That is a decision that——

Senator GRAHAM. If North Korea is listening, none of us want to invade your country.

Senator McCASKILL. They are.

Senator GRAHAM. Okay, well, good.

Here is the point. All of this military force going that way is to deter them from being able to hit us and protect our allies. Right?

Admiral HARRIS. Right.

Senator GRAHAM. We are trying to deter them from hurting us. We are not sending a bunch of people over there to invade their country without provocation. Is that fair to say?

Admiral HARRIS. Right.

Senator GRAHAM. Good. I hope they understand that and I hope China understands that. Thank you.

Admiral HARRIS. Yes, sir.

Senator REED. On behalf of the chairman, Senator McCaskill, please.

Senator MCCASKILL. Thank you.

Last year, Admiral, General Scaparrotti testified at this hearing that North Korea has one of the largest chemical and biological weapons stockpiles and research programs in the world. Do you agree with that assessment?

Admiral HARRIS. I do.

Senator MCCASKILL. Do you believe that the facts that we know about the death of the half brother to Kim Jong-un was likely assassinated with VX nerve agent?

Admiral HARRIS. I do, Senator. That is just based on open source reporting.

Senator MCCASKILL. Right. We have not confirmed that it was used.

Admiral HARRIS. I beg your pardon?

Senator MCCASKILL. We have not independently confirmed that it was used.

Admiral HARRIS. I have not seen reporting to reflect that.

Senator MCCASKILL. Do you know enough about their delivery capabilities of chemical and biological weapons at this point to adequately be prepared to defend our allies and our American soldiers and families in the surrounding vicinities?

Admiral HARRIS. I do not know enough about all of their capabilities, including those that we saw or probably saw in Malaysia. I think that is part of the readiness calculus that we have to go through when we consider the threat from North Korea.

Senator MCCASKILL. Do you have the appropriate CBRN, which is an acronym for the record that is our defense, equipment necessary for chemical and biological attacks?

Admiral HARRIS. I believe that General Brooks does have that for the forces that are in Korea now.

Senator MCCASKILL. Okay. What about in Japan?

Admiral HARRIS. I cannot speak to that.

Senator MCCASKILL. I would love a follow-up on that.

Admiral HARRIS. Yes, ma'am.

Senator MCCASKILL. You know, we do chem Stuff at Fort Leonard Wood in Missouri. It is our biological defense center, and I am concerned if they are using nerve agents to kill family members, they certainly are not going to hesitate to use nerve agents to kill American soldiers and our South Korean allies and innocent citizens. I would like to follow up on that.

[The information referred to follows:]

Admiral HARRIS. [Deleted.]

Admiral HARRIS. You bet.

Senator MCCASKILL. Do you think we should deploy THAAD to Japan?

Admiral HARRIS. I believe that is a decision that Japan is going to have to make. I think that Japan should have some kind of a

system like that, but whether it is THAAD or Aegis Ashore or both or some other system, they are going to have to make that decision.

Senator MCCASKILL. As you know, I had the opportunity to take an exhausting tour of all of our anti-ballistic missile systems last year, and you kindly hosted us when we were at PACOM, but had a chance to be in both South Korea to see Patriot systems, understand that THAAD was going in and also, obviously, in Guam to observe the THAAD. I just want to make sure we know what the needs are in terms of THAAD in light of what North Korea is up to.

Admiral HARRIS. We work with Japan and describe the capability that THAAD would provide that would give them also Aegis Ashore and potentially other systems. That will be a Japanese decision. It could be—

Senator MCCASKILL. We indicated to them that we would be cooperative in trying to deploy THAAD to Japan.

Admiral HARRIS. Right.

Senator MCCASKILL. Okay.

Admiral HARRIS. To be clear on that, I have not reached an agreement with Japan on deploying THAAD.

Senator MCCASKILL. Right.

Admiral HARRIS. That is a different issue than your initial question, which was should Japan buy THAAD.

Senator MCCASKILL. Right.

Admiral HARRIS. If they buy it, then it is theirs and it relieves me of the burden of having to deploy it and the joint force.

Senator MCCASKILL. Right.

Admiral HARRIS. I think that whole decision, whether they buy THAAD or Aegis Ashore or asks us to support them or whatever, that is a decision yet to be made.

Senator MCCASKILL. It seems to me that the discussion that we are trying to have about pressure on China to do the right thing, especially in light of what I learned from you in terms of China's activities, the militarization in the South China Sea, that the more talk we have publicly about THAAD more places, I think the more it behooves what I think is our policy right now as it relates to North Korea.

Very quickly. I do not think anybody has touched on what I have been really confused by and worried by in light of how important the Philippines is to the United States military. Could you assess the current situation of the United States-Philippines relations? Because I know what strategic importance those islands have to your capability of defending United States of America.

Admiral HARRIS. So, ma'am, I believe that we are in a reasonably good place in the mil-to-mil space with our forces in the Philippines, AFP [Philippine Armed Forces], if you will. We have a range of activities that we continue to do with the AFP, including Balikatan, which is the big exercise that kicks off next month in May.

Our EDCA, that is Enhanced Defense Cooperation Agreement—that is the five Philippine bases that we have agreed with the Government of the Philippines to improve in some cases for us to use. That is proceeding apace.

Most importantly, our Special Operations Command folks are active in the southern Philippines to combat terrorism in conjunction with and in support of the armed forces of the Philippines. Our guys are doing the advising and assisting but not the direct action. That is the responsibility of the armed forces of the Philippines there, and I think that is working.

Senator MCCASKILL. Duterte is not having a negative impact on the mil-to-mil relationship is what you are telling me.

Admiral HARRIS. Yes, ma'am.

Senator MCCASKILL. Well, that is reassuring because he kind of goes in the category with Kim Jong-un in terms of what the hell. Right?

Admiral HARRIS. We are in a good place in the mil-to-mil space with the Philippines.

Senator MCCASKILL. Right. Thank you.

Chairman MCCAIN [presiding]. Senator King?

Senator KING. Thank you, Mr. Chairman.

First, sort of parenthetically your exchange with Senator Ernst about the importance of innovation, the center of innovation in this country is, of course, Silicon Valley and those innovative industries that are located in other parts of the country. We had testimony a couple months ago that Silicon Valley essentially will not deal with the Defense Department because of the, I would call it, Byzantine—but that would be an insult to the Byzantine Empire—the cumbersome and slow process in our procurement. That is an urgent national priority in my opinion. I just wanted to echo that conversation.

The second point I think that is important, all the discussion we have had in the last few days about North Korea and the last few weeks and months have focused on the ICBM and the threat to the Homeland via a missile.

The other problem that I think deserves attention is that North Korea is a serial proliferator of nuclear technology, and I think as serious a threat as an ICBM is a nuclear weapon, a nuclear warhead in the hold of a tramp steamer sponsored by ISIS headed into Miami or the Port of Baltimore. That to me is an imminent threat that is almost as dangerous as the ICBM threat. That has got to be part of this calculation.

Here is my question. Historically, the regimes in North Korea have gone through these cycles of provocation and rising tension and then there has been some negotiation and concessions. If this is part of that pattern, what does Kim Jong-un want?

Admiral HARRIS. So, Senator, I do not think it is any longer a part of the pattern of his grandfather and his father. As you correctly stated, in the past, they have gone into this provocation cycle. I have talked about it a lot in Hawaii where there is a provocation, there is a negotiation, and there is a concession. It is peaceful for a while, and then the cycle starts again. I think Kim Jong un has elevated that to a cycle of provocation, provocation, provocation. What he is seeking his own independent nuclear deterrent in order to threaten the United States and to ensure the continuance of his regime.

Senator KING. To follow up on Senator Graham's questions, if you go back to history, this situation that we are in now has often

been analogized recently to the Cuban Missile Crisis. Part of the settlement in that case was we had a military force and the threat of military force. We had the blockade, but ultimately there was an agreement not to invade Cuba. That was part of the agreement that ended up with the missiles coming out.

Is this a moment—if regime preservation is his goal, is there a moment where we could enter into those kinds of negotiations?

Admiral HARRIS. Sir, I do not want to limit the President's options as he decides which course of action to take. I will simply say that in the Cuban Missile Crisis, the key to that was credible combat power that allowed diplomacy to act.

Senator KING. I completely agree.

Admiral HARRIS. I believe that my part of this problem set is to provide that credible combat power in the face of North Korean provocation.

Senator KING. I totally accept that. I understand that the Vinson has to be there and all the other capabilities that we have, and that is part of this process. I am talking about how do we eventually get out of this, and that involves some discussion of what is it that is necessary to end this.

China is a little puzzling to me because we have always talked about economic pressure. China has, I agree, total pressure ability with regard to North Korea. There is no law that says that the missiles that he is developing and the nuclear weapons only can go south and east. He is as close to Beijing as he is Tokyo. If I were China, I would not want a nuclear-armed guy right on my border who could threaten me. It seems to me that China really has to start to think about the threat that—if he achieves this, suddenly he can threaten anybody within 1,000 miles.

Admiral HARRIS. I agree with you there.

Senator KING. Finally, we talked about the vulnerability of Seoul. As I talk to people in Maine, they are surprised to learn that Seoul is about 30 miles from the North Korean border from the DMZ and the enormous threat from just artillery. We talked about that we do not have any defense for that now.

Do the technologies that have been developed in conjunction with the Israelis, David's Sling and Iron Dome, have any relevance in this case?

Admiral HARRIS. Sir, I do not know. I am not smart enough on that. I will have to get back to you on that.

Senator KING. I would appreciate that because that is a technology that has been effective in defending Israel from short-range rockets, and perhaps it would be something that would change the military calculus.

[The information referred to follows:]

Admiral HARRIS. [Deleted.]

Admiral HARRIS. I will get back to you, sir.

Senator KING. Thank you, Admiral.

Chairman MCCAIN. Well, thank you, Admiral. I think that what we are talking about that the North Koreans have is rockets, which would not lend itself to Iron Dome defenses.

These are very difficult and challenging times, and it is very fortuitous that you are here before this committee particularly after

the briefing that we had yesterday at the White House. You have been able to give us some of the details that only a military commander can provide us with and will help us to make judgments.

I do not think any of us are predicting conflict, and I think it would be wrong for us to do that, but I also believe that we should make every preparation. Although military activity would be a last resort, it is something that we cannot completely rule out. I emphasize it would be absolutely, I know, this President's last resort.

You are the tip of the spear, Admiral, and so the fact that you will have men and women ready, if called upon, in the testimony you have given today is reassuring to this member and I believe to the other members of the committee. I know how much you look forward to coming back and testifying before this committee. I know it is one of the highlights of your time as Commander in the Pacific, but this testimony today was extremely important and I thank you for taking the time and speaking in a very informative and articulate fashion.

Senator Reed?

Senator REED. Mr. Chairman, I concur.

Once again, Admiral, thank you and make sure you thank the men and women under your command.

Chairman MCCAIN. This hearing is adjourned.

[Whereupon, at 11:48 a.m., the committee adjourned.]

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR JIM INHOFE

RECENT NORTH KOREA ACTIONS

1. Senator INHOFE. Admiral Harris, how does the recent spike in missile and rocket testing by North Korea shape future United States plans and requirements on the Korean Peninsula?

Admiral HARRIS. [Deleted.]

2. Senator INHOFE. Admiral Harris, what is your assessment of the security challenges East Asia will face if North Korea continues to test nuclear weapons and develop longer range ballistic missile capabilities in violation of U.N. Security Council resolutions?

Admiral HARRIS. [Deleted.]

BROADER ASIA-PACIFIC REGION

3. Senator INHOFE. Admiral Harris, what do you see as United States security priorities in the Asia-Pacific region?

Admiral HARRIS. USPACOM's first priority is to ensure that the United States Homeland, citizens, and critical infrastructure are secure from threats and challenges in the Indo-Asia-Pacific region. This is accomplished by maintaining credible combat power which is postured, equipped, and operated in a manner that leaves little doubt in adversaries' minds that the U.S. will defeat them should deterrence fail. We closely synchronize with USSTRATCOM and USNORTHCOM. Our second priority is to be ready to fight tonight. This is accomplished in all domains by maintaining high states of materiel and training readiness, the presence of power projection capabilities forward in the theater, and joint force resiliency generated by the dispersement of our capabilities and the decisive aggregation of effects. Our third priority is to lead the national focus on the Indo-Asia-Pacific region. Resident within this region are the 4 potential adversaries (China, North Korea, Russia, and ISIS) that we will either fight tonight or who currently represent the greatest, long term existential threats to the United States. Only the continuous presence of the United States, by, with, and through our allies and partners for the last 70 years has kept the Indo-Asia-Pacific region from devolving into major regional conflict. Our fourth priority is to have unity of purpose. Unity of purpose will be attained by accomplishing the ends specified by the National Security Strategy, the National Defense

Strategy, and the Global Employment of the Force through the execution of the USPACOM Theater Strategy, the Theater Campaign Plan, and the Theater Campaign Order. This method specifically aligns policies, plans, programs, and processes, up and down the chain of command. Our approach to the above is based on partnership, presence, and military readiness. USPACOM recognizes the global significance of the Indo-Asia-Pacific region, and understands that challenges are best met together. Therefore, we will remain an engaged and trusted ally and partner, committed to preserving the security, stability, and freedom necessary for enduring regional prosperity. We will collaborate with the Services and other combatant commands to achieve our mission. We must communicate effectively to convey our intent and resolve through clearly aligned words and actions. We must synchronize externally to achieve unity of effort within the Department of Defense (DOD) and the Interagency to enhance the effectiveness of our strategic approach, which consists of four core elements: Maintain credible combat power and work with the Services and DOD to build the right force of the future. Maintain a network of like-minded allies and partners to cultivate principled security networks which reinforce the rules-based international order. Continue to fly, sail, and operate wherever international law allows and encourage others to do the same. Be ready to counter the coercive actions of regional competitors. Counter transnational threats and challenges, including terrorism and illegal/illicit trafficking, and be ready to respond to natural disasters.

4. Senator INHOFE. Admiral Harris, how would you prioritize the challenges and threats in the region?

Admiral HARRIS. In the near-term, North Korea represents a clear danger to regional peace and stability, and remains the most dangerous and unpredictable state in the Indo-Asia-Pacific. Pyongyang shows no willingness to seriously discuss denuclearization, and I assess that Kim Jong-un (KJU) will never do so. He is committed to developing nuclear weapons and the technology to make them small enough to effectively threaten the U.S. KJU declared in his New Year's address that he would test an intercontinental ballistic missile (ICBM) capable of reaching the U.S. mainland. We witnessed KJU's apparent successful ICBM test launch on July 3, 2017; and although it was not capable of reaching the U.S. mainland, it could have reached the state of Alaska. For the longer-term, China will be the United States primary strategic competitor. China continues to rapidly transform its military into a high-tech force capable of regional dominance, with a growing ability to support China's desire for global reach and influence. The People's Liberation Army implemented an extensive reorganization, which included the creation of geographic Theater Commands, each organized and equipped for specific regional contingencies. With significant investments in advanced military systems, along with unresolved territorial and resource disputes, a continued lack of transparency on China's strategic intent has many nations in the region concerned about future Chinese actions. China is also using its economic power to expand its regional and global influence and to weaken United States ties with Indo-Asia-Pacific nations. The most significant example of this approach is the ambitious "One Belt, One Road" initiative, which is China's effort to expand through influence throughout Eurasia and across the Pacific and Indian Oceans. Russia's military and political commitment to the Indo-Asia-Pacific also continued to grow over the past year and it remains an existential threat to the United States. The Russian Pacific Fleet has stepped up deployments to promote Russian influence throughout the region, to include visits to traditional United States allies such as the Philippines. Military forces in the Eastern Military District are being modernized after decades of neglect. Finally, the Indo-Asia-Pacific is seeing a rise in extremist violence inspired, and in some areas supported, by the Islamic State of Iraq and Syria (ISIS) in the Philippines, Bangladesh, Indonesia, and Malaysia. The recent ISIS-Philippines occupation of the Islamic City of Marawi in Mindanao points to the scale of the ISIS threat in the region.

5. Senator INHOFE. Admiral Harris, what more do we need to do to regarding our alliances and partnerships in the region?

Admiral HARRIS. [Deleted.]

6. Senator INHOFE. Admiral Harris, are our alliances and partnerships on solid footing or do we have reason to be concerned?

Admiral HARRIS. I would characterize our alliances with Australia, Japan, and ROK as "solid"; our alliance with Philippines as "stable"; and our alliance with Thailand as "needs work." I believe our partnerships with India, New Zealand, Singapore, Indonesia, Malaysia, and Vietnam are solid. That said, in all cases, we must actively nurture and strengthen them. The behavior of North Korea, China, and

Russia, and the growth of Violent Extremist Organizations such as ISIS, are cause for concern for all nations in the Indo-Asia-Pacific region. These challenges drive our long-standing alliances and partnerships closer and present opportunities for stronger security cooperation with countries such as Vietnam, India, Indonesia, Malaysia, and Sri Lanka. Our alliance with Australia is an anchor of peace and stability in the region and globally. We rely heavily on Australia for its leadership and advanced military capabilities across all warfighting domains. This year marks the 75th anniversary of the battle of Coral Sea, as well as the 99th anniversary of World War I's Battle of Hamel—the first time the United States and Australia fought together and the first time United States troops fought under foreign command. No other nation has fought alongside the United States more in the 20th and 21st Centuries than Australia. High-level engagements in New York in May (POTUS and Australian Prime Minister), and Sydney in June (Secretary of Defense, Secretary of State, Chairman of the Joint Chiefs of Staff, and me with our counterparts), exhibit the continued bond between our two countries. The United States-Japan alliance is a principal source of strength in the region and globally, with Japan a strong partner in our efforts to pressure North Korea to abandon its nuclear ambitions, and in our efforts to improve Chinese behavior in the region. I believe the senior leader engagements between Japan and the U.S. over the last few months, as evident in President Trump's and Prime Minister Abe's recent meetings at the G20, Secretary Mattis' visit to Japan in February (his first overseas trip as SecDef), SecDef's phone calls with Defense Minister Inada following North Korean provocations, and my meetings with Prime Minister Abe, Foreign Minister Kishida, and Defense Minister Inada in May 2017, clearly demonstrate the commitment our nations have in maintaining regional, as well as global, peace and security. I look forward to increased cooperation and information sharing among the United States-Japan-ROK trilateral partnership, and I see great potential for a future United States-Japan-Australia-India quadrilateral partnership. The United States-Republic of Korea (ROK) alliance remains ironclad. North Korea continues to present a clear and dangerous threat to the United States, the ROK, and Japan, and I continue to call for more trilateral cooperation among our three nations. In the Philippines, while I look forward to continued and close cooperation in areas central to both our national and security interests, including humanitarian assistance and disaster relief, counterterrorism, cyber security, and maritime security, the new political leadership there continues to send mixed signals about how valuable it views its alliance with us. Our Enhanced Defense Cooperation Agreement progress remains on schedule and conversations between us and the Philippine Armed Forces (AFP) reassure us of their continued commitment to the alliance. We are also assisting the AFP in their important counter-terrorism campaign against ISIS in the southern Philippines. In February 2017, I reiterated the United States commitment to Thailand when I spoke at the opening ceremony of Exercise Cobra Gold, the largest multilateral military exercise in Southeast Asia. This was the first visit by a PACOM Commander since their coup in 2014. Also, as with the Philippines, Thailand is sending mixed signals regarding its view of the value of its alliance with the United States vis-à-vis China. We will continue to work with Thailand to advance prosperity and security for our nations and to encourage them to return to a fully functioning democracy as soon as possible, but I am concerned about China's growing influence. As I've said before, the best way to promote security and healthy civil-military relations in Thailand is to engage more, not less, with the Thai leadership.

7. Senator INHOFE. Admiral Harris, are there specific areas or countries that need particular focus?

Admiral HARRIS. Yes, there are several allies and partners in the Indo-Asia-Pacific that require additional focus for different reasons. Thailand and Philippines United States military engagement in Thailand, especially at the senior leader level, was limited in the wake of the 2014 coup. Only recently have those engagements returned. Our engagement with some components of the Philippine security forces was limited as result of human rights abuses by their government's counter-narcotics campaign. In the voids created by the limited military-to-military engagement with Thailand and the Philippines, China and Russia aggressively worked to fill the security vacuum caused by our absence. Both political leaderships in Thailand and the Philippines have sent mixed signals about the value they place in their alliances with the United States, particularly vis-à-vis China and Russia. In the future, changes or cancellations of U.S. military engagements should be considered to be amongst the last, rather than the first, reaction to bad behavior by the government or national security forces. By remaining present and engaged with military partners, the U.S. military can be an enduring example of proper conduct for militaries and police forces, specifically with respect to compliance with human rights and

international law. Japan and Republic of Korea (ROK) Japan and the ROK are dealing with the increased threat posed by North Korea's rapidly advancing missile and nuclear programs. Both countries benefit from advanced ballistic missile defense (BMD) foreign military sales and assistance, which provides the U.S. an opportunity to build trilateral, integrated BMD systems. While the tri-lateral relationship between United States-ROK-Japan is improving, there is still mistrust between Japan and ROK that limits full intelligence sharing and operational interoperability. India USPACOM has designated India a priority line of effort. While India continues to position itself to take on more of a leadership role in the Indian Ocean region, the U.S. should take the opportunity to strengthen the United States-Indian relationship. Designating India as a Major Defense Partner is the right step in this direction. USPACOM continues to grow the military-to-military relationship with the Indian Armed Forces. Taiwan We remain steadfastly committed to working with Taiwan and its democratic government to provide the defense articles necessary and consistent with the obligations set out in the Taiwan Relations Act We stand for the peaceful resolution of any issues in a manner acceptable to people on both sides of the Taiwan Strait.

8. Senator INHOFE. Admiral Harris, how is China's resurgence affecting our longstanding partnerships and alliances in the region?

Admiral HARRIS. From a military standpoint, China's resurgence is causing anxiety and concern for our allies and partners in the region. In some cases, this anxiety is bringing our alliances and partnerships closer, and is opening more opportunities to cooperate with our partners in the region, especially those partners with whom we have not had a historically strong relationship. However, in other cases, a combination of enormous economic pressure by China and uncertainty regarding United States commitment to the region weakens our alliances and partnerships. These countries are hedging their bets.

9. Senator INHOFE. Admiral Harris, does North Korea's increasing belligerence offer opportunities to develop new or strengthen existing alliances in the region?

Admiral HARRIS. North Korea's provocations, nuclear tests, and recent numerous ballistic missile launches have strengthened our alliances with Japan and Republic of Korea (ROK), as well as strengthened our relationships with other Indo-Asia-Pacific allies and partners. Specifically, North Korea's actions have encouraged more United States-Japan-ROK trilateral defense cooperation on Ballistic Missile Defense, Maritime Security and Interdiction efforts (enforcement of UN Security Council resolutions), and cyber and space collaboration in the region. These activities strengthen cooperation between our two key allies in Northeast Asia. In October 2016, the Chiefs of Defense from Japan, ROK, and the United States held their first face-to-face meeting to discuss these ongoing threats from North Korea. These trilateral events improve teamwork, readiness, and the capability to respond quickly to various situations in the Indo-Asia-Pacific region, ranging from disaster relief to maritime security activities. Any opportunity we have to participate together is a tangible symbol of U.S. commitment and reflects a shared interest in ensuring a climate for regional stability and security.

FORCE POSTURE IN THE PACIFIC

10. Senator INHOFE. Admiral Harris, do you believe the United States currently has adequate forces and assets in Asia-Pacific to mitigate risks and respond to any contingencies that may occur?

Admiral HARRIS. [Deleted.]

11. Senator INHOFE. Admiral Harris, if not, what additional forces and assets do you need?

Admiral HARRIS. [Deleted.]

12. Senator INHOFE. Admiral Harris, do you think we need to continue to expand and/or harden our facilities to ensure our forward forces can survive to operate?

Admiral HARRIS. [Deleted.]

13. Senator INHOFE. Admiral Harris, the United States and our allies have missile defense capabilities in theater to include Aegis and THAAD. Do we need additional missile defense assets to counter the growing North Korean threat?

Admiral HARRIS. [Deleted.]

SOUTH CHINA SEA

14. Senator INHOFE. Admiral Harris, what impact does the deployment of Chinese military to include surface-to-air missile system and continued Chinese expansion into the South China Sea have on United States national security and national security of our partners in the region?

Admiral HARRIS. China's militarization of its Spratly Island outposts provides the Chinese military the ability to detect, track, target, and strike United States and allied naval and air forces throughout Southeast Asia and eastward beyond the first island chain. Chinese surface-to-air missiles and anti-ship cruise missiles, if deployed to the Spratly Islands, would greatly increase the risk to my forces operating in the South China Sea. Equally concerning is the potential impact such a capability would have on China's ability and willingness to take assertive action toward our allies and partners in the Indo-Asia-Pacific region. China desires to exercise control over the entirety of its South China Sea claims, deny operational space to the United States military, and compel other South China Sea coastal states to relinquish their territorial claims. A fully-militarized South China Sea will only serve to enable China to more aggressively pursue these ends. In any combat scenario in the East and South China Seas against China, I will have to devote assets and resources to knock out these outposts to ensure I have freedom of maneuver in the South China Sea. More broadly, further deployment of military weapon systems to Chinese-claimed features in the Spratly Islands will heighten regional tensions, pose a direct challenge to the security interests of U.S. regional allies and partners, and increase the risk of military conflict in the region. Although all Southeast Asian nations seek to avoid a military confrontation with China and seek a peaceful settlement of the South China Sea dispute, many Southeast Asian nations, particularly those with disputed claims in the South China Sea, would likely perceive the presence of advanced Chinese weapon systems in disputed regions of the South China Sea as the closing of negotiating space. While some may acquiesce in the face of Chinese militarization, others will likely seek to militarily strengthen their own position vis-à-vis China, thereby increasing the risk of a military conflict in the region.

15. Senator INHOFE. Admiral Harris, what actions do you believe might be necessary to stop further build-up in the East and South China Seas?

Admiral HARRIS. Credible combat power offers the greatest potential for meeting the Indo-Asia-Pacific region's complex security issues and serves as the USPACOM strategy's main effort. Above all else, it enables our ability to win in combat. Strengthening our military capacity can successfully deter conflict and coercion, and will enable us to respond decisively when needed. Enhancing our force posture and persistent presence in the region allows USPACOM to maintain a higher pace of training, transits, and operations in the East and South China Seas. To achieve these goals, I believe the following actions must be taken: Modernization will ensure that effective capabilities exist to achieve U.S. objectives. Increases in force laydown will provide USPACOM the posture presence needed to assure allies and partners of U.S. commitment. Physical presence is the most effective means to deter the China from escalation in the East and South China Seas. This is accomplished through freedom of navigation operations as well as multi-lateral and bi-lateral exercises. In order to reverse the erosion of the United States advantages against China, the Department of Defense must enhance credible combat power by investing in new cutting-edge capabilities, deploying our most modern air and maritime capabilities forward, and distributing these capabilities more widely across the Indo-Asia-Pacific region. Develop effective, low-cost Integrated Air and Missile Defense capabilities, both ashore and at sea, to preserve our capability to fight and win inside the threat envelope against Chinese intermediate range ballistic missile, anti-ship cruise missile, and air-launched ballistic missile threats. Operationalize the United States-Japan Alliance. The United States-Japan alliance is the center of gravity for United States military strategy in the Indo-Asia-Pacific. The recent United States-Japan Guidelines for Defense Cooperation, along with recent revisions to Japan's laws, present an unprecedented opportunity for a new level of alliance cooperation that can be defined as "integrated" as opposed to merely "coordinated."

16. Senator INHOFE. Admiral Harris, what are you thought about the "South China Sea Initiative" that provides authority to build maritime security and maritime domain in the South China Sea region, through assistance to, and training of, partner nation maritime security forces?

Admiral HARRIS. [Deleted.]

17. Senator INHOFE. Admiral Harris, in your written testimony, you stated [QUOTE] “We should cease to be cautious about the language we use to describe these activities.” That “China has militarized the South China Sea through the building of seven military bases on artificial islands [. . .] in disputed areas.” What do you mean by ceasing to be cautious about the language we use?

Admiral HARRIS. Words matter. The United States must cease using ambiguous language and actions that allow China to reshape the rules based international order. Specifically, in regard to the South China Sea, the United States must be clear in both our words and our operations that the seven artificial features are not entitled to claims of sovereignty and therefore the building and militarization of them is not in accordance with international law. Secretary Mattis emphasized this point on 2 June 2017 at the Shangri-La Dialogue: “We oppose countries militarizing artificial islands and enforcing excessive maritime claims unsupported by international law.” The United States must continue to publicly expose China’s vast militarization of the seven artificial features and counter the PRC narrative that the reclamation is only for search and rescue purposes. We must continue to fly, sail, and operate in close proximity of these artificial features and overfly these features in accordance with international law. We should not refer to them as “reclaimed.” China created them by destroying the fragile ecosystem and pouring concrete. Based on the ruling of the International Tribunal of the Law of the Sea (ITLOS), we should also cease referring to China’s 9-dash line as “so called”; it is “illegal,” pure and simple. Finally, we should cease referring to the People’s Liberation Army (PLA) as a “near-peer competitor.” They are a peer competitor in the Indo-Asia-Pacific, and I deal with them from that perspective.

CHINESE MILITARY MODERNIZATION

18. Senator INHOFE. Admiral Harris, why do you believe that China is investing so heavily in its military in the last 2 years?

Admiral HARRIS. China has clearly stated that it has aspirations to be the pre-eminent regional power as part of its “China Dream.” Those long-term aspirations are driving China’s so-called “strong military dream,” which envisions a People’s Liberation Army (PLA) that establishes a global presence and assumes the role of the region’s preeminent military power before the middle of this century. To this end, the PLA is focused on building a military that can fight any number of regional conflicts; can project power globally; and perhaps most importantly, can directly counter U.S. military power. Achieving these goals requires sustained investment and build-up, which is precisely what we are seeing from China.

19. Senator INHOFE. Admiral Harris, what are the strategic implications of this more capable Chinese military and nuclear force, especially in the context of Chinese provocations in the Asia-Pacific region?

Admiral HARRIS. A more capable Chinese military and nuclear force provide credibility to China’s narrative that the United States will not stand by our alliances and partnerships. China’s belief is that the United States would be unwilling to accept the elevated risks that a more-capable Chinese military and nuclear force could present during an armed conflict. This narrative sows doubt within the leadership of our allies and partners, which may make them reconsider their levels of cooperation with the United States and China. Previously, many of them hedged economic cooperation with China against security cooperation with the United States. Now these countries find themselves under increasing pressure to abandon security cooperation with the United States in favor of security cooperation with China. China has many more missiles, ships, and combat aircraft in the Indo-Asia-Pacific than we do. Qualitatively, they are not as good as we are. They are not globally deployed as are we, as approximately 95 percent of the Chinese military operates on mainland China or within the first island chain. However, this gives them the advantage of an “interior lines” battle in East Asia. China, therefore, holds the regional quantitative military advantage. The United States presently maintains a qualitative advantage in terms of military capabilities, but this is being eroded rapidly by China’s modernization programs. One example is in the area of hypersonic glide vehicles (HGV). China has the most aggressive HGV research and development program in the world and is on track to develop hypersonic weapons against which the United States has little ability to detect, and no capability to engage. Continued increases to both the quantity and quality of these advanced weapons systems could likely enable China to overcome any qualitative advantages we currently enjoy. We must continue to maintain our presence and enhance our qualitative military advantages in order to defeat China in any future armed conflict. The U.S. must also continue to demonstrate commitment and resolve to defend our allies and help our partners.

Most, if not all, of these countries are already tremendously outmatched by the Chinese military. Absent a credible United States commitment to defend them, they are likely to yield in the face of increasing Chinese military and economic pressure. This would shift the regional security order to China's advantage and significantly harm the U.S.'s position in the Indo-Asia-Pacific region.

20. Senator INHOFE. Admiral Harris, how should the U.S. address this development?

Admiral HARRIS. By ensuring our own military power is credible. China is rapidly building a modern, capable military that appears to far exceed its stated defensive purpose or potential military needs. China's military modernization is focused on countering the United States in the Indo-Asia-Pacific by overcoming our asymmetric advantages. To address Chinese military investment and modernization, the United States must focus on: Sustaining enhanced U.S. credible combat power forward. Assuring our allies and partners of unwavering U.S. commitment. Widening the U.S. qualitative military advantage relative to China. Increasing the security capacities and capabilities, collectively and compatibly, of our allies and partners in the region. Ensuring freedom to continually access shared domains and use the global commons. Encouraging and facilitating the peaceful resolutions of sovereignty disputes. Cooperating with China, as permitted, when our shared security interests overlap.

QUESTIONS SUBMITTED BY SENATOR ROGER WICKER

COUNTER-ARTILLERY DEFENSE FOR REPUBLIC OF KOREA

21. Senator WICKER. Admiral Harris, you stated that North Korea possesses around 4,000 artillery rounds which could strike the Republic of Korea and United States forces stationed there. You also stated that Pacific Command lacks a defensive capability to intercept artillery barrages. What Department of Defense programs, if any, are developing counter-artillery defenses? Is fielding such a capability important to execute your warfighting mission on the Korean Peninsula? Is the Israeli Iron Dome system effective against artillery? If so, would Pacific Command benefit from deploying Iron Dome, or a comparable system, on the Peninsula?

Admiral HARRIS. [Deleted.]

QUESTIONS SUBMITTED BY SENATOR DAN SULLIVAN

INDIA'S ROLE IN MARITIME DOMAIN AWARENESS

22. Senator SULLIVAN. Admiral Harris, yesterday, you testified that "[India] represents a tremendous opportunity for the United States ... in particular in the mil-to-mil space." In addition, you stated that you do not have the persistent ISR you need to watch our adversaries. In your professional military opinion, would increasing India's military capability to project power in the Indian Ocean Region—particularly through maritime domain awareness systems like advanced UAVs [Unmanned Aerial Vehicles] and necessary intelligence-sharing agreements—help address your current gap in capability in the Indo-Pacific?

Admiral HARRIS. [Deleted.]

23. Senator SULLIVAN. Admiral Harris, given Congress' strong support for India—including its designation as a major defense partner of the U.S. in last year's NDAA—do you agree that the United States should be India's defense partner of choice when it comes to advanced UAVs and that surrendering this market to foreign competitors would weaken our ability to positively influence regional security trends? In your professional military opinion, what are the advantages of partnering with India on advanced UAVs?

Admiral HARRIS. [Deleted.]

KC-46 PACOM BASING

24. Senator SULLIVAN. Admiral Harris, Alaska will have over 100 5th Generation aircraft by 2020, including F-22s and F-35As. Given the KC-46A Pegasus' enhanced capability to carry 114 passengers and 18 pallets of cargo—over 3 times more in both categories than a KC-135—it has the ability to expedite the deployment of fighter squadrons in response to any contingency. Critically, this includes the capability to virtually self-deploy fighter squadrons with the maintenance and support packages needed to hit the ground running upon arrival in theater—providing "Rapid-Raptor" like capabilities while freeing up logistical resources for other

uses. What are the possible strategic, operational, and tactical advantages of basing the KC-46A in Alaska?

Admiral HARRIS. [Deleted.]

25. Senator SULLIVAN. Admiral Harris, as the PACOM commander, if the Secretary of the Air Force and Chief of Staff of the Air Force—as a part of their strategic basing process—asks for your opinion of a preferred basing location of a KC-46A squadron in PACOM based on current requirements, in your professional military judgement, what would your opinion be and why?

Admiral HARRIS. [Deleted.]

QUESTIONS SUBMITTED BY SENATOR LUTHER STRANGE

FUTURE OF THE LITTORAL COMBAT SHIP

26. Senator STRANGE. Admiral Harris, I think your comment in your testimony on the importance of Pacific Command are spot on: “what happens in the Indo-Asia-Pacific matters to America, and the region needs a strong America just as America needs the region.” To show America’s commitment in the PACOM (“pay-com”) AOR (Area of Responsibility), we must be present and visible with capable assets across more than 100 million square miles. I believe this requirement is a major driver behind the results of the Navy’s latest force structure assessment. Would you agree that a 350 ship Navy, or larger, is critical to your mission in the Pacific?

Admiral HARRIS. [Deleted.]

27. Senator STRANGE. Admiral Harris, growing our Navy to such an extent will certainly take many years. Would you also agree that we must begin that growth at once?

Admiral HARRIS. Yes, I do and I echo ADM Richardson’s comments from The Future Navy White Paper from May 17, 2017, that “we need this more powerful fleet in the 2020s, not the 2040s.”

28. Senator STRANGE. Admiral Harris, I note with pleasure your past praise for the very successful deployments of Littoral Combat Ships to your AOR. Could you repeat for the committee your ideas about the important role this ship class will play in the Indo-Asia-Pacific region?

Admiral HARRIS. I’ve gone on record as being a fan of the littoral combat ship (LCS) in both of its principal hull designs, and I believe that the LCS adds to the whole range of operations and missions that USPACOM has in the region, to include peace operations and humanitarian assistance. All that said, I have also testified that I want a more lethal “up-gunned” version of the LCS (including backfill of current LCS) to include anti-ship missiles and improved self-defense. I appreciate the push from Congress for these needed improvements. Once outfitted, these LCS upgrades will allow us to increasingly distribute our lethality across the Indo-Asia-Pacific region. I want to acknowledge our great friends in Singapore who allow us, on a rotational basis, to deploy LCSs to their country. This partnership helps us to provide a persistent presence in the South China Sea in order to to “normalize” operations and reinforce the international framework of norms, standards, rules, and law.

FUTURE OF MISSILE DEFENSE

29. Senator STRANGE. Admiral Harris, I found your testimony on Kim Jong-un’s determination to obtain a nuclear weapon to be most interesting. I’m reminded that the Commander, United States Northern Command, General Robinson, testified here that he finds the situation in North Korea to be increasingly frightening and that he believes that Kim Jong-un has transitioned his father’s strategy of instability for concessions—a sort of blackmail by nuclear testing—to one of nuclear and ballistic missile testing to achieve a program that could act as a viable deterrent and perhaps give him a first strike capability. Could you elaborate on the dangers associated with this apparent shift in strategy; the change in motivation from “bluster for concessions” to an actual objective of successful attack on the U.S. and our allies?

Admiral HARRIS. [Deleted.]

30. Senator STRANGE. Admiral Harris, can you comment for the record on the validity and urgency of this threat?

Admiral HARRIS. [Deleted.]

31. Senator STRANGE. Admiral Harris, with the rising tensions with North Korea and the proximity of Hawaii as the closest state to PRK, could you comment for the record on how you would characterize the threat to Hawaii and our current defensive capabilities? You have previously cited on record your desire to activate the aegis ashore site at PMRF with the Standard 3 Missile in order to enhance our defense immediately; and a number of subject matter experts have publically shared your views. Has your opinion on this or the urgency surrounding the need to activate the site changed?

Admiral HARRIS. [Deleted.]

32. Senator STRANGE. Admiral Harris, MDA has indicated plans to develop a new discrimination radar (HDR-H) in order to enhance defense of Hawaii against the North Korean threat. Are you concerned that MDA's plan is a new development program, in a remote location which will not be operational until 2024 at the earliest? While more and larger sensors are always desirable, based on the imminent threat, should we be more focused on a near-term defense solution? Would you advocate spending resources on leveraging the existing assets (Aegis Ashore, AN/TPY-2, THAAD) and filling the launchers with additional inventory or procuring the new discrimination radar?

Admiral HARRIS. [Deleted.]

33. Senator STRANGE. Admiral Harris, appreciating Hawaii's unique location relative to the threat and the challenges that presents from a defense perspective (cruise missiles, ICBMs, Sub-Launched Threats, Air Threats), should a new radar for HI be designed as strictly an ICBM radar or should it be more multi-functional?

Admiral HARRIS. [Deleted.]

QUESTIONS SUBMITTED BY SENATOR LINDSEY GRAHAM

F-35

34. Senator GRAHAM. Admiral Harris, earlier this year, Marine Fighter Attack Squadron (VMFA) 121 deployed ten short takeoff and vertical landing F-35B variants to Iwakuni, Japan. In your view, in the face of advancing near-peer threats, how critical is increased presence of F-35 for your Area of Operations?

Admiral HARRIS. [Deleted.]

35. Senator GRAHAM. Admiral Harris, it is my understanding that the Navy has recently demonstrated a beyond the horizon capability with the integration of the F-35 as a node to support Naval Integrated Fire Control-Counter Air (NIFC-CA). What is the significance of the exercise?

Admiral HARRIS. [Deleted.]

QUESTIONS SUBMITTED BY SENATOR JACK REED

36. Senator REED. Admiral Harris, in your written testimony you made the following statement:

"The PLA Rocket Force (PLARF) controls the largest and most diverse missile force in the world, with an inventory of more than 2,000 ballistic and cruise missiles. This fact is significant because the U.S. has no comparable capability due to our adherence to the Intermediate Range Nuclear Forces (INF) Treaty with Russia. (Approximately, 95 percent of the PLARF's missiles would violate the INF if China was a signatory.)"

The INF treaty covers ballistic and cruise missiles in the 500-5500 kilometer range that are launched from ground-based systems, but not missiles launched from aircraft or ships. Our aircraft, which provide a continuous bomber presence from Guam, can launch a range of weapons and missile systems and we are replacing our air launched cruise missile system with the long range stand off weapon with very advanced capabilities. Our ships can launch an array of ballistic and cruise missiles from above and below water, in particular with our SSGN fleet and attack submarines deploying Tomahawk missiles. Likewise, the Department is making a considerable investment in a Conventional Prompt Strike Capability, CPS (formerly Conventional Prompt Global Strike) whether from land or from sea. Finally, the best way to counter a particular capability deployed by the Chinese rocket forces may not be to deploy matching rocket systems.

Senator REED. Admiral Harris, given these circumstances, it seems that withdrawing or renegotiating the INF treaty with Russia may bring marginal benefits in the PACOM AOR but could have devastating effects for the EUCOM and CENTCOM AORs. Why should the United States take such high risk given all of these assets and our concerns about Russia?

Admiral Harris, in a March 2017 report to Congress by the U.S. Army on the use of ballistic and cruise missile systems that violate the current INF Treaty, a Table Top Exercise (TTX) was performed for the Western Pacific, which U.S. PACOM and its subordinate elements participated in.

Admiral HARRIS. I will defer questions concerning the USEUCOM and USCENTCOM areas of responsibility (AOR) to General Scaparrotti and General Votel, respectively, and speak only to the benefits and risks associated with the USPACOM AOR. Russia is expanding the deployment of its land-based, advanced anti-ship cruise missile batteries within the Indo-Asia-Pacific region and into the Arctic. These land-based, advanced anti-ship cruise missiles fall into the ranges banned by the Intermediate-Range Nuclear Forces (INF) Treaty. These deployments alone provide evidence from the Indo-Asia-Pacific theater that Russia has abrogated from the INF Treaty. General Selva, Vice Chairman of the Joint Chiefs of Staff, testified to this before Congress last March. Other nations will be emboldened to embark upon or expand upon their own intermediate range weapons programs and deployments should we not compel the Russians to fully return to compliance. In 1987–1988, when the INF Treaty was signed and became effective, China and North Korea were not the threats to the United States that they are today. The uninhibited development and fielding of land-based HGV weapons by Russia and China tip the qualitative military advantage quickly into their favors. Though the INF Treaty permits sea and air launched missiles with ranges between 500km—5,500 km, United States planes and ships must come inside the Chinese and Russian anti-access/area denial (A2AD) umbrellas to deploy missiles. While the U.S. contends with a triple threat (air, land, and sea), our potential adversaries contend with only a double threat (air and sea). The lack of land-based weapons requires U.S. bombers, ships, and submarines (to include SSGNs) in quantities we do not have to assure allies, dissuade potential enemies, and respond to crisis. With China and Russia aggressively increasing the numbers and capabilities of their air and maritime assets, the imbalance will continue to increase and put our nation at greater risk. For example, the Navy fulfills 50 percent of my stated submarine requirements, and the expected reductions from 52 to 42 submarines will further exacerbate the problem. Furthermore, there are only four SSGNs in the total U.S. inventory, two of them assigned to USPACOM (i.e., USS *Ohio* SSGN-726 and USS *Michigan* SSGN-727) and all will be phased out by 2028 as the *Virginia* Payload Module is designed to replace the SSGN capability. The A2AD umbrellas reduce the costs that the U.S. can impose, while simultaneously raising the level of risks to U.S. forces. This imbalance reduces our abilities to deter armed conflict and presents significant challenges to U.S. forces, should our competition turn lethal. Should the United States prove unsuccessful in getting the Russians to return fully to INF Treaty compliance, or stop the continued growth of Chinese and North Korean missile programs, then we should look at renegotiating the treaty so that we can acquire the qualitative, intermediate-range advantages, needed to successfully deter future armed conflicts or to defeat adversaries should deterrence fail. As it is in 2017, the INF Treaty is unilaterally self-limiting for the United States—the Chinese are not obligated to follow it and the Russians are ignoring it. To hold onto an outdated treaty is to put our forces and citizens at risk.

37. Senator REED. Admiral Harris, did U.S. PACOM take into account in the TTX a possible combined use of existing SSGNs, attack submarines using either a CPS or Tomahawk missiles and / or heavy bombers (B-52, B-2 and B-21) using JASSM, JASSM-ER and the existing AGM-86 cruise missile or LRSO particularly in contested A2AD environments?

Admiral HARRIS. The TTX scenario did include the use of existing SSGNs, attack submarines using Tomahawk missiles, and heavy bombers (B-52 and B-2) using JASSM, JASSM-ER and the existing AGM-86 cruise missile in contested anti-access/area denial environments. Conventional Prompt Strike (CPS), future bomber platforms, and long range stand-off weapons (LRSO) were not included in the study since the scenario's operational timeframe was set during 2019–2020. CPS, B-21, and LRSO are not projected to be fielded in that timeframe; therefore, they were not available for the study team and role players to employ during the TTX.

38. Senator REED. Admiral Harris, did U.S. PACOM take into account the ability of heavy bomber platforms (current and future) to fully load out with the LRSO or even the current version of the cruise missile the AGM-86, nuclear or conventional?
Admiral HARRIS. [Deleted.]

39. Senator REED. Admiral Harris, did U.S. PACOM take into account in terms of escalation ladders, the role that our existing nuclear deterrent plays, particularly our air and submarine legs?
Admiral HARRIS. [Deleted.]

40. Senator REED. Admiral Harris, did U.S. PACOM take into account the combined escalation control of conventional systems discussed so far and our nuclear deterrent for escalation dominance?
Admiral HARRIS. [Deleted.]

QUESTIONS SUBMITTED BY SENATOR RICHARD BLUMENTHAL

RUSSIA

41. Senator BLUMENTHAL. Admiral Harris, you indicated that there were four separate incidents of Russian long-range combat aircraft last week near American airspace off of Alaska. These are the first instances of such flights since 2015, and the last time a succession of flights like this occurred was in 2014. North American Aerospace Defense Command (NORAD) noted the flights were not provocative or unprecedented. However, American and Canadian jets were scrambled to intercept or to simply monitor these Russian bombers that came from eastern Russia. We are not the only country experiencing this activity, as Japan has scrambled their fighter jets in response to Russian aircraft approaching their coastline. Further, Russian and Filipino relations seem to be warming just as American-Filipino relations are facing difficult times following President Duterte's rise to power. While the United States normally conducts war games with the Philippines, this year it will focus on humanitarian exercises, while reports note that the Philippines and Russia are considering naval cooperation and possible drills that are likely to be further discussed when Duterte visits Moscow next month. In your testimony you acknowledge that Russia is "engaged militarily" in your AOR and that, "Russia continues to exhibit increasingly aggressive behavior, both regionally and globally." Should we be concerned about Russia's activity in the Asia-Pacific? How has it changed in recent years?

Admiral HARRIS. Yes, we should be concerned about Russia's activities in the Indo-Asia-Pacific. Russia's strategic forces based within the Pacific threaten the United States. Additionally, Russia's increased activities in the Indo-Asia-Pacific divert resources and attention that we, our allies, and partners could otherwise place against North Korea, China, and Violent Extremist Organizations. Russian activity has changed in recent years in the following ways: Increased numbers of improved and new attack and ballistic missile submarines Increased numbers of modern surface ships Increased numbers of upgraded strategic bombers Increased deployments of advanced anti-ship cruise missiles batteries, in an anti-area access denial umbrella, that extend from the Indo-Asia-Pacific region into the Arctic Exploitation of strategic seams emerging within United States alliances, such as the Philippines Offers of advanced military sales to China Cultivation of their existing military relationships with India, Vietnam, and Indonesia Exploitation of sanctions imposed on North Korea by both the United States and China.

42. Senator BLUMENTHAL. Admiral Harris, what is your assessment of Russia's interest in the Philippines? What do you think it signifies, and how concerned should we be?

Admiral HARRIS. [Deleted.]

QUESTIONS SUBMITTED BY SENATOR JOE DONNELLY

CONVENTIONAL PROMPT STRIKE (CPS)

43. Senator DONNELLY. Admiral Harris, it is my understanding that PACOM—alongside STRATCOM and EUCOM—has identified the development and fielding of a Conventional Prompt Strike system as a high priority. Is that correct?

Admiral HARRIS. [Deleted.]

44. Senator DONNELLY. Admiral Harris, is the United States leading the way in the development of hypersonic glide vehicles—or are we behind the curve relative to countries like Russia and China?

Admiral HARRIS. [Deleted.]

QUESTIONS SUBMITTED BY SENATOR MAZIE HIRONO

ADVANCES TO SPACE AND SATELLITE TECHNOLOGIES

45. Senator HIRONO. Admiral Harris, we continue to see rapid growth in both the commercial and government space sector. What additional ways can the DOD leverage the commercial sector capabilities in the space and imagery industry? Can Pacific Command benefit from access to commercial imagery?

Admiral HARRIS. USPACOM uses commercial imagery extensively today. During natural disasters, USPACOM relies almost exclusively on commercial imagery for comprehensive damage assessments for tactical responders, partner nations, and nongovernmental organizations. Additionally, USPACOM routinely uses commercial imagery to supplement government satellite and airborne collection. As new commercial imagery systems are fielded that provide greater revisit, larger area of coverage, and more diversity in sensor type, I believe USPACOM will benefit from access to the imagery. I'm very interested in any advances the commercial industry is making in high revisit and radar satellite capabilities; however, this data must be available to USPACOM through contract and must be accessible through imagery dissemination architectures.

46. Senator HIRONO. Admiral Harris, the Maui Space Surveillance Site combines operational satellite tracking facilities with a research and development capability. Can you talk about the importance of this facility to national security as well as the need to ensure that capabilities such as this are modernized to keep up with the ever changing threat picture?

Admiral HARRIS. [Deleted.]

UNITED STATES STRATEGIC POLICY TOWARD ASIA-PACIFIC

47. Senator HIRONO. Admiral Harris, a panel of Asian-Pacific experts testified before the Senate Armed Service Committee on the current state of United States policy in the region. The consensus from the group is that there is no current coherent, holistic strategy to address the region. What advice and recommendations would you give to President Trump when attempting to develop an Asia-Pacific Strategy?

Admiral HARRIS. Concerning the development of an Indo-Asia-Pacific Strategy, I am already providing my advice to the Secretary of Defense and Chairman of the Joint Chiefs of Staff. They, in turn, will advise the President. My responsibility is to ensure the President has a powerful, lethal, and ready military force in the Indo-Asia-Pacific in the event the other instruments of national power, specifically diplomatic and economic, fail. Russia and China specifically have assessed that they can “out cycle” the United States whole-of-government decision making cycle during competition short of armed conflict. During competition short of armed conflict, the U.S. military is a supporting effort. The U.S. military deters conventional and strategic attacks against the Homeland and our allies, and preserves freedom of access to the shared spaces. U.S. military actions provide the President with the opportunity to bring the instruments of our national power—diplomacy, information, and especially economics—into the competition. Only this will ultimately maintain United States primacy in the Indo-Asia-Pacific region and across the globe. Currently, we are competing with Russia and China with the military instrument alone in many ways, while the Chinese, especially, compete holistically with all the instruments of their national power. This is inversely reminiscent of the competition short of armed conflict that occurred during the Cold War between the United States and the Soviet Union, where the U.S. competed with all the instruments of national power for decades and prevailed. Ultimately, across the whole-of-government, we must acknowledge the existential dangers we face from China, Russia, and North Korea; convince the American people of these real dangers; and then fully commit our people and our resources totally toward winning this competition.

48. Senator HIRONO. Admiral Harris, would you agree that a strong United States presence in the Asia-Pacific plays a significant role in promoting the security and stability of the region and that any strategy should include a strong U.S. presence?

Admiral HARRIS. Yes, I wholeheartedly agree that a strong United States presence in the Indo-Asia-Pacific plays a significant role in promoting the security and sta-

bility of the region and that any strategy must include a strong United States presence in region. A strong U.S. military presence deters conventional and strategic attack against the U.S. Homeland, and assures our allies and partners of unwavering U.S. commitment. Regional stability and sustained access to the shared domains and space preserve the established international rules-based order and presents opportunities for the U.S. Government to holistically employ the main instruments of U.S. national power—diplomacy, information, and especially economics.

MISSILE DEFENSE IN HAWAII

49. Senator HIRONO. Admiral Harris, with the rising tensions with North Korea, how do you characterize the missile threat to the United States and our current defensive capabilities? You have previously supported operationalizing the Aegis Ashore site at PMRF as a possible solution to meet the North Korean missile threat. What are your current thoughts on the threat as well as the urgency to bolster our missile defense capabilities?

Admiral HARRIS. [Deleted.]

50. Senator HIRONO. Admiral Harris, the MDA is considering the development of a new discrimination radar (HDR-H) to enhance the defense of Hawaii against the North Korean missile threat. This would likely be a new acquisition program which might not be available until 2024. While more and larger sensors are always desirable, based on the current threat, should we be more focused on a near-term defense solution? What are your thoughts on leveraging existing assets to meet the current threat?

Admiral HARRIS. [Deleted.]

51. Senator HIRONO. Admiral Harris, Hawaii's unique location relative to the threat presents challenges from a defense perspective (cruise missiles, ICBMs, Sub-Launched Threats, Air Threats), what are the pros and cons of developing a radar to solely identify and track ICBM's versus a radar that is more multi-functional?

Admiral HARRIS. [Deleted.]

UNITED STATES POLICY TOWARD CHINA

52. Senator HIRONO. Admiral Harris, President Trump met with President Xi Jinping of China about reining in its ally North Korea. He stated publicly that the United States will act alone if China does not take action. In your opinion what is best strategic policy toward China?

Admiral HARRIS. While the United States and China share common interests toward denuclearization on the Korean peninsula, I do not believe China is doing all it can do to pressure North Korea to abandon its nuclear ambitions. I believe we must continue to communicate our concerns to China and call on it to exert its influence and stop Pyongyang's unprecedented campaign of nuclear weapons and ballistic missile tests. If China continues to support the North Korean regime economically and politically, then the United States must increase pressure on China to do more. Importantly, I believe we must, across the whole of our government, view China for what it is—a competitor of the United States Beijing certainly views us through this lens.

53. Senator HIRONO. Admiral Harris, the panel earlier this week proposed that the use FONOPS be delegated to you, the CMDR PACOM, without the requirement to seek guidance from SECDEF. How important are these exercises and what are your thoughts on the proposal to delegate?

Admiral HARRIS. The U.S. Freedom of Navigation Program is a whole-of-government effort to protect long-standing principles of freedom of navigation. The program involves both diplomatic and operational challenges to protest excessive maritime claims, wherever they occur. The Department of Defense maintains a comprehensive freedom of navigation operations (FONOPS) program that seeks to methodically challenge excessive maritime claims in order to preserve the rights, freedoms, and uses of the sea and airspace, guaranteed to all nations under international law. Since I report directly to SECDEF, delegation of Tier III FONOPS against China without direction or guidance from him would be problematic (he has delegated to me lesser Tier FONOPS, broadly). That said, I am pleased with the new approach to FONOPS of late, with less tactical involvement by the National Security Council staff—we are conducting these as a military operation under the direction of the SECDEF with broad, overarching guidance from the White House.

IMPORTANCE OF DIPLOMACY IN ASIA-PACIFIC REGION

54. Senator HIRONO. Admiral Harris, President Trump has publically stated that he intends to cut the budget at the Department of State by 37 percent. How would such a cut impact your ability to be successful in the Asia-Pacific Theater?

Admiral HARRIS. I believe it is vital that we continue to integrate our military efforts with the other instruments of national power—diplomatic, information, and economic initiatives. My staff works closely with the Department of State (DOS) to ensure our activities and messages are mutually reinforcing. The DOS's Foreign Military Financing (FMF) program is one of the more powerful engagement tools that we use to meet regional challenges, including border and maritime security issues, disaster response, and counterterrorism. The International Military Education and Training (IMET) program is critical to our efforts to identify and train future leaders and increase interoperability in the region. As I have said before, it's in America's interests to deepen our diplomacy in the Indo-Asia-Pacific region, while backing up peaceful resolution of disputes with undisputed, credible combat power.

55. Senator HIRONO. Admiral Harris, State Partnership Programs are an important part of our mil-to-mil relationships around the world. How would you assess their value in the Asia-Pacific theater and are there opportunities for establishing new relationships?

Admiral HARRIS. Highly valuable. The State Partnership Program (SPP) delivers quality, long lasting relationships and capability with partner nations in the Indo-Asia-Pacific region through consistent security cooperation engagements. The SPP helps partner nations' military and civilian organizations conduct security cooperation in ways that resonates well and effectively builds trust. The Indo-Asia-Pacific would benefit from the expansion of the SPP. Additionally, expanding SPP will advance USPACOM's Theater Campaign Plan objectives. Nepal, Sri Lanka, and Papua New Guinea (preferably as part of an Oceania Collective) are USPACOM's top three priorities for inclusion in the SPP.

RELATIONSHIP WITH ALLIES IN ASIA-PACIFIC REGION

56. Senator HIRONO. Admiral Harris, in the missile defense realm both Japan and Korea have Aegis equipped ships. Japan has spent a lot of capital developing the SM-3 Block II missiles. How can we use on mil-to-mil and other cooperative ventures to build stronger relationships with our allies?

Admiral HARRIS. One of the best ways is to improve the policy approval process timelines, especially associated with Foreign Military Sales of sophisticated U.S.-made military equipment to our high-end allies and partners. Many of them are daunted by our processes and therefore turn to other countries as sources for similar technologies. Technology release reviews, for example, negatively impact defense modernization acquisitions of our closest allies and strategic partners. Recent F-16 upgrade requests from Singapore, Indonesia, and Thailand have been subject to significant delays pending interagency technology release approvals and concessions. Similarly, the sale of Missile Technology Control Regime Category I Unmanned Aerial System (UAS) entails a "strong presumption of denial" for export. The recent year-long approval process for the sale of the SeaGuardian UAS to India demonstrates the difficulties in providing enhanced capabilities to a country we have designated a Major Defense Partner. India is the first country, outside of NATO and other treaty allies, for which the United States has overcome the strong presumption of denial. That said, provisos to the sale have compelled India to seek UAS solutions from competing nations like Israel.

SECURITY COOPERATION

57. Senator HIRONO. Admiral Harris, you mentioned in your written testimony that you have concerns with some of the changes to Security Cooperation authorities that were made in the fiscal year 2017 NDAA. Can you provide more detail on how those changes may affect the DOD counternarcotics programs in the USPACOM AOR and if you have any recommendations to improve the program?

Admiral HARRIS. The NDAA for Fiscal Year 2017 significantly altered the Department of Defense's (DOD) longstanding authority to provide counternarcotics (CN)-related support to foreign law enforcement agencies. These authorities were previously established in section 1004 of the fiscal year 1991 NDAA, as amended, and were codified by the fiscal year 2017 NDAA in 10 U.S.C. § 284 (counterdrug support to law enforcement) and 10 U.S.C. § 333 (training and equipping). While these changes expanded some of the authorities in limited situations, the majority of the changes have limited Joint Interagency Task Force (JIATF) West's ability to conduct

operations and activities—most significantly impacting training, operational flexibility and construction—previously conducted under the old authority. There are three significant challenges from this legislation: First, the law prohibits the use of DOD's dedicated counterdrug appropriation to fund capacity building efforts using the authorities under 10 U.S.C. § 333, and eliminates dedicated counterdrug capacity building authorities. This dedicated, stable funding stream has allowed JIATF West to develop long-term, measurable programmatic approaches over multiple years to develop strong relationships and build effective partners. These efforts have a demonstrable track record in developing capable forces to disrupt drug related transnational crime, and help to extend governance to under-governed areas. The transition of these efforts to an annual competition for scarce overall DOD security cooperation resources will likely result in less consistent performance from the CN program efforts, and diminishes the utility of the DOD CN program as an entree for DOD with non-traditional partners. This makes it more difficult to address non-traditional and asymmetric challenges in the theater. Second, the law requires Congressional notification and a 15-day review period for actions taken under 10 U.S.C. § 284. In cases where support is provided to foreign law enforcement, Secretary of State (SECSTATE) coordination is also required. For activities that are directly tied to law enforcement operations, such as providing aerial reconnaissance, a 15-day wait period, especially subsequent to the coordination requirement, would likely render such support untimely and useless. Under this requirement, by the time a USPACOM asset, such as a maritime patrol aircraft, could be authorized to deploy, it would no longer be useful. Third, previous authority for construction of bases of operation to support counterdrug operations was capped at \$3 million. This limit was sufficient to allow construction of remote outposts in logistically challenging locations and to expand the operational reach of partner nation security forces in under-governed areas like the Sulu Sea. 10 U.S.C. § 284, however, lowers the cap for construction authority to \$750,000. The lower cap will still allow for smaller projects like training range improvements, which are useful and will continue to be done; however, it is insufficient to help push security forces into difficult to reach areas, which is extremely useful for improving the overall security and stability in the theater, and is at least as important as developing sustainable training facilities. Recommendations to address each of these areas are as follows: Specifically authorize the Drug Interdiction and Counterdrug Activities Defense Appropriation to be used when conducting CN activities under Title 10 U.S.C. Chapter 16, including § 333. Eliminate the requirement for SECSTATE coordination and Congressional notification for tactical support provided under § 284. Raise the construction limit under § 284 to the unspecified minor military construction threshold (currently \$3 million).

EAGLE VISION

58. Senator HIRONO. Admiral Harris, Eagle Vision is a system operated by the Hawaii Air National Guard and several other units around the country and overseas. It has proven to be a valuable resource in working with our friends and allies in military exercises as well as humanitarian assistance and disaster relief efforts. As a combatant commander in a theater filled with allies as well as the conditions and potential for a variety of natural disasters, what are your thoughts on the importance of systems such as this which can be used to work with our allies and assist others in times of need?

Admiral HARRIS. Eagle Vision is a very capable, mobile imagery system that has been proven in the field and has been quite reliable. Most recently, we deployed Eagle Vision to the Philippines in support of U.S. Pacific Air Forces' (PACAF) Bilateral Air Component Exchange (BACE) program with the Philippines. PACAF and Air National Guard members assisted the Philippine government with training on how to task and employ commercial imagery in response to Humanitarian Assistance/ Disaster Relief (HA/DR) operations as well as tasking for imagery of the Spratly Islands. During natural disasters, USPACOM relies almost exclusively on commercial imagery to provide comprehensive damage assessments to tactical responders, partner nations, and nongovernmental organizations. USPACOM's primary source for commercial imagery is through the National Geospatial Intelligence Agency consolidated imagery dissemination architecture. This architecture allows for rapid dissemination of commercial imagery to the headquarters as well as tactical forces. During most HA/DR operations, USPACOM provides imagery support from garrison, sending annotated products forward as needed. In the event of a large scale disaster, USPACOM may require a forward based commercial imagery

dissemination and production capability to which deploying Eagle Vision would be an option.

QUESTIONS SUBMITTED BY SENATOR MARTIN HEINRICH

IMPACT OF A PREEMPTIVE STRIKE ON NORTH KOREA

59. Senator HEINRICH. Admiral Harris, there has been speculation that the United States may conduct a preemptive strike against North Korean launch facilities or nuclear infrastructure. Can you talk about what kind of military response that we and our allies could expect from North Korea in the event of a preemptive military strike?

Admiral HARRIS. [Deleted.]

60. Senator HEINRICH. Admiral Harris, what are the costs and risks associated with that decision and what could our allies South Korea and Japan expect?

Admiral HARRIS. [Deleted.]

COMMERCIAL REMOTE SENSING SATELLITE PROVIDERS

61. Senator HEINRICH. Admiral Harris, in response to a question at the hearing about intelligence, surveillance and reconnaissance, you state: "I don't have the ability to persistently watch my adversaries all over the Indo-Asia Pacific, over half the globe, 24/7. I need it 24/7. I need it whatever 60 times 24 hours is. I need it that minute by minute . . . I probably have a 10th of my requirements that are fulfilled." There has been a growth in U.S.-based commercial remote sensing satellite providers in the past few years. These companies offer new capabilities for breadth of coverage and revisit rates for overhead satellite imagery, with new companies projected to significantly increase the total number of satellites operating in orbit providing persistent coverage. Can Pacific Command benefit from access to this new imagery?

Admiral HARRIS. [Deleted.]

62. Senator HEINRICH. Admiral Harris, have you had experience working with any of these new providers?

Admiral HARRIS. USPACOM is increasing its use of commercial remote sensing products every year as the tasking and delivery mechanisms improve timeliness. Through the National Geospatial-Intelligence Agency (NGA), USPACOM has access to electro-optical imagery from U.S. companies such as Digital Globe who provide imaging from the World View and GeoEye electro-optical satellites, and synthetic aperture radar imagery (SAR) from foreign companies such as Radarsat (Canada), Cosmo/Sky Med (Italy), and TerraSAR-X (Germany). Foreign electro-optical imaging can be provided by Spot (France). These commercial images are particularly useful in humanitarian assistance/disaster response (HA/DR) support because the imagery is unclassified, allowing us to release it to non-governmental organizations and foreign nations. Commercial imagery can also be used to fill in collection gaps for areas difficult to collect with National Technical Means due to collection competition, and also to augment National Technical Means in providing coverage persistence over high value targets. The commercial electro-optical imagery our analysts receive is outstanding and the quality continues to improve.

63. Senator HEINRICH. Admiral Harris, whose responsibility is it to make sure you have access to these new sources?

Admiral HARRIS. The National Geospatial-Intelligence Agency (NGA) maintains the contracts to purchase U.S. and international commercial imagery and then to make it available for users via their Geospatial Intelligence Library Architecture. Existing commercial imagery can be discovered and accessed through NGA's Net-centric Geospatial-Intelligence Discovery Services (NGDS) on both classified and unclassified networks. New collection requirements are coordinated with NGA via USPACOM's Joint Intelligence Operations Center (JIOC). The collection management team within the USPACOM JIOC will then register these requirements through NGA collection management tools on either network.

COUNTER ROCKET, ARTILLERY AND MORTAR

64. Senator HEINRICH. Admiral Harris, during the hearing you repeatedly answered that there is no defense against the thousands of rockets, artillery, and mortar rounds from North Korea. In the past several years, there have been significant advances in directed energy weapon systems including high energy lasers that have

been tested at White Sands Missile Range and elsewhere and successfully engaged dozens of artillery and mortar rounds. How could a low-cost per shot C-RAM weapon system with infinite magazine capacity and precision targeting contribute to your mission?

Admiral HARRIS. [Deleted.]

65. Senator HEINRICH. Admiral Harris, do you believe that directed energy weapon systems are a solution that could help fill the capability gap against RAM that you face on the Korean peninsula?

Admiral HARRIS. [Deleted.]

66. Senator HEINRICH. Admiral Harris, if so, as a combatant commander, would you consider submitting a UONS or JUONS for this capability?

Admiral HARRIS. Yes. I would consider all viable options that would expedite the fielding of a capability to deter, disrupt, and if required, defeat adversary activities against the United States, allies, and partners in the Indo-Asia-Pacific region.

QUESTIONS SUBMITTED BY SENATOR ELIZABETH WARREN

INVESTMENT IN U.S. RESEARCH AND DEVELOPMENT

67. Senator WARREN. Admiral Harris, last year, the Department reported that China is investing heavily in R&D, including in “applied physics, material science, high performance computing, innovative electronics/software development, electro-optics, aerospace technology, automation/robotics, high-energy physics, and nanoscience, just to name a few.”

Admiral Harris, would we improve our chances of maintaining future superiority over China if we increase our R&D investments in similar advanced technologies?

Admiral HARRIS. Yes. Our chances of maintaining future superiority over China would be improved with increased research and development investments. USPACOM partners with DOD-wide organizations, national laboratories, and industry to provide innovative solutions to fill capability requirements against continually evolving threats. Specifically, I am supportive of research and development in the areas of hypersonic weapons (defensive and offensive), as well as artificial intelligence, machine learning, large data analytics, and predictive forecasting to enable our warfighters to make better informed decisions and confront the challenges of our near-peer adversaries. While I believe that American technological superiority is one of our asymmetric advantages over China, Beijing also understands this and clearly sees this as a gap they must close if they are to realize their out-sized ambitions.

68. Senator WARREN. Admiral Harris, what specific areas of technology or research do you believe hold the most promise in the Pacific theater?

Admiral HARRIS. We must strengthen our abilities to counter strategies designed to limit our freedom of action and we must preserve our asymmetric advantages in undersea and anti-submarine warfare. Our near peer adversaries continue to modernize their weapon systems and are quickly closing the gap between us. Advanced weapon technologies such as hypersonic weapons are vital to help counter the tyranny of distance and anti-access/area denial demands in the Indo-Asia-Pacific region. We need systems that are fast, long-range, lethal, survivable, networked, rapidly deployable, and maneuverable. Priorities include long-range and stand-off strike weapons, anti-ship weapons, advance air-to-air munitions, theater ballistic/cruise missile defense, torpedoes, naval mines, and a cluster munitions replacement.

CLIMATE CHANGE

69. Senator WARREN. Admiral Harris, a Defense Department report from 2 years ago observed: “Global climate change will have wide-ranging implications for U.S. national security interests over the foreseeable future because it will aggravate existing problems—such as poverty, social tensions, environmental degradation, ineffectual leadership, and weak political institutions[.]” In short, this DOD report described climate change as “a threat multiplier.”

Senator WARREN. Admiral Harris, do you agree with this assessment?

Admiral HARRIS. Yes. Our current and future operational plans, for both steady state and conflict, must continue to consider climate change impacts.

70. Senator WARREN. Admiral Harris, how are you integrating climate change risks into your plans and operations for the Asia-Pacific region?

Admiral HARRIS. USPACOM integrates climate change risks as outlined in the “All Hazards” Line of Effort in the USPACOM Theater Campaign Plan (TCP). Our focus here is two-fold. First, we must be ready to respond to natural disasters throughout the broad Indo-Asia-Pacific region. Second, our forces must take into consideration sustainable resource management and critical resource security. USPACOM coordinates these efforts with a variety of interagency partners, including the Office of United States Foreign Disaster Assistance and other USAID entities, the Department of State, the Department of Homeland Security, and the Department of the Interior. This interagency coordination effort helps USPACOM in a number of key operational areas: crisis and contingency planning; protection of vulnerable populations in support of counter-terrorism efforts; pandemic and infectious disease prevention; as well as humanitarian assistance/disaster response. USPACOM is also developing partnerships focused on building the overall resilience of the State of Hawaii and nesting the resilience of USPACOM installations within that framework. A recent example of our efforts was in May 2017 when USPACOM hosted the seventh annual Pacific Environmental Security Forum in Alaska. This forum seeks to develop foreign nation capacity in several environmental security areas through combined projects within the USPACOM area of responsibility. Sessions on project concept development were followed by three days of discussions on the Department of Defense Climate Change Adaption Roadmap, the protection of commons in a civilian-military context, and military environmental programs. The 2016 forum was co-hosted by Fiji and the 2018 forum will be co-hosted by Mongolia. These forums provide opportunities for the U.S. and our international partners to identify risks and vulnerabilities from the effects of climate change, resource scarcity concerns, as well as other environmental challenges, and to find areas for collaboration to address these vulnerabilities toward securing regional stability.

PERSISTENT, LONG-RANGE ISR

71. Senator WARREN. Admiral Harris, in your testimony before SASC last year, you said that “the Indo-Asia-Pacific presents a dynamic security environment requiring flexible, reliable, survivable deep-look and persistent ISR to provide indications and warning and situation awareness across a vast geographic area.” Do you still agree with this statement?

Admiral HARRIS. Yes. USPACOM’s intelligence, surveillance, and reconnaissance (ISR) requirements have grown significantly, and become even more important over the past year. I fully expect these requirements will continue to increase as China’s military grows in both size and capability, and as North Korea aggressively advances its missile and nuclear programs. The actions of both China and North Korea threaten peace and stability in the region and present serious challenges to U.S. interests. In addition to my requirement to continuously monitor China and North Korea, I must also maintain awareness on resurgent Russian military activity in the Indo-Asia-Pacific, along with a growing threat from Violent Extremist Organizations. While the requirements have grown exponentially, the ISR capabilities and capacity within USPACOM have essentially remained the same.

72. Senator WARREN. Admiral Harris, in its Integrated Priority List, PACOM identified ISR gaps, which if addressed would better support Pacific theater exercises and maritime operations. In this context, how important are long-range surveillance capabilities in the Pacific, particularly in light of China’s deployment of long range surface to air missile systems?

Admiral HARRIS. [Deleted.]

73. Senator WARREN. Admiral Harris, are you concerned about our ability to meet current and future ISR requirements in light of this threat?

Admiral HARRIS. [Deleted.]

74. Senator WARREN. Admiral Harris, do you have the budget and authority necessary to expedite fielding of capabilities to meet these needs, and if not, what do you require in order to be able to do so?

Admiral HARRIS. No, I do not have the budget or the authority to expedite fielding of capabilities to meet persistent, long-range intelligence, surveillance, and reconnaissance (ISR) needs. The Services are responsible for funding and fielding these capabilities. Persistent, long-range ISR was identified as deficient within my area of responsibility and was prioritized within my Integrated Priority List (IPL) for fiscal year 2019–2023. I will review the full-range of IPL concerns and submitting issue nominations during Program Budget Review 2019 to address these issues.

75. Senator WARREN. Admiral Harris, is PACOM currently conducting any ISR-related demonstrations and experimentation of long range multi-spectral imaging systems; if not, do you have plans to do so or what would be required to allow you to do so?

Admiral HARRIS. [Deleted.]

**DEPARTMENT OF DEFENSE AUTHORIZATION
FOR APPROPRIATIONS FOR FISCAL YEAR
2018 AND THE FUTURE YEARS DEFENSE
PROGRAM**

TUESDAY, MAY 2, 2017

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

UNITED STATES TRANSPORTATION COMMAND

The committee met, pursuant to notice, at 9:31 a.m. in Room SD-G50, Dirksen Senate Office Building, Senator John McCain (chairman of the committee) presiding.

Committee members present: Senators McCain, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Cruz, Sasse, Strange, Reed, Nelson, McCaskill, Shaheen, Gillibrand, Blumenthal, Donnelly, Hirono, Kaine, King, Heinrich, Warren, and Peters.

OPENING STATEMENT OF SENATOR JOHN MCCAIN, CHAIRMAN

Chairman MCCAIN. Good morning. The Senate Armed Services Committee meets today to receive testimony from General Darren McDew on the posture of the United States Transportation Command [TRANSCOM].

TRANSCOM is more than just a functional command that moves personnel and materiel from place to place. It is a crucial asset on which our military's global power projection depends and one we must not take for granted.

As General Patton once said, "The officer who doesn't know his communications and his supply as well as his tactics is totally useless."

General McDew and his predecessors have warned Congress for years that the proliferation of anti-access/area denial capabilities pose significant challenges for our transportation and distribution networks in contested environments.

Put simply, any assumption that TRANSCOM will have uncontested access to international airspace and sea lanes in a future conflict is increasingly outdated.

Transport ships and aircraft can be held at risk over greater and greater distances. Our logistic networks are centered on large air and sea ports, which serve as efficient hubs, but are also vulnerable to attack. Then there are threats on the digital battlefield.

Even as cyber intrusions have become increasingly prevalent, nearly 90 percent of TRANSCOM's missions are still executed over unclassified commercial communication networks. This vulnerability extends operational risk to every single combatant command that TRANSCOM supports on a daily basis.

This committee understands that efforts are currently underway to develop an overarching global plan that would articulate how TRANSCOM would operate in a contested environment, whether that be in the air, at sea, or in cyberspace.

General, I look forward to an update on this plan today and ask that you provide as many details as possible as to preliminary findings of this effort.

I also hope you can discuss TRANSCOM's inaugural wargame, which took place last fall and examined mobility and distribution operations in a contested environment. Too often, operational wargames focus exclusively on combat capability and take combat logistics as a given. Combat capability is obviously important, but it does not matter much if it never arrives to the fight or cannot be sustained once it does. I look forward to hearing the lessons learned in TRANSCOM's wargame.

General McDew, it has been almost 2 years since your confirmation hearing before this committee, and I am looking forward to hearing the steps you have taken to address some of our shared concerns and what more needs to be done. In particular, this committee understands the readiness and modernization challenges across the Department of Defense also affect TRANSCOM.

A look at sealift, for example, reveals the same downward spiral we have seen elsewhere in the military. Budget cuts mean fewer new ships. Existing ships get older. Maintenance gets more expensive and more difficult. Readiness suffers. More money is siphoned from future modernization to pay for current readiness.

Military Sealift Command's organic surge sealift fleet is essential for rapid response in the event of a crisis or wartime scenario. But the average age of ships in our surge fleet is now 39 years. Over a recent 5-month period, less than 60 percent of sealift ships were able to activate during planned exercises due to various maintenance problems.

The requirement for so-called roll-on/roll-off ships has been relatively stable since the 1990s. But since Desert Storm, the surge sealift fleet has been cut nearly in half to just 27 ships. We are already 10 ships short of the current requirement, enough to move two full armor brigade combat teams. Over the next 6 years, another nine will age out.

So while I look forward to hearing how TRANSCOM plans to address its readiness and modernization challenges, I do so fully aware that it cannot truly do so unless we in the Congress step up and do our jobs, repeal the Budget Control Act, and provide full and steady funding to meet our national security requirements.

General McDew, the committee thanks you for your continued service to the Nation, we look forward to your testimony today.

Senator Reed?

STATEMENT OF SENATOR JACK REED

Senator REED. Thank you very much, Mr. Chairman.

Welcome, General McDew, to the committee for your testimony. Thank you for your service and the service of all of the men and women of TRANSCOM. We are knowledgeable and appreciative of the critical role that TRANSCOM plays, and thank you for your leadership.

The work of TRANSCOM may be invisible to many, but it is critical because it delivers what our forward-deployed personnel need when they need it. While TRANSCOM performs thousands of operations successfully, it is facing a number of daunting challenges. While all the military works to respond to potential and actual cyberattacks, TRANSCOM faces a unique set of cyberthreats because it must work with private sector entities in the transportation and shipping industries to support DOD [Department of Defense] deployment operations.

Three years ago, the committee issued a report on certain aspects of the TRANSCOM cybersecurity situation. General McDew, we would like to hear what steps you have taken to respond to the issues identified in that report and any others you may have identified since you assumed command.

The Ready Reserve Force, a group of cargo ships held in readiness by the Maritime Administration, is aging and will need to be modernized over the next decade, as the chairman pointed out eloquently.

DOD also needs to ensure that the Civil Reserve Air Fleet, or CRAF, program, which provides as much as 40 percent of wartime airlift needs, remains viable after operations in Iraq and Afghanistan, and will be able to provide needed surge capacity in the future. I would appreciate an update on how TRANSCOM intends to ensure these fleets are ready to meet the command's requirements.

Our global transportation capability, owned and managed by TRANSCOM, has been one of our asymmetric advantages for many years now. However, we cannot assume that potential adversaries will allow us free rein in this area in the future.

General McDew, as you said in your prepared statement about future conflicts, we expect contested global sea lanes and air routes to a degree we have not faced since World War II. We are interested in hearing how you are addressing the growing reality that the access you enjoy now may be increasingly challenged.

General McDew, thank you again for your service, and I look forward to your testimony.

Chairman MCCAIN. Welcome, General.

**STATEMENT OF GENERAL DARREN W. McDEW, USAF,
COMMANDER, UNITED STATES TRANSPORTATION COMMAND**

General McDEW. Thank you very much, Chairman. I am glad that you pointed out that it has been 2 years since I have been here. I have a quick opening statement, but I would like to say that my daughter-in-law has forgiven you.

If you remember, 2 years ago, I sat here and I had a chance to introduce my family. Over my left shoulder was my brand-new grandson, Henry. Henry was a bit of a rotund child at about 6 months old, and you pointed out that he had not missed many meals.

[Laughter.]

General MCDEW. Most of us got a chuckle. My daughter-in-law did not get a chuckle from that.

Chairman MCCAIN. Please ask her to accept my apologies. It is a beautiful grandchild.

[Laughter.]

Chairman MCCAIN. Oops.

General MCDEW. But it is now part of the Congressional Record.

[Laughter.]

General MCDEW. Chairman McCain, Ranking Member Reed, and distinguished members of the committee, it is an honor and a privilege to be with you here today representing the men and women of our United States Transportation Command. I thank you for your continued support of our dedicated professionals, all working together to provide our Nation with a broad range of strategic capabilities and options.

I also want to emphasize the vital role our commercial industry plays, what I call our fourth component in our success.

It is worth noting yesterday was the 30th anniversary of USTRANSCOM's core staff standing up at Scott Air Force Base, and we have been going strong ever since, 30 years of history.

I can say confidently that your United States Transportation Command stands ready to deliver our Nation's objectives anywhere at any time. We do this in two ways. We can provide an immediate force tonight through the use of airlift and air refueling fleets. We can provide a decisive force, a decisive force when needed through the use of strategic sealift and surface assets. You see it every time you read or hear the news.

When North Korea increased its provocation of our Pacific allies, America responded with assistance. USTRANSCOM delivered that assistance in the form of missile defense systems, personnel, and support equipment, moving by sea and air 3,000 miles across the Pacific Ocean.

When you read about America's brigade combat teams rolling through Europe, it was USTRANSCOM's ability to provide a decisive force to reassure European allies.

When America needed B-2 stealth bombers to fly 11,000 miles from Missouri to Libya and back, it was our air refuelers that got them there.

From national disasters to epidemics to acts of war, the men and women of USTRANSCOM are ready to deliver this Nation's aid, assistance, and, indeed, hope to the world. These missions must execute without fail.

All the while, these great professionals quietly manage a myriad of daily tasks around the globe, most of which Americans will never read about. It takes diligence, skill, and innovation to provide that kind of readiness for America, and the men and women of USTRANSCOM have never let us down. I am proud to serve next to them, and I say with confidence that our organization is ready to respond when our Nation calls.

That confidence, however, is not without concern. The environment we operate in today is increasingly complex, and we expect future adversaries will be all the more versatile and dynamic, forcing us to adapt, change, and evolve.

Furthermore, we are viewing potential adversaries through a transregional, multidomain, and multifunctional lens. Properly understanding the potential threats posed by China, Russia, Iran, and North Korea, as well as violent extremists, in a global context is of utmost concern for our future national security. In each of these scenarios, logistics plays a critical but often overlooked role.

Today, USTRANSCOM is critically examining how we execute our logistics mission in the contested environments of the future, a space we have not had to operate in logistically speaking for a very, very long time. We are exercising and wargaming these logistic scenario, forcing planners of every ilk to account for transportation's vital role and for, for the first time, potential loss.

Earlier this year, USTRANSCOM held its first-ever contested environment wargame, imagining a scenario where we did not dominate the skies or own the seas. This wargame uncovered a surprising amount of lessons learned, which we have already started to absorb. We have adapted our tactics, techniques, and procedures accordingly, but we still have work to do.

I am also concerned about our national strategic sealift capability. Any further delay to the recapitalization of our military sealift fleet creates risk in our future ability to deploy forces across the globe.

These concerns are compounded further by Merchant Marine shortages and the reduction of U.S.-flagged vessels.

With today's resources, we are capable of meeting today's logistics needs. However, if we, together, do not take action soon, many of our Military Sealift Command vessels will begin to age out by 2026. A significant portion of the DOD's wartime cargo capability moves on these ships.

As a bridging solution, and with your approval, we can purchase used ships until we can build new ones ourselves. This will not solve the problem forever, and we will need your help for all of it.

My final concern is the threat of attack from the cyber domain. Although cybersecurity is a DOD-wide focus area, USTRANSCOM is distinctly vulnerable because the majority of the command's transportation data resides within and travels through the unsecure commercial Internet. Furthermore, unsecure networks and systems of our commercial transportation service providers coupled with critical infrastructure requirements almost wholly reside outside of our control.

In light of these challenges, USTRANSCOM is focusing our cyber efforts on discipline, design, and defense, in order to ensure we continue to accomplish our mission. The command is collaborating with U.S. Cyber Command, DOD agencies, Federal cyber organizations, industry, and academia to identify and mitigate gaps and shortfalls, as well as to seize opportunities to advance our cyber resilience and improve mission assurance.

I thank you again, Chairman McCain and Ranking Member Reed and the members of the committee, for inviting me to speak to you today to represent this 30-year-old command, USTRANSCOM. Our TRANSCOM team will continue to provide joint solutions to ensure our Nation is able to deliver an immediate force tonight and a decisive force when needed anywhere in the world.

I respectfully request my written testimony be submitted for the record, and I look forward to your questions.

[The prepared statement of General McDew follows:]

PREPARED STATEMENT BY GENERAL DARREN W. McDEW

INTRODUCTION

The United States Transportation Command (USTRANSCOM) delivers National objectives on behalf of the United States, and has proudly done so for nearly three decades. As we near our 30th anniversary, we stand ready to deliver an immediate force through our airlift and air refueling assets or a decisive force with our strategic sealift assets when and where needed. Our delivery of these forces assures an unparalleled global expeditionary capability and gives our Nation options when needing to respond to a variety of crises. Ultimately, this unmatched capability extends a helping hand or projects combat power anywhere, at any time and provides a key strategic advantage for our Nation. We must continue to invest in and preserve our edge. Our ability to sustain strategic power projection is challenged on several fronts by potential adversaries growing ever more capable. However, we continue to look forward and innovate as we face challenges, uncertainties, risks, and complex demands placed upon the unique capabilities we provide daily to our Nation.

MISSION

USTRANSCOM delivers full-spectrum global mobility solutions supporting our Nation's requirements in peace and war. In the simplest terms, we provide viable national security options to the National Command Authorities. Those options range from immediate humanitarian or combat deliveries by our airlift and air refueling fleets, to the global delivery of the Nation's decisive combat power via our strategic sealift fleet. While ensuring the readiness and availability of these options on a daily basis, the command also leads the Joint logistics enterprise which is the foundation on which every other Department of Defense capability rides.

Although transportation remains USTRANSCOM's core competency, our span of influence extends from the source of supply, through each segment of the DOD supply chain to any designated point of need. Through logistics enterprise forums, the Services, Combatant Commands, DOD interagency partners and commercial providers, we continue to collaborate with logistics leaders in order to better identify, prioritize, and close capability gaps within the enterprise. Since 2009, these efforts have resulted in efficiencies and cost avoidances for the DOD distribution supply chain of nearly \$1.6 billion, which translates to more buying power for the Services.

In addition to our primary mission of providing full-spectrum global mobility solutions, our subordinate command, the Joint Enabling Capabilities Command (JECC), provides decisive, rapidly deployable joint command and control capabilities. By doing so, they assist in the initial establishment, organization, and operation of joint force headquarters.

The JECC is a unique Total Force joint organization that delivers highly effective, cost efficient, joint planning, public affairs, and communications capabilities to all combatant commanders. This Subordinate Command is alert-postured to respond across the full range of military operations. They routinely deliver high-impact mission-specific teams of experts who produce executable solutions for emergent global crises. In fact, they provided more than 40,000 man-days of support that touched every combatant command in 2016; notably providing key Joint Task Force staff and planning expertise within 72 hours to assist Southern Command in responding to Hurricane Matthew. In addition, the JECC's robust support to the Chairman of the Joint Chiefs of Staff Combatant Command Exercise and Training program improved our National proficiency, knowledge, preparation, and response to emergent events.

The JECC continues to have significant forces deployed in support of missions around the globe, including direct support to ongoing counterterrorism operations in Iraq and Afghanistan. Their ability to deliver highly effective joint planning, public affairs, and communications capabilities have enabled better integration of DOD, U.S. Government, and partner responses to strategic challenges in every part of the world.

OPERATING ENVIRONMENT

Today's diverse global security environment is dramatically different and more complex than the one we operated in for the last 30 years. China, Russia, Iran, North Korea, and violent extremist organizations continue to challenge us in new ways, ultimately demanding new and innovative solutions. As we look to the future, we expect trans-regional, multi-domain, and multi-functional conflicts will define our future operating environment. A global view is essential in such conflicts. Fortunately, USTRANSCOM has operated globally every day since its inception.

We also expect that future conflicts will cross regional boundaries and potential adversaries and peer competitors will field numerically superior forces with near-technological parity. Those adversaries are aware the United States has become accustomed to geographically-isolated conflicts and enjoyed technological superiority over its adversaries, so we expect contested global sea lanes and air routes to a degree we have not faced since World War II. Potential adversaries seek asymmetric means to cripple our force projection and sustainment capabilities by targeting critical military and civilian assets, both within the U.S. and abroad. Additionally, our enemies continue to use our dependence on the cyber domain against us. With those challenges in mind, every soldier, sailor, marine, airman, Coast Guardsman and Department of Defense (DOD) Civilian of USTRANSCOM and its Component and Subordinate Commands recognizes it is our duty to ensure the Command remains postured to operate in such an environment and effectively answer the Nation's call, should it come.

OUR APPROACH

To effectively operate in that future environment, we are focused on four priorities: ensuring readiness today while advocating for future capabilities, advancing our capabilities in the cyber domain, evolving the command for tomorrow, and championing an innovative, diverse, and agile workforce.

In prioritizing today's readiness while keeping an eye toward future capabilities, we are advocating for the right mix of personnel, platforms, systems and training to ensure we can provide the global transportation and logistics capabilities our Nation requires. By making the right investments today in enhancements for our air, sea and surface fleets, we will ensure USTRANSCOM delivers the Nation's objectives tomorrow. Through this pursuit, we posture to meet the full range of Unified Command Plan roles and missions in current and emerging trans-regional transportation, logistics, and patient movement requirements.

Improving our cyber defense allows USTRANSCOM to operate freely and effectively. We continue to broaden our scope to actively evaluate and mitigate our command and control, weapon system, and infrastructure vulnerabilities, while identifying and advocating for the critical capabilities, policies, and procedures that ensure mission accomplishment.

As a global Combatant Command charged with delivering national objectives in tomorrow's dynamic security environment, we must challenge our assumptions, accurately forecast trends that shape that future environment, and develop the technologies and ideas that maintain our Nation's competitive advantage. In our pursuit to continuously evolve for tomorrow, we established a relationship with the Defense Innovation Unit Experimental to expedite the implementation of logistics- and cyber-based technologies such as commercial cloud-based technologies which can provide Infrastructure-as-a-Service, Platform-as-a-Service, and Software-as-a-Service offerings to host USTRANSCOM's unique applications. These and other initiatives will increase our responsiveness, agility, efficiency, and operational processes, while enhancing transparency with our customers and positioning us ahead of emerging challenges and threats.

Finally, our approach recognizes USTRANSCOM requires a talent rich, diverse, creative, adaptive, and innovative workforce to survive today and thrive in tomorrow's dynamic environment. We will create this workforce by recruiting, developing, and retaining the best talent America has to offer. We recognize that doing so requires us to remove cultural, procedural, and policy barriers along the way such as significant civilian hiring reform. We appreciate the attention Congress has placed on this issue with the recent passage of legislation in the 2017 NDAA creating a streamlined civilian on-campus recruiting authority, fast tracking the ability to hire talented personnel for critical positions in an ever-more competitive marketplace. Initiatives improving the speed at which talent can be hired, and opening aperture to additional fast-tracked hiring authorities and policy flexibility, ensures better access to streams of talent benefitting USTRANSCOM.

STATE OF OUR READINESS

Without reservation, USTRANSCOM stands ready to deliver on behalf of the Nation today. However, as our approach to the future operating environment indicates, there are challenges that demand our attention to ensure our readiness is never called into question. These challenges fall into the following broad categories: airlift and air refueling, sealift, surface, budget, and workforce issues.

Airlift/Aerial Refueling

Air Mobility Command (AMC), a Component Command of USTRANSCOM, provides an incredible capability to our Nation and the world. As one Total Force team with commercial partners, AMC provides airlift, aerial refueling, air mobility support, and aeromedical evacuation around the globe, supporting eight combatant commands while operating in 23 countries.

On average, tankers are conducting aerial refueling operations every 5 minutes over the skies of Iraq and Afghanistan. Additionally, AMC refuels fighter squadrons across the Pacific Ocean to ensure a constant presence throughout the Pacific and refuels nearly all of our North Atlantic Treaty Organization allies during operations and exercises around the globe. Yet the scarcity of forces and their current distribution, coupled with the high operations tempo placed upon them, comes at a cost to the health of the KC-10 and KC-135 fleets.

Currently, the KC-46A program is on track to deliver 179 aircraft by 2028, which will enhance operational agility. The delivery of these aircraft over the next few years remains a critical investment to ensure we can continuously project power around the world, whether in support of humanitarian relief missions or combat operations.

The delivery of the KC-46A alone, however, will not address present concerns with the allocation and distribution of the global tanker fleet. For example, since 2011, the authority of the USTRANSCOM commander to manage tankers globally has been constrained by congressional language prohibiting changes to command and control of scarce KC-135 forces. As global tanker requirements continue to expand, we are seeing more cases where the requirements of a given combatant command are in competition with others. At the same time, we recognize a trans-regional, multi-domain, and multi-functional operating environment combined with proliferating anti-access and aerial denial threats will only place greater strain on the air refueling force. Although we continue to work closely with AMC and the Joint Staff to mitigate the effects on the global tanker fleet, the restriction in place since 2011 continues to limit the USTRANSCOM commander's ability to exercise operational control of high demand Pacific and European tanker forces necessary to meet global and national defense requirements.

Also key to air mobility are our airlift assets and the additional capabilities commercial industry brings to the fight. For our part, the C-17 and C-5 continue to provide strategic airlift the world over while our C-130s meet tactical airlift needs in every region of the globe. We are seeing stress on the strategic airlift fleets and have some concerns about hard choices that have been made to close Active Duty C-17 squadrons with an eye toward buying that capability back in the Reserve component. While both components are capable, maintaining the right balance is critical so we do not create a situation where mobilization is needed for every new mission that might arise.

On the commercial airlift side, our Civil Reserve Air Fleet (CRAF) partners commit aircraft to augment DOD airlift during contingencies and/or emergencies in exchange for government airlift business while also providing commercial airlift services to DOD during peacetime. USTRANSCOM closely coordinates with the Department of Transportation (DOT) in administering the CRAF program. This steadfast relationship has historically provided lift for roughly 40 percent of all DOD air cargo and 90 percent of all passenger movements in direct support of our warfighters. Our 24 CRAF carriers remain ready to support DOD readiness requirements with cargo and passenger support worldwide and we will continue to rely on viable and healthy CRAF program in the future. To ensure the relationship with our CRAF partners remains robust, we've begun contracting with them based on early demand signals, allowing us to move workload to them which would have otherwise been handled by our organic aircraft. This has the dual benefit of providing additional workload to our CRAF partners while also reducing flying hours in our organic fleet.

Sealift

Historically, nearly 90 percent of wartime transportation requirements are delivered through strategic organic and U.S. flagged commercial sealift. In fact, our strategic sealift fleet provides the ability to deliver a decisive force over great distances. Our U.S. Navy component, the Military Sealift Command (MSC), provides sealift ca-

pabilities through ship chartering, prepositioning, and sustainment operations while also executing operational command over the Maritime Administration's (MARAD) Ready Reserve Force ships during contingencies. Without a healthy and viable U.S. Commercial Sealift Fleet, MSC Surge Fleet, and MARAD's Ready Reserve Force, our Nation's military may not be able to deploy as quickly and efficiently as it can today.

The National Security Directive on Sealift and the Sealift Emergency Response Programs provide assured access to U.S. flagged commercial sealift assets, Merchant Mariners, and the global intermodal capability required to augment government owned (organic) sealift capabilities during contingencies. This assured access is provided via the Voluntary Intermodal Sealift Agreement (VISA) which ultimately ensures the U.S. maintains its capability to meet sealift requirements in peace, crisis, or war. The VISA program provides a responsive transition from peace to contingency operations through pre-coordinated agreements for U.S. flagged commercial sealift capacity and systems to support DOD's contingency sealift needs. It allows USTRANSCOM to meet mobilization requirements in a rapid fashion.

At the core of the VISA vessels are our Maritime Security Program (MSP) partners, who are essential to our wartime U.S. commercial sealift capability, and all are participants Sealift Emergency Response Programs. Over time, MSP has provided access to required commercial U.S. flag shipping assets, while also supporting the pool of Merchant Mariners needed to operate MSC's Surge and Ready Reserve Fleet. In this way, the MSP significantly contributes to the supply of Merchant Mariners available to serve on U.S. vessels in time of war while mitigating future risk to our national commercial capacity.

Along with MSP, The Merchant Marine Act of 1920, also known as the Jones Act, provides an additional pool of trained Merchant Mariners and sealift capacity. It does this, and contributes to national defense, by subsidizing a robust, domestic, maritime industry including U.S. industrial shipyard infrastructure for building, repairing, and overhauling U.S. vessels.

Ensuring a healthy U.S. fleet has proven difficult in the larger global context where international shipping has slowed while the industry as a whole has ended up with an excess of ships. Excess supply has caused prices to fall, which has put considerable financial pressure on U.S. flagged vessels. Unfortunately, the U.S. flagged international commercial fleet and Mariner pool has shrunk over time; while we have contingency plans, further reductions may cause us to investigate other options such as using more foreign flagged international commercial vessels manned by foreign crews during crisis or war. American shipping companies continue to re-flag vessels to foreign nations, diminishing the size of our commercial fleet, although that fleet stabilized in recent years at around 80 today. While the U.S. flagged commercial fleet remains the most effective means for us to obtain the necessary sealift capability to meet national defense needs, we are considering a range of options to ensure that we retain the ability to deploy a decisive combat force at the time and place of our choosing. Those options may include new approaches to preserving essential capabilities in the Ready Reserve Force, which among other options, may include non-U.S. built vessels.

Sealift Fleet Recapitalization

Since the 1990s, DOD mobility studies have indicated a requirement for nearly 20 million square feet of Roll-on/Roll-off (RO/RO) capacity to promptly transport materiel wherever needed in defense of the Nation's interests in major conflicts abroad. This includes over 15 million square feet of organic RO/RO capacity on 65 total ships and nearly 4.5 million square feet of U.S. flagged commercial RO/RO capacity gained through VISA. However, we are projecting a loss of 4.5 million square feet of organic surge RO/RO capacity by 2033 as these vessels reach the end of their service life, with an accelerated loss expected between 2026 and 2031. The organic vessels tasked to meet this requirement are becoming obsolete or unsustainable. Our organic surge vessels, for example, have an average age of 39 years and will begin to reach their 50-year service life in the 2020s. This will result in a critical sealift capacity shortfall, which limits our ability to support the national security requirements. In addition to the RO/RO capacity loss, 10 of 12 special-capability ships will age out of the fleet between 2020 and 2024. These ships provide expeditionary capabilities such as over-the-shore fuel distribution and crane lift to austere or damaged ports, a critical necessity for the deployment of ground forces and for operations in a contested environment. The aging and loss of sealift capacity places a particular urgency on the need to explore options for maintaining critical capabilities, without which the Nation's strategic sealift capability to support future operations will be at risk. We are working closely with the U.S. Navy to maintain the

full spectrum of strategic sealift capabilities required to move U.S. forces in current and future operational environments.

In order to keep the recapitalization strategy on track and achieve success in the near term, the used vessel acquisition component must start as early as fiscally possible. This component seeks to purchase vessels leaving MSP or other commercial vessels regardless of country of origin. The acquired vessels would replace the aging organic vessels for a fraction of the cost of new construction and could remain in service for several decades. Congressional support will be needed to gain the necessary authorities and funding for this effort.

Additionally, DOD's current organic surge fleet is composed of several steam-propelled ships. The manning of these ships with seasoned steam certified engineers is a growing concern as commercial industry is expected to retire all steam ships by the early 2020s, while we need to operate them until 2035 unless recapitalization efforts allow us to replace them sooner. As commercial industry retires their steam ships, our access to a civilian pool of steam-certified engineers and mariners may fall severely (and eventually be) eliminated.

Surface

Since the first stage in delivering a decisive force happens on the ground, our Nation's infrastructure of roads, rails, and ports plays a fundamental and crucial role in the deployment and sustainment of the Joint force. USTRANSCOM closely partners with the Department of Transportation (DOT) and other Federal and State entities to ensure infrastructure within the continental U.S. is ready to support DOD deployment and distribution needs.

USTRANSCOM, through its Army component the Military Surface Deployment and Distribution Command (SDDC) represents the interests and requirements of the DOD to access and safely utilize both private and public transportation infrastructure and services. Currently, the public sector road network remains capable of meeting DOD ground transportation needs while providing adequate access to commercial trucking capacity to meet current and anticipated surface transportation needs.

Just as the availability and safety of drivers and roadways are critical to national defense, our national rail system is of equal importance. Through our Railroads for National Defense Program, and close collaboration with civil sector rail officials and DOT's Federal Railroad Administration, we assess the ability of the U.S. rail system to support military needs. Currently the rail network required to deploy our force is in place and viable. In the next fifteen years, however, we face age-mandated retirements of some of our uniquely capable DOD railcars. We are developing a plan in close collaboration with the Department of the Army to retain this critical transportation capability.

To successfully execute our deployment mission, USTRANSCOM also relies on a collection of both DOD and commercially-owned U.S. seaports, designated as Strategic Seaports. The primary mission of the Strategic Seaport Program is to ensure DOD has access to sufficient seaport infrastructure to meet contingency deployment needs. None are more important than the main West and East Coast ports of Military Ocean Terminal Concord (MOTCO) and Military Ocean Terminal Sunny Point (MOTSU).

MOTCO on the West Coast is indispensable to USTRANSCOM's support of U.S. Pacific Command's operations and DOD's military capability in the Pacific Theater. Due to the nature and size of this mission, no suitable alternatives exist on this coast and MOTCO's infrastructure assets require critical upgrades and maintenance to remain relevant in the current military environment. Current efforts are centered on preserving the operability of MOTCO's primary pier until it can be replaced. We are also examining additional options for MOTCO to become a modern ammunition port, fully capable of safe and efficient operations to enable uninterrupted delivery of ammunition to the Pacific theater.

At MOTSU, significant infrastructure improvements within the last few years have enhanced our ability to support the EUCOM, AFRICOM, and CENTCOM combatant commanders' operations and allow the terminal to meet throughput requirements. We continue to work with the Department of the Army to preserve both seaports by finding and applying resources to reduce risk and prevent capability gaps.

Although our nation's roads, rails, and ports play a fundamental role in the deployment and sustainment of our Armed Forces, nothing is more important than the people and their families who support and execute the mission, at home and abroad. The Defense Personal Property Program provides our Service members, DOD Civilians, and their families with an effective and efficient system for the relocation, storage, and management of their household goods and privately-owned vehicle (POV) shipments. As a testament to our partnership with the Deputy Assistant Sec-

retary of Defense for Transportation Policy, the Services, and commercial transportation service providers, the Defense Personal Property Program enables nearly 875 service providers to support the movement of approximately 70,000 POVs and around 430,000 household goods shipments globally each year.

An initial review and analysis of the Defense Personal Property Program identified that the end-to-end household goods value chain lacked proper alignment to consistently produce high quality relocation services due to lack of a single program manager and the need for more commercial capacity. Consequently, stakeholders from across the Department have collaborated on initiatives to recommend to key leaders from the military Services. Additionally, the Defense Digital Service recently assessed our primary software and customer interface within the Defense Personal Property System and found that while we are working toward reasonable solutions to the problems our customers have with the system, we are plagued by common problems that can be overcome by focused effort and assistance from the Defense Digital Service. Although still a work in progress, these initiatives are intended to improve the move experience for our Service members while simultaneously positioning the program for institutionalized and sustained continuous improvements. Addressing the challenges of program accountability, customer service, entitlements, standardization, and automation provides an opportunity to incorporate updated technologies and processes that will improve the quality of life and security of our Service members, DOD Civilians, and their families.

Budget Uncertainties

USTRANSCOM's mobility readiness depends highly on our financial health, which in turn relies on the financial posture of Services that provide the capabilities we use to execute our critical missions. Notably, the Budget Control Act and recent Continuing Resolutions have forced the Services to prioritize immediate operational needs over prudent long-term planning and investment, decisions that ricochet inefficiencies through the logistics and transportation enterprises. More generally, sequestration's impact on readiness, mission operations, and modernization funding will result in the Services being unable to adequately man, train, and equip mobility forces thus presenting a significant readiness challenge. Irregular budgets jeopardize critical mobility acquisition programs like the schedule for the KC-46A program which addresses significant challenges with our aging aerial refueling fleet.

Additionally, our overall readiness and that of other combatant commands is influenced by the joint training and exercises conducted solely through resources provided by the Combatant Commander's Exercise Engagement and Training Transformation program. With an increased emphasis on trans-regional, multi-domain, and multi-functional operations, adequate support to combatant command joint training and exercise programs is as critical as ever.

As we head into fiscal year 2018, we are projecting adequate financial levels to ensure our readiness, but remain vigilant in light of budget uncertainty. While maintaining our overall readiness, we continue to focus on our commitment to becoming audit ready by complying with the initiatives of the Financial Improvement and Audit Readiness (FIAR) program. At the same time, as we move to multi-modal operations and new Plan, Order, Ship, Track and Pay processes, we are integrating FIAR throughout those processes to ensure audit compliance. Furthermore, we continue to work closely with our DOD counterparts to ensure Transportation Financial Audibility throughout the Department. In an effort to ensure our business processes remain relevant today and into the future, we are striving to be cost-competitive and more transparent with our customers while simultaneously seeking ways to provide a lower, more predictable rate structure. These actions enhance our coordinating role across the deployment and distribution enterprise and ultimately enhance the support we provide the warfighter.

Availability of the Transportation Workforce

Each mode of our transportation network (air, surface, and sea) requires commercial and/or military operators such as truck drivers, aircraft pilots, and sealift mariners. These operators allow USTRANSCOM to transport forces and materiel to the point of need and to return our ill and injured to appropriate medical care. Worsening shortages of these operators limit our ability to successfully deliver required combat power across the globe.

In order to respond anywhere in the world in a matter of hours, appropriate manning levels of both Air Force and commercial pilots are essential. In fact, all DOD aerial refueling and nearly all strategic aeromedical evacuation capability relies on the availability of the U.S. Air Force aircrews from the active and Reserve components. Additionally, USTRANSCOM's organic and commercial airlift capabilities deliver roughly 10 percent of all transportation requirements and continue to be a sig-

nificant force multiplier for the Nation by delivering an immediate force overnight into an area of operations when needed. Pilot manning will remain vital for the near and long-term future of this critical USTRANSCOM capability.

Our Mobility Air Forces and commercial airline partners, however, are experiencing manning shortages. Reduced undergraduate pilot training quotas, changes in force structure, and declining retention (along with aggressive airline hiring for the foreseeable future) will require a concerted effort if we are to mitigate potential negative impacts across the active and Reserve components of the U.S. Air Force. By comparison, U.S. commercial airlines, including our partners participating in the CRAF program, expect a pilot shortage of roughly 35,000 pilots through the year 2031. Contributing factors include retirements exacerbated by statutory age limits (i.e., max of 65 years old), an increase in new airline transport pilot certificate requirements, and the continuous growth of the global airline industry.

While monitoring the health of pilot manning, we are keenly focused on the strain the trucking industry continues to feel due to the commercial truck driver shortage (current shortage of 75,000 with a projection of 890,000 by 2027). The industry's ability to attract and retain qualified commercial truck drivers required to move freight for the DOD and the Nation is a growing concern. Persistent shortages are caused by several factors such as quality of life, younger generations not seeking out the truck driving profession, and the pursuit of more desirable job alternatives. Due to the shortage of operators, the trucking industry is currently operating at greater than 95 percent capacity leaving little to no surge capacity for DOD. In an effort to address and reverse the shortage of drivers, the DOT Federal Motor Carrier Safety Administration implemented initiatives such as granting test waivers for military members with previous commercial motor vehicle experience and expanding their experience validation timeline from 90 days to one year. These efforts are the first steps in addressing the shortage; however, they may not be sufficient to alleviate likely impacts in times of increased demand for DOD's surge requirements. To combat this issue, we are continuously engaged with industry and conducting ongoing analysis and reviewing plausible alternatives, such as increasing the use of multiple modes (rail and truck) and un-manned vehicles.

We will continue to monitor and manage the manning shortages across our three fundamental domains. While supporting DOT's efforts in reversing current trends, we remain determined to ensure a sufficient pool of transportation operators are available to provide our Nation transportation options.

ADVANCING THE CYBER DOMAIN

The greatest challenge USTRANSCOM faces every day is the threat of attack from the cyber domain. Although cybersecurity is a DOD-wide focus area, USTRANSCOM is distinctly vulnerable because the majority of the Command's transportation data resides within and travels through the unsecure commercial internet. Furthermore, unsecure networks and systems of our commercial transportation service providers, coupled with critical infrastructure vulnerabilities around the globe, almost wholly reside outside our control and pose significant risk to mission assurance. Due to these challenges, USTRANSCOM is prioritizing our key cyber concerns. The Command is collaborating with U.S. Cyber Command, DOD Agencies, Federal cyber organizations, industry, and academia to identify and mitigate gaps and shortfalls, as well as to seize opportunities to advance our cyber domain capabilities.

We have and will continue to encourage industry partners to join together in a transportation-related Information Sharing and Analysis Organization, focused on supporting DOD's transportation mission. Our current partnership with the National Defense Transportation Association (NDTA) Cybersecurity Committee and our semiannual Cybersecurity Roundtables that have drawn interest from across government, industry, and academia are cornerstones of our efforts to build a more responsive, aware, and collective approach to mission assurance.

For example, through our partnership with the NDTA Cybersecurity Committee, we seek to address: cybersecurity issues of mutual concern, rapid sharing of threat information, the application of best practices, and, research on existing and emerging cybersecurity technology and development activity. The committee provides a mechanism to address urgent concerns, such as cybersecurity contract language and the exchange of unclassified and sensitive information between USTRANSCOM and industry partners.

However, there is still much more to do in order to address our current and future cyber capabilities. People, processes, and technology are all key areas where we can enhance our cyber resiliency. Specifically, we must grow and retain a highly skilled cyber workforce; clarify cybersecurity roles and responsibilities across the critical in-

infrastructure sector; implement acquisition policy to provision cloud services and other innovative cyber solutions at the “speed of need.” We also need to ensure that DOD can rapidly share threat and vulnerability information with our commercial partners while continuing to improve cybersecurity compliance reporting that enables informed risk management decisions appropriate to the situation at hand. We will continue to work with U.S. Cyber Command, DOD Agencies’ cyber organizations, Department of Homeland Security, and commercial transportation partners to mitigate cyber risks to global distribution operations.

EVOLVING FOR TOMORROW

Beyond the contested cyber domain, we recognize we will face new challenges across the other domains as well. As mentioned, we expect future conflicts are increasingly likely to occur in an environment contested across all domains, subsequently restricting our freedom of action. Adversaries and geopolitical competitors have the ability today to challenge our freedom of movement from deployment to employment using kinetic and non-kinetic means to disrupt, delay, or deny operations. This creates an environment that places our strategic assets at great risk. As our Joint force prepares to face this challenge, operational plans must reflect the anticipated attrition of both combat and mobility assets and associated personnel.

Future conflicts within the contested environment will also greatly challenge global patient movement operations. USTRANSCOM currently operates the best patient movement system in the world, safely and efficiently moving thousands of our nation’s ill and injured Service members to the medical care they need every year. We are not content, however, to rest on our successes. Recognizing future adversaries might be able to limit our access to the air and cyber domains, we are aggressively exploring surface movement solutions to ensure we remain the best in patient movement no matter the threat or environment. We continue to partner with the Services to expand maritime patient movement capabilities and we are working to rebuild our ability to move patients by rail. Our Nation’s joint casualty stream must be supported by joint patient movement capabilities that are interoperable, multimodal, and capable of functioning in a cyber-compromised environment. Synchronized policies, training, and research and development are needed across the DOD to ensure we remain the best in safely moving our ill and injured whenever and wherever needed.

We also conducted a Future Deployment and Distribution Assessment focused on deployment and distribution in a contested environment. This assessment solidified our concerns about the challenges of conducting operations in contested environments and again highlighted that our global network (to include partners and allies) is at risk from threats in all domains—land, sea, air, space, and cyberspace.

Finally, we hosted our inaugural contested environment war game aimed at creating a common understanding of our operations in contested environments. We also sought to recognize the enterprise-wide challenges and develop prioritized mitigation efforts to enable future operations in those environments. The war game also addressed the necessary investments in planning and collaboration with the entire DOD logistics enterprise necessary to develop appropriate mitigation strategies for these threats. Finally, the war game highlighted the need for multiple operating options to ensure resiliency, agility, and responsiveness in future conflicts. An important insight from the war game is that operational plans and fleet sizing considerations must account for the loss of capital assets. These vital principles ensure realistic planning and aligned with risk, resulting in operational resiliency across all domains in future contested environments.

Based on these findings and published defense guidance, we will work with the Office of the Secretary of Defense, CAPE to initiate a new mobility requirements study once defense strategic guidance and the supporting elements, such as defense planning scenarios, mature.

CHAMPIONING AN INNOVATIVE, DIVERSE, & AGILE WORKFORCE

In light of all of the challenges and opportunities ahead of us, we recognize our people are our greatest resources and are the ones who will rise to those challenges and seize the opportunities. At the same time, it is clear the competition for talent is becoming more acute. Given that, we are working to recruit, develop, and retain the best talent America has to offer. At the heart of that effort we completed our first-ever headquarters Human Capital Strategic Plan setting short and long term goals for cultivating and managing our large professional civilian workforce. We also entered into an agreement with Defense Logistics Agency that created an individual civilian experiential development opportunity. Goal of effort is to address how USTRANSCOM and Defense Logistics Agency can work together to collectively de-

velop the skills, knowledge, and effectiveness of our civilian workforce. We expect this initial agreement to serve as a baseline we can expand upon in the future. Beyond these early accomplishments, we are positioning ourselves to remain competitive in attracting future talent by identifying and establishing developmental positions within USTRANSCOM.

OUR COMMITMENT

For nearly three decades, our Nation has turned to USTRANSCOM's strategic power projection capability to respond rapidly to global threats and disasters. Today, USTRANSCOM continues to deliver 21st Century, enterprise-wide, global expeditionary capabilities to the joint force. Anticipating and adapting to challenges will allow us to perform our missions in an ever-changing security environment. These missions continue to trend toward non-permissive, remote, austere, and widely-dispersed locations, but this team of transportation and logistics professionals always finds a way to deliver our national objectives. Our continuous focus on the resiliency and preservation of the Joint logistics enterprise while advocating for the right investments in our cyber-enabled air, sea, and surface fleets ensures we can deliver the Nation's objectives tomorrow.

Continued Congressional support, coupled with the hard work of the professional men and women of USTRANSCOM and our components, will ensure we are ready to deliver the Nation's Objectives. We will continue to address challenges and vulnerabilities and advocate for innovative solutions as we provide the joint force options for delivering an immediate force tonight and a decisive force when needed. "Together, we deliver!"

Chairman McCAIN. Thank you. Without objection.

Thank you very much, sir.

A major concern for the Navy is a lack of sufficient U.S.-flagged ships and robust Merchant Marine to meet future demand. Is that a major concern of yours?

General McDEW. Yes, it is, Senator.

Chairman McCAIN. Do we have any plans, that you know of, to rectify that?

General McDEW. Chairman, I believe that we are working very closely with the United States Navy. The Navy understands the depth of the problem.

Chairman McCAIN. Do we have any plans to rectify that shortfall?

General McDEW. There is a Navy recapitalization plan that is being built right now. It should be unveiled in the next few weeks. I do not want to get ahead of the Navy, but we worked very closely with them on that.

Chairman McCAIN. The real secret is that our ability to move supply and support modern military forces, to a large degree, rests on the support it receives from private sector companies, right?

General McDEW. It does.

Chairman McCAIN. Suppose we are in a combat scenario. Can we continue to rely on those private companies or corporations to supply us with what we need?

General McDEW. Our U.S.-flagged fleet of ships has been a reliable partner for decades. The Merchant Marine force that does this work is a viable and proud patriotic unit.

Chairman McCAIN. I guess I am talking about having to transport troops and materiel into a contested region. Can we rely on these nonmilitary companies, such as UPS [United Parcel Service] and DHL and Maersk and others to go into combat areas?

General McDEW. Chairman, our first force to go into these contested environments is our organic aircraft and organic sealift ships.

Chairman MCCAIN. Yes, and that is some 600 refueling tankers to transport one combat team, according to the information I have. Do we have the capability to move a sufficient number of individuals and materiel into a combat zone without relying on civilian sources of transportation?

General MCDEW. Chairman, it depends on what sufficient means. If we are going to—

Chairman MCCAIN. Let's take Korea. Suppose that a conflict broke out in Korea, and the North Koreans have some limited anti-ship capability. Can we rely on those nonmilitary corporations to go into—maritime capabilities to go into contested areas, into combat zones?

General MCDEW. Today, Chairman, I would not call upon the commercial industry to go into a contested environment. We have organic—

Chairman MCCAIN. So you have sufficient capability to move what we need without relying on them? Is that correct?

General MCDEW. We have a sufficient force today, and I have talked to General Vince Brooks and his staff, to provide him what he needs in the first 30 days organically. Beyond that, we will have to continue to assess how much continues to flow and how much of that we can mitigate the threat by the time we have to get to the use of commercial vessels.

Chairman MCCAIN. According to what I am told, it can take 200 C-17 sorties to deploy a single brigade combat team. Is that your correct assessment?

General MCDEW. I would not like to argue numbers with you at all, but I do know that—

Chairman MCCAIN. I am not getting into an argument. I am saying that this is the information that is provided to us by the Department of Defense. It is not my opinion. That is the information that we have from the Department of Defense.

Are you able to ensure that global force projection is a primary capability given the assets that we have and not having to rely on non-DOD capabilities for, say, a conflict in Korea?

General MCDEW. It is not easy. However, with a global force, and that is what U.S. Transportation Command is, and we use the forces that are available, we can do 200 C-17 sorties.

Chairman MCCAIN. You can do 200 C-17s, and that gives you one brigade combat team. I doubt, if there is a conflict in Korea, that one brigade combat team would be sufficient for us to reinforce our forces on the ground in Korea.

What I am saying, General, is that we are reliant to a larger and larger degree on the private sector companies, and there is great question amongst many experts that we do not have the capability, say in Korea, say in Eastern Europe, to resupply and maintain our ability to carry out success in combat.

Now are you telling me that we can and are and have that?

General MCDEW. We do not have the capability that I wish we had, but we have a capability that can provide a force when needed. The force that General Brooks is asking me to deliver can be delivered initially by our organic fleet. We have put a lot of capability into—

Chairman MCCAIN. In contested areas?

General MCDEW. We have put a lot in the commercial sector that we cannot rely on in contested areas. But the initial force can be brought by organic fleets, and then we will have to see what we can do after that.

It is a challenge because of how we have gotten to where we have gotten to.

Chairman MCCAIN. Well, General, to “see what we can do after that” is not comforting to this committee.

Senator REED?

Senator REED. Thank you, Mr. Chairman.

Let me focus on the issue of cyber, which you brought up, and I brought up in my comments.

As you know, the committee did a report based upon incidents of your contractors, private contractors, in June 2012 through June 2013, where there were cyber breaches. I thank TRANSCOM, because they cooperated in the report. Just a few points emerged that were very critical, and I wanted to get your sense of how much progress you have made.

First, there appeared to be confusion within DOD about what information relating to cyber compromise of private sector contractors may be lawfully shared. That is one issue.

Second, TRANSCOM had not provided other DOD components or the FBI [Federal Bureau of Investigation] a list of operationally critical contracts about whom the command would like to be alerted when a compromise occurs. Then there were gaps in cyber reporting requirements contained in TRANSCOM’s contracts.

Although I must give you credit, sir, because TRANSCOM was the first DOD component to require contractors to report cyber intrusions.

Can you comment on these issues and, in general, where we are?

General MCDEW. Senator, we have transformed our view of cyber. Last year, cyber roundtables that we did, we did three separate sets of cyber roundtables to get us to a different level of awareness and knowledge. What that has driven us to do is that our contracts are now more cyber-aware. The way we deal with contractors is more cyber-aware. We are asking industry to partner with us to set a higher cyber standard.

The problem we have is, sitting in the seam between DOD and commercial industry, is that the rule sets are different. We can defend the Department of Defense networks, but we do not have any control over what happens in the civil networks. Sometimes, a commercial company is disincentivized to report an intrusion. Sometimes, they do not have the wherewithal to know that they have had an intrusion.

Those things need to be squared away. So we are partnering with CYBERCOM [United States Cyber Command] and also the interagency to see where the FBI and DHS [Department of Homeland Security] can maybe look at those intrusions differently. I am having a meeting with them later this week because I believe the commercial viability of the company is one thing. National security is another. Because a company is intruded upon, it is not always just a commercial problem.

Senator REED. Are you planning to suggest legislative proposals that would give the Department of Defense more authority in this regard, or clarify its authority? Maybe clarification is a better word.

General MCDEW. I am not sure that DOD needs more authority, but I believe a bridging of the gap between DOD and the rest of the Federal Government is needed to happen, and to see where we can square that.

Senator REED. Let me follow up on two of the questions that Senator McCain asked.

First, as we move to more emphasis on the Pacific, particularly North Korea, there is the issue of platforms, both air and sea. But there is also the issue of facilities. Do you have an assessment of the needs for docks or airfields that have to be repaired or remediated so that you can continue to operate?

General MCDEW. We do a regular annual assessment, a rotating assessment through every year. We publish an en route master plan of ports and rail all around the world.

We believe we have sufficient facilities globally to handle most contingencies. Unfortunately, until you get into the fight, you do not know specifics about which exact ones you are going to need when, because you do not know what the enemy is going to take away from you.

So based on initial assessments, we do it, and then we continue to assess as the enemy moves and we countermove.

We believe that, in the early days, as we provide ways to mitigate the threat, maybe we have greater access in some places that we do not think of using now, and we have to be resilient enough to go to those places.

Senator REED. With regard to the issue of ships particularly, or aircraft going into contested areas, do you have any contractual authority to compel them to do that? Or do they have an opportunity in the contract to just simply decline?

General MCDEW. So it is twofold. We also have a responsibility to them to not send them into harm's way if they are not prepared to go, in particular with the Civil Reserve Air Fleet.

Right now, with the FAA [Federal Aviation Administration], the FAA trusts us to make the determination of when a place is sufficient to send in a commercial aircraft. We owe that to them. We also owe them a little bit better training on tactics and procedures, and maybe some way of how to operate in a convoy environment.

My Military Sealift Command commander right now is trying to work with commercial industry to see where we can strengthen their ability to operate at least on the edges of the contested environment.

Senator REED. Again, is there any consideration to legislation that might give you more appropriate authorities in this regard? Because the problem the chairman has pointed out is a real problem.

General MCDEW. The problem is, indeed, real. We have gone down the path of trying to work with industry because they have been beside us a long time. We believe they will want to. But we do not want to put a ship in harm's way, because losing the ship is worse than not sailing the ship.

Senator REED. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Inhofe?

Senator INHOFE. General McDew, one of the problems that we have when you are trying to move this equipment, the function that you perform, it is either by sea or by air. Air, obviously, is the one that meets the needs because you do not have a lot of the time that you normally would have to be dealing with.

But we also know the risks that are out there. We know the surface-to-air capability of the enemy. We know the air-to-air capability. We know those problems that exist. As was pointed out by the chairman in his opening statement, we are not able to handle the capacity by air, so it ends up being by ship. Then you have problems there too.

So with the age of our fleets right now, 39 years for the ships, and then when you look at the C-5s, C-17s, you look at what we are doing right now at Tinker Air Force Base, trying to take the KC-135s down to the skeleton and then just rebuilding them, how big of a problem do you see this today and as you look into the future, to perform the functions that you are supposed to be performing with just the sheer age of this stuff? The KC-46 will not be around for some time to relieve this. So what kind of a problem is this?

General MCDEW. Senator, recapitalizing all of those fleets is a problem. Doing it underneath the budget constraints we have had will be nearly impossible.

We owe the Congress possibly better numbers. I have been part of propelling some numbers of tankers that are needed to provide help around the globe, the number of ships. Our contested environment wargames tell us that those numbers may not be sufficient, because we have never, in the history that I can remember, planned for attrition of our logistics. We have not fought for 70-plus years an adversary that can do that to us.

So age is one level of attrition. Enemy action is another level of attrition. Lack of sufficient maintenance so that it is reliable is another.

The tanker problem, if we are going to go after 12 airplanes a year, of the KC-46, of recapping, that is going to produce risk long-term as these airplanes continue to age as we recap.

Senator INHOFE. That is true. It is also, as you are making the decisions now, I can remember when we were making decisions on the C-17. I remember we talked about at one time that it was going to be 210. Then it was going to be—anyway, when Cheney came along and actually increased that.

But every time you make those changes, you are affecting risk. That is the thing that concerns me.

Now the chairman brought out our reliance upon the private sector in some of these areas. I was reading in your prepared statement, and I will just repeat it here: "Unfortunately, the U.S.-flagged international commercial fleet and Mariner pool has shrunk over time. While we have contingency plans, further reductions may cause us to investigate other options, such as using more foreign-flagged international commercial vessels manned by foreign crews during crisis or war. American shipping companies continue

to re-flag vessels to foreign nations, diminishing the size of our commercial fleet.”

Now, we had said that our commercial fleet should be able to take care of some 90 percent of the need. My concern is every bit as much the reliance upon the other countries as it is being reliant upon the private sector. Do you agree with that?

General MCDEW. Senator, we have always been a Nation that has had a large enough maritime fleet, and we have been a maritime country, and we have always had the ability to do that indigenous to U.S.-flagged vessels.

Senator INHOFE. Yes, that is what we have always been able to do. That is not the case now.

General MCDEW. We are in jeopardy now. Now we are at about 80 ships.

Senator INHOFE. This is a new threat that was not there before, and I agree with that, and I am concerned about that.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Shaheen?

Senator SHAHEEN. Thank you, Mr. Chairman.

General McDew, thank you for being here. I certainly appreciate what you said in your statement about the importance of TRANSCOM to any action we take anywhere in the world, so thank you, and everyone who serves in TRANSCOM.

As I know you are aware, the 157th Air Refueling Guard Wing is at Pease in New Hampshire. We are one of those places that is going to first get the KC-46A tankers. I have had a chance to go up with the 157th and watch them refuel and am amazed at the skill and precision that all of those fliers have and how important it is to have that refueling capability as we are looking at what we need to do around the world.

While I appreciate what you said about our problems are not going to be solved by the KC-46, can you talk about how important it is to have those planes delivered? I know the delivery date has slipped a little bit, so what are we doing to make sure that they are coming in on time where we need them to go?

General MCDEW. Senator, behind the cyberthreat, tanker recap is probably my number one priority. If there was one thing that keeps me awake at night, that is the ability to provide the air refueling support that we need globally to respond anywhere around the world at the time of our choosing. The 157th is one of those units that we count on to do that.

The KC-46 recap, or recapping tankers writ large, is a very, very important program that cannot be allowed to slip much more. We are already assuming some level of risk, and that is before we learned about the things that we have going on in contested environments. We do not plan for losing tankers. If we do not recap them, any loss is more catastrophic.

Senator SHAHEEN. Thank you. I certainly agree with that.

I know that when we were in Afghanistan and Iraq, one of the challenges that we had at the height of those conflicts has been the ability to have our fuel keep up with the actions that were going on in the field. One of the things that I think the military has done an excellent job of is research into alternative ways to make us less

dependent on those fuel lines and particularly foreign sources of oil.

Can you talk a little bit about how you see the importance of those alternative fuels as you are looking at TRANSCOM's future?

General McDEW. Senator, I believe that a level of resilience across the entire portfolio is needed. The ability to have different sources of fuel, the ability to have different methods of delivering that fuel, DLA [Defense Logistics Agency] and all of our partners really work hard at that. I think it is important that we cannot just be relying on one source for anything.

Senator SHAHEEN. Are you concerned about the progress that they are making? How are we doing? Is there any branch that is falling behind that we need to be worried about?

General McDEW. You know, with technology, always faster is better. But sometimes, the journey is important as you are going down new innovative paths.

So I cannot tell anybody that is falling behind. But I think research and development on different ways of doing fuel is going to be important.

Senator SHAHEEN. Just following up a little bit on the cyber concern, what more can we do on this committee to support the efforts to address both the intrusions and the cyberattacks that we are seeing? How can we help encourage the private sector that we are relying on to come to the table? Do we need to give you more authority? Do we need to take action that is going to address the private sector? What should this committee be looking at to support your efforts?

General McDEW. I would ask, Senator, that this committee and all the committees in the Congress, as well as the American public, become as paranoid about the cyberthreat as I have become.

Senator SHAHEEN. Oh, I think we are pretty paranoid, actually.

General McDEW. I am not sure in the commercial industry that every CEO [Chief Executive Officer] sees the cyberthreat as something beyond their commercial viability, and I am not sure every CEO understands that it is CEO business and not the IT [information technology] department's business.

Senator SHAHEEN. Thank you, a very important observation.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Rounds?

Senator ROUNDS. Thank you, Mr. Chairman.

General McDew, thank you for your service to our country.

A unique and significant part of the Nation's air mobility resource is the Civil Reserve Air Fleet, as the chairman has indicated, commonly referred to as CRAF. The average American may be surprised to know that, in 1991's Operation Desert Storm, 60 percent of all deployed troops and 25 percent of all cargo airlift went by commercial carriers, not military airlift.

At the time, the Air Force had about 330 C-5s and C-141s for strategic airlift. Today, your posture statement says the CRAF requirement has grown from 60 percent to 90 percent for all passengers, and from 25 percent to 40 percent of all cargo.

Meanwhile, the latest numbers that I have been shown, there are roughly 280 C-5s and C-17s in the inventory for this mission. This reduction of 50 aircraft since 1991, combined with the erosion of

sealift availability, tells me that our ability to project military power is increasingly tied to our commercial air segment, blurring the lines between military and nonmilitary organizations required for national defense.

Specifically, you have noted that one of the greatest challenges that TRANSCOM faces is from cyberattacks. Because it is not a DOD entity, the Civil Reserve Air Fleet resides outside the direct reach of CYBERCOM. How can we make certain that this fleet receives the same level of cyber defense as our strategic air units?

General McDEW. Right now, I have no mechanism to ensure that that can happen. I do not have the authority to compel a commercial industry to bring their standards up to the level that we have inside, nor are we assured exactly what that standard is. We do know that inside the Department of Defense, USCYBERCOM and others have established a standard that we believe that our networks are protected. Outside, I guarantee you that every CEO thinks that they have the level that they think they need. Reconciling what they think and what the reality is is important.

Sharing information across from DOD to commercial industry, the Federal Government to commercial industry, is one. I can talk to CEOs, and I have talked to some that have no idea that they have been attacked. That is a problem.

So before you can ensure that they are protected, they have to have the wherewithal to know that they have been attacked.

Senator ROUNDS. The Department of Homeland Security, which is charged with protecting critical infrastructure, defines it as the assets, systems, and networks, whether physical or virtual, so vital to the United States that their incapacitation or destruction would have a debilitating effect on security, national economic security, national public health or safety, or any combination thereof.

My question, I guess, would be, given our significant reliance on CRAF, would you consider it to be critical infrastructure?

General McDEW. I would, and I would also broaden the definition. There are many more things, because of the risk we have taken in the portfolio over the last couple decades, many more things are in the private sector. All of those things I rely upon for national security, and many of those things are not thought of that way on a regular basis.

Senator ROUNDS. Are there any other nonmilitary elements critical to TRANSCOM's mission that you would consider critical infrastructure?

General McDEW. Critical, I do not want to get into the actual definition of critical, but there are elements of commercial, everyday use—road, rail, seaports—that are all critical. When we need to go to war as a Nation, they are all critical.

Senator ROUNDS. What interaction does TRANSCOM have with the Department of Homeland Security regarding such infrastructure?

General McDEW. Most of our links are through the Department of Transportation. We do have links to the Department of Homeland Security. We meet regularly. I have a liaison officer from both the FBI, and we work extensively with the interagency.

The problem is, I do not know if we have sung loud enough. We have just learned a number of things ourselves over the last year

about how vulnerable we are. We have learned some things over the last year on how we can protect ourselves better. Now we are able to be a better partner, I believe, in the interagency.

Senator ROUNDS. General, thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Hirono?

Senator HIRONO. Thank you, Mr. Chairman.

General, it is good to see you. Thank you for your service.

I want to talk about Red Hill. The Red Hill Bulk Fuel Storage Facility at Joint Base Pearl Harbor is a key component of the Navy's operations in the Pacific and Asia to provide secure underground fuel storage for ships and aircraft, and it is of vital strategic importance.

For anyone who has not visited the Red Hill Bulk Fuel Storage Facility, it is massive. The engineering feat to create that facility is on the order of Hoover Dam, so we are talking about a huge facility.

Can you discuss the impact that this secure storage facility has on the reliability and resilience of refueling in the Pacific? What would happen if this facility were closed?

General MCDEW. I cannot speak directly to that one. That would be more in the purview of DLA and partners at the Defense Logistics Agency.

However, anything that lessens our ability to have fuel available in the Pacific region is detrimental to our ability to go to war.

Senator HIRONO. Have you ever visited this facility?

General MCDEW. Not directly, Senator.

Senator HIRONO. If you ever get to Hawaii, please do so. I am sure you do get to Hawaii. Please do so.

The Air Force has been using Active Associate Units for many years. These can be very strong units showing the collaborative capabilities of joint Active Duty and Guard organizations.

What are your thoughts on Active Associate Units? Could you use more in the tanker and airlift fleet?

General MCDEW. Senator, Active Associate Units have been a part of our DNA [deoxyribonucleic acid] in the transportation business since the 1960s. They have been a viable way of augmenting and strengthening our ability to provide air refueling, in particular in airlift. I think it is vital going forward that every unit—and I believe the Air Force has this as part of their plan—every unit in the KC-46 will be associated in some way. We can do more with many.

Some units are better at this than others and have a proven track record. Some need some help. As we go forward, I believe that we will get better and better at doing this in the future.

Senator HIRONO. Admiral Harris testified before SASC [Senate Armed Services Committee] last week that, of the five global challenges that currently drive U.S. defense planning and budgeting, four are in the Asia-Pacific region.

How does tyranny of distance in the Asia-Pacific region impact your planning for the projection of forces and sustainment in the region? How would those plans be modified if more than one global challenge needed to be immediately addressed in the region?

General MCDEW. I do not like to disagree with my good friend Harry Harris, and I understand why he focuses on that particular region. I tend to focus on the globe, and there is not one of those problems that is not resident everywhere on the globe.

So for my portfolio, it is a global problem. It is a transregional problem. We need to be able to make sure that every combatant commander that has a region understands that they may not be the primary effort, depending on what is happening around the globe.

Senator HIRONO. So since you look at the threats globally—and, of course, PACOM [United States Pacific Command] represents 51 percent of the world's area. So especially with the threat of North Korea, how do you go about determining what resources you would place with regard to the needs of our combatant commanders?

General MCDEW. We respond to the priorities set by the Secretary of Defense and through the Joint Staff. So the priority of effort must be set. Right now, the priority of effort is providing General Vince Brooks and Harry Harris the resources they need to ensure that they can respond to whatever provocative actions are taken by North Korea. If they are no longer the priority of effort, we swing to some other part of the world. We do not have the resources to be everywhere for everybody.

Senator HIRONO. So you say right now the priority area is the DMZ [Demilitarized Zone] and Pacific Command, Harry Harris?

General MCDEW. I may have misspoken slightly. So I did say that. I am giving a lot of effort to Harry Harris and Vince Brooks because I know that they have a challenge that they are facing immediately. Scaparrotti, Votel, all of them have issues that they are dealing with, and we try to work around the globe for all of them.

Senator HIRONO. Thank you.

This question has come up before, our reliance on commercial assets for power projection and sustainment. If sea lanes and air lanes are compromised, how will the U.S. either defend our commercial partners or assume a larger role in transportation?

General MCDEW. Senator, one of the reasons that I started calling the commercial industry my fourth component, I have an air component, I have an Army component, I have a Navy component, but a very important component that we have not looked at in that way is the commercial industry. Some of my predecessors actually would not even call them our partners, would not say the term out loud. I understand why they did it at the time.

But in today's environment, I have to and must rely on this commercial industry to get things done. So we owe them a better view of their resilience. We owe them a better view of how they are going to contend in contested environments. We owe that to them in partnering with them.

Senator HIRONO. So you are taking specific steps to bring them more into an understanding of the challenges that we face?

General MCDEW. Absolutely. Through organizations like the National Defense Transportation Association, which most of them are members of, we work on subcommittees to try to get after these problems.

Senator HIRONO. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Ernst?

Senator ERNST. Thank you, Mr. Chairman.

General, it is good to see you. Thanks for being here. Your grandson I am sure is quite lovely. My own daughter, we called her chubbo-bubbo when she was a baby as well.

But thank you for your testimony this morning. I do appreciate you being here.

As a transportation officer, I do have a lot of respect and understanding of the important role that TRANSCOM plays for all of us that have served in uniform, so thank you so much.

The risk you describe from the cyberthreats to the refueling shortfalls could have incredible impacts on our national security. I am glad we are addressing those today.

You mentioned in your testimony that your tankers are conducting aerial refueling operations every 5 minutes over the skies of Iraq and Afghanistan. When I hear about that, I think about how we are misallocating fourth generation fighter jets and tankers to bomb a pickup truck when they could be keeping Russia or China at bay.

To me, it highlights why the services need to continue pursuing highly lethal and low-cost solutions in one theater to allow better use of high-cost technologies where they are needed most.

Can you describe to me, General, how pursuing more cost-effective tactics on the battlefield can help alleviate some of the stress that we have put on TRANSCOM?

General McDEW. First of all, Senator, thanks very much. There are a bunch of folks in the cornfields of Illinois right now that loved every statement that you had to say about the wonders of the transporters.

What we do, I believe, does keep the 4-plus-1 priorities and our enemies at bay. They understand that we still have the capacity to bring a decisive force or an immediate force when needed. I still believe that most adversaries get that. We are challenged in how well we can do it, how long we can do it. But I still believe it causes them pause.

Going forward, how long will it stay that way? Innovation will help us. We have to get after autonomy. We have to get after a lot of different ways that we can use cheaper methods in some regions because we will never have enough resources to place them in every region around the world permanently.

Senator ERNST. Truly. Thank you. I appreciate that.

General, U.S. special operations teams are some of the most utilized forces against our current enemies. But unfortunately, their remote locations and need for secrecy create quite a unique transportation challenge. As you probably know, the special forces team that led the American invasion in Afghanistan rode in on horseback.

Just tying in with that, what challenges do you face in TRANSCOM when you are seeking to support our special operators?

General McDEW. One is to let General Thomas know that I do not have horses.

Senator ERNST. No stables, no horses.

General McDEW. General Thomas and his team and our team at TRANSCOM talk regularly. We understand that they are in small places with small teams doing big business. So we work very closely with them on both how they contract, how they supply themselves, and we try to make sure that we are giving them the value of our expertise. They do a lot of things well. We do this well.

Senator ERNST. Very good. I appreciate that.

You had given some inspiring remarks on innovative thinking last month, telling your servicemembers that you needed true innovation and not just technology. I do agree with that.

I also agree with your remarks about our failing acquisition system. As you say, taking 10 years to develop a weapons system will leave us behind our adversaries.

How is that failing acquisition system impacting TRANSCOM? What can we do a better?

General McDEW. It is a broad problem as you know, Senator. One of the things is it is everything from how we train our acquisition professionals who do the best they can with the tools they are given to giving them better tools and then giving them different expectations.

Sometimes commanders need to be more involved with setting an expectation for what is going to come out of that acquisition process and how quickly, and then sometimes we have to press the system because on the edges of the regulations are opportunities. Maybe we have not explored all the edges, but we do need to get after better training and better tools.

Senator ERNST. Fantastic. Thank you, General, for being here today.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator King?

Senator KING. Thank you, Mr. Chairman.

First, General, I did not know until today that you spent your first 5 years in the Air Force at Loring Air Force Base.

General McDEW. Actually, 5.5 years, six winters.

Senator KING. Five and a half years, six winters. I always knew you were a man of insight, intellect, and character, and now I understand where it came from. Aroostook County will do that for you.

I also understand Senator Shaheen mentioned—

Chairman MCCAIN. I think we need regular order here.

[Laughter.]

Senator KING. I will not violate Rule 19, Mr. Chairman.

But I have to mention 101st Air Refueling Wing in Bangor. I was with the chairman in Qatar a couple years ago, and they were proudly serving there. We affectionately refer to them as the Maniacs, and they do a wonderful job.

In fact, they allowed me to fly the boom in one of the planes. For some reason, they did not allow me to fly the boom when there was a jet aircraft attached to it.

General McDEW. I appreciate that.

Senator KING. Yes, I thought that you might want to know that.

I know Senator Rounds talked a bit about the cyber issue. I am gravely concerned because, as you have testified, your capacity is very dependent upon commercial partners. You said that every

CEO says they are safe, and I do not believe it. I hope that you can do more than admonish them. I would hope that we have these contracts with them, which they believe are profitable, that is why they enter into them, but the contracts, in my view, should have conditions that take seriously this threat, because this could be a critical disruption that would absolutely devastate our ability to respond to a crisis.

General MCDEW. Senator, one of the first steps we believe is setting a clear cybersecurity standard. That standard has to continue to evolve as we learn more and the tools get better in how we defend networks, so it cannot be a static requirement.

The next thing we probably need to get to is some level of third-party verification that companies are complying with said standard, and we are not there yet, but we are working with industry right now to try to get after both of those.

Senator KING. Testing the system, wargaming or testing the system to be sure that it actually will work under a stressful condition, a red team kind of approach, which I know that other areas of the government do, and I think it has been very effective. So that is an area of vulnerability I hope that you will really focus upon, because when we need it, we have to have that commercial capacity there.

General MCDEW. Right. Senator, as you know, right now, we have no authority to compel commercial industry to do that, nor am I seeking it. Right now, we are working with them to collaboratively get to a place, and also working with DHS and FBI to try to help them—

Senator KING. Well, but I would suggest you do have contracts with these folks, and they are getting paid high-test U.S. dollars, and that gives you some power to make some pretty serious requirements. I urge you to set your general counsel loose on that issue.

Let me go back to the wargame, which I understand you participated in. Was it successful? Well, I will leave the question at that, and then we will explore the answer.

General MCDEW. When I first started doing wargames and exercises as a young officer, success was defined differently. As I am a little bit more senior now and have become a senior citizen in the United States military, success is a level of knowledge attained at the end of it that you can do something with.

Senator KING. Exactly. That was going to be my question. Success is not winning. Success is learning.

General MCDEW. So that journey was so profitable for us as a command that I cannot even put a dollar figure on it. It is now driving everything we think about mission assurance in our portfolio—everything.

Senator KING. Let me ask about a specific problem that I think we are all facing, we are certainly facing in the Air Force generally, and it faces you both in commercial and Air Force—the pilot shortage, the looming pilot shortage.

Isn't that essentially a kind of logistical challenge? We cannot get troops places if we do not have pilots. There is a shortage—Senator Cotton and I are having a meeting on this in the next several

weeks—in the Air Force, but it is happening on the commercial side as well. Is this a concern?

General MCDEW. It is a concern. We are actually showing shortages across several places in our portfolio, from mariners to pilots to truck drivers. Each of those has its own problems in the manpower solution area. Right now, the Air Force Chief of Staff and the Commander of Air Mobility Command are trying to meet with the CEOs of the major airlines to get after how they may partner differently to improve that problem.

Senator KING. A final question. Are you comfortable with the relationship with the commercial industry on the sealift side, on the air side, that they will be there when we need them, I guess is the question?

General MCDEW. I am. I am confident, Senator. But I am also confident that they do not know where “there” is. I am confident that we have not fully defined the “there” for them yet enough, and we have not thought our way through, what does it mean to go to war reliant upon this much commercial activity in a contested environment?

Senator KING. I would suggest that wargaming and stress-testing would be very important, particularly where you do not have direct control over these assets.

General MCDEW. We are with you, and we are working on it right now.

Senator KING. Thank you very much, General.

Chairman MCCAIN. Senator Tillis?

Senator TILLIS. Thank you, Mr. Chair.

General McDew, thank you for being here.

Just to briefly touch on the cyber discussion, if I were planning a way to disrupt your ability to play your role in the logistics chain, it would be one of the first places. I would go find a supplier network.

If you go back and take a look at the exercise, the 580 Stryker tires, I do not know how much you have in inventory, but at that scale, to a large engagement or a large deployment, I would go after whatever that supply chain looks like and try to disrupt their ability to communicate with your organization.

The one question I would like to get an answer to, though, is that I think if you are going to try to get—you know, it is the weakest link. If the DOD feels relatively comfortable that they are protecting their systems, that is great. But if major suppliers in the supply chain are vulnerable, then it does not really matter. It just means that you are not going to be able to execute.

So why wouldn't we start creating, in your acquisitions hat, or with your expertise in acquisitions, a tiebreaker? We have to come up with standards, and I get the third party. I used to be in a firm that did ethical hack testing.

So you need third party verification, but why not a tiebreaker between potential contractors that depends upon their level of sophistication and impenetrability? Why wouldn't you be seeking the authorities, if it is necessary, for you to have that baked into any kind of acquisition contracts or RFPs [Requests for Proposals] or selections going forward?

General MCDEW. I believe we have the authority right now to bake it in. We may not have the full knowledge on how to bake it in. So we are working on those very things. I have challenged my acquisitions team to some of those very things.

What we have found over time, if the commercial industry is my fourth component, it is better to work with them than against them, so we believe that we are working together, maybe not as quickly as we want, so I may have to turn the heat up a little bit.

The first heat is to set a clear, definable cyber standard that evolves over time, and then go after third-party verification to ensure they are in compliance.

Senator TILLIS. Senator King brought up the recent exercise with the 12 ships, five failures, and I already mentioned the Stryker tires. I am not sure if just learning is winning.

If you were to scale that, I mean, this is obviously a wargame. This is not the added level of complexity of actually going into a contested area, and that by itself can create distractions and probably cause a higher failure rate just because things are moving quickly. It looks like, based on what I have read, that it did look like it was a lack of training on the part of contractors, at least for the Stryker. I am not sure about the ships.

Where are you getting the resources to do that? How do you actually get them trained up to a level to where you can rely on this pretty significant component on contractors?

General MCDEW. Anyplace that we look inside of our portfolio, we are struggling on a regular basis with how you get beyond what you can do on a daily basis. I have sufficient manpower and expertise to do our job every single day. Under sequestration, we lost some manpower, but we are still sufficient to do that work every day.

What we are struggling with right now is our ability to think forward, our ability to innovate, our ability to come after resiliency standards, and to be resilient ourselves.

We have gotten so efficient and lean that some of this stuff just takes more time because you do not have the people there to do it.

Senator TILLIS. It seems to me, based on some responses to some of the other members, that we have the ability for a short-term—to basically be able to support in a short-term environment. But if we got into a protracted environment, it does not sound like you have a high level of confidence that whatever we may be able to perform over some period of time, that we could do it on a sustained basis. Is that fair to characterize your comments that way?

General MCDEW. I think some of it is I am a bit inarticulate. I am trying not to pin myself down by specifying a period of time. “Protracted” is a word that can mean anything to anybody. Is it 1 month, 2 months, 6 months?

In some of the conflicts, depending on the level of classification we can talk, we can go up to 6 months fairly easily. Beyond 6 months, there is a challenge. So it depends on what conflict and what the level of contested environment there is as to how far that protraction can be.

Senator TILLIS. Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Peters?

Senator PETERS. Thank you, Mr. Chairman.

General McDew, it is great to have you here. Before I ask you a few questions, I have to join some of my colleagues in giving accolades to Michigan Air National Guard and to our 127th Air Refueling Group out of Selfridge.

General McDEW. Can I get the chairman to acknowledge one thing? During my confirmation hearing, he chastised me because I actually said nice things about all the units as every Senator brought up their units. I have refrained from doing that this time.

[Laughter.]

Chairman MCCAIN. An impressive improvement.

[Laughter.]

Senator PETERS. Well, I will give those accolades, and I appreciate your nod. They are doing a great job, General.

My question is, China has made significant investments globally in ports and railways. By some estimates, China has some degree of investment in nearly two-thirds of the world's top 50 ports, which handle 67 percent of the global container volume.

The Committee on Foreign Investment in the United States, or CFIUS, reviews transactions that result in control of U.S. businesses by foreign entities to determine if there could be an impact on national security. But CFIUS does not have a role if there is not a U.S. nexus for an investment, merger, or takeover.

I know you have a very deep understanding of the link between investments in strategic assets and U.S. national security. But my question is, should analysts in the U.S. Government and military pay more attention to foreign investment in strategic assets like ports around the world?

General McDEW. Yes, Senator.

Senator PETERS. Could you elaborate, please?

General McDEW. In my business, I did not know the two-thirds number, but I do not see many ports around the world where the Chinese are not investing. I know that on one level in this country, we are linked economically, and they are not an adversary today, but they have the potential to be one in the future.

Anybody that is investing globally in ports, and if we are a maritime Nation, we ought to be concerned about their feelings about freedom of access and how we operate around the globe, and they have not shown that freedom of access means the same to them as it does to us.

Senator PETERS. So are you concerned then about the potential for strategic investments by other nations could have on your ability to operate? Is that what I am hearing from your answer?

General McDEW. I am and that is one of the reasons that I spend a great amount of my time traveling around the world, in particular working with the State Department, strengthening relationships that we have in countries, and having them fully understand why those relationships are important, and their ports and their rail infrastructure are important to us.

Senator PETERS. We have talked a great deal about some of your challenges in terms of capacity to move both fuel and heavy material with sealift operations. If you could talk a little bit about prepositioned forces and the importance of that? Certainly, one way to deal with the challenges of moving something from A to B, is to already have moved it to B prior to a conflict. We have challenges

in Europe to move heavy material, should we see increased aggressive behavior there, certainly with what is happening in Korea as well.

Please discuss the importance of pre-positioned forces. Do you believe that perhaps we should consider increasing the amount of pre-positioned equipment in various strategic locations?

General MCDEW. I believe, first, Senator, we need a clear strategy of what we want to achieve in a particular region. That strategy then needs to be informed by the resourcing to do whatever that strategy would call us to do.

Pre-positioning forces have always been important resources for us. They have become more important as we have withdrawn forces from places around the world and brought them back into the CONUS [Continental United States], because now we are a projecting force. With that, as you said, having stuff already at B is very, very helpful.

To ensure that each one of those stocks is fully upgraded—i.e., is it new equipment? Is it equipment that has at least been tested? Is all of the equipment set there? All of that is important, and it all plays together.

Senator PETERS. Thank you, General. I appreciate it.

Chairman MCCAIN. Senator Cruz?

Senator CRUZ. Thank you, Mr. Chairman.

General, thank you for your service and dedication to the country.

Last week, Admiral Harry Harris addressed the resources requirements to conduct military operations in the Asian-Pacific in the event of hostilities. He told this committee that he had the forces in place to “fight tonight, if necessary,” but that what concerned him was the “follow-on resources” and how those follow-on resources would get to the region in terms of airlift and sealift.

General, do you share Admiral Harris’ concerns?

General MCDEW. I believe that Admiral Harris has a right to be concerned because it is his AOR [area of responsibility]. I believe that he has a point to be made in that any time we have to project a force, we ought to be concerned about how it is going to get there.

We are no longer assured that everything that we send from the CONUS will arrive at its point of destination. It could be because it is old. It could be because of weather. It could be because the enemy had a vote. So I am concerned.

Now, from my discussions with him and with General Vince Brooks, the immediate follow-on forces that he needs, we are ready to send.

Senator CRUZ. So what most worries you with respect to our ability to flow resources into the Asia-Pacific theater?

General MCDEW. Our ability to rely upon the commercial industry, which we will have to rely on over time, and how long the environment remains contested and to what level. Each of those are a bit of unknowns, and how we will maneuver through that space is going to be vitally important for how long protraction is and what protraction will mean.

Senator CRUZ. So let’s shift to a different topic.

In the past decades, the United States has had the luxury of having secure air and sea lines of communication. Given the increasing

anti-access/area denial efforts of China, there is a chance we could be denied that luxury in a future conflict.

A recent article by Dean Cheng, a senior fellow at the Heritage Foundation, posited that, "The ability of the Chinese to deploy substantial forces into the central Pacific would place American logistics and support forces at risk. The loss of one or more underway replenishment ships would rapidly curtail the ability of the American surface forces, including aircraft carriers, to operate."

What is TRANSCOM's plan to replenish ships and aircraft in the event that we must fight our way into an area where anti-access/area denial has succeeded?

General MCDEW. Senator, without getting into too much level of classification, I can tell you that we are in new territory. As you said, we have not been in this place in decades. I believe that the Navy, in particular, the Air Force, are both working on plans that get back to dominating those domains, but realizing that the logistics infrastructure has not been challenged for so long, it is just a new place for us, and we are having to go after that.

I believe that we are making progress, not as fast as we all want.

Senator CRUZ. On another topic, one of the critical backgrounds of Air Mobility Command is the tactical airlift capacity of the C-130 Hercules. The 136th Airlift Wing, part of the Texas Air National Guard, and you are free to defy the Chairman and praise them vociferously, is flying C-130Hs and performing extraordinarily well.

You expressed concern in your House testimony last month that, "Continued modernization efforts in our C-130H fleet must be prioritized as a relatively inexpensive means of maintaining critical capacity."

Could you expand on those sentiments?

General MCDEW. I believe that one of the things we have to look at as we look at our tactical airlift capability is to ensure that all of those units that fly those airplanes have the wherewithal to fly in the new airspace and are modern enough to continue to be a viable resource.

I was an old C-130 pilot myself. I flew E models. If anyone had E models today, I would say that we need to retire them all until they are all gone.

Depending on which level of H, it is just a matter of a software upgrade, so I believe we are okay. I would make sure that we are not overprioritizing C-130s to the detriment of takers right now, because that is a higher priority need for me.

Senator CRUZ. Thank you, General.

Chairman MCCAIN. Senator McCaskill?

Senator MCCASKILL. Thank you, Mr. Chairman.

Good to see you, General. I know well that cornfield you referenced. It looks familiar since it is right across the border. I understand the importance of Scott Air Force Base not just to TRANSCOM and our military but to the region in St. Louis. I am a big fan of all the work you do there, and I am pleased that we are having this hearing today.

Let's talk a little bit about contested environments and airlift in contested environments. Since my colleague from Texas was talking about his unit, I know you know I am going to mention the

139th, because, as you are well-aware, this is an international training school for resupplying contested environments. That is obviously Rosecrans, once again, right in the heart of America. We call it the top gun of airlift. I think that is an accurate description since I have run into people who have been trained at Rosecrans literally all over the world, particularly when I have been to Iraq and Afghanistan.

Could you talk a little bit about the plan for testing new equipment that we are going to have dedicated to training rather than having to pull these aircraft out of units for training that they are trying to site for C-130Hs, each a different variant, with a training wing?

We are hopeful, obviously, that that would get sited at St. Joe because of the inherent capabilities we have and the advantage of the location and the already international clientele we have in terms of our allies getting trained in this important resupplying in contested environments.

Talk to me, if you would, about the 139th Airlift and the training that goes on there, and what your view is of that capability in terms of training in contested environments?

General McDEW. I believe that the instructors that we have at Rosecrans are some of the best in the C-130 business. They have a lot of experience. They have been flying the airplane for a long time, and they are steeped in tactics, techniques, and procedures for the aircraft. So it is a resource that we have to rely on as we go talking more broadly about contested environments.

I have tasked Air Mobility Command to lead a contested environment summit. I would hope, and I have to believe, that they will have Rosecrans members there to help us get after solutions to our contested environment wargame level of learning.

We have learned a bunch of things that should scare us. Now we are going after what we do about it and how we fix and mitigate some of these concerns.

Senator McCASKILL. Let me talk a little bit about your testimony, which I found stunning, the shortage of 75,000 licensed drivers in the trucking industry, and understanding how important this is for our capabilities in terms of supply and resupply.

The projected shortfall is due to increase to 890,000 drivers by 2027. The current shortage has the trucking industry operating at a 95 percent capacity every day, which basically leaves no surge capacity for high-volume DOD requirements in a time of conflict without severely disrupting commercial services across the country, which is a whole other price we would have to pay in our economy if that were the case.

While I want to make sure that we are making it as easy as possible for trained military to transition into civilian life, and, obviously, we have a lot of great truck drivers that are trained in the military—once again, trained in my state at Fort Leatherwood—I am worried that even if we put every single truck driver we train in the military into the civilian trucking industry, we are still not going to have enough.

So let me ask you, have you all looked—I worry about driverless trucks, in terms of what it is going to do to jobs in this country. But have you all begun to talk about, in the future, the use of driv-

erless trucks in this capacity? Could you speak to that for a few moments?

General MCDEW. Senator, we have actually looked at autonomy across a broad portfolio, from ships to trains to trucks to airplanes. We believe that you must have that level of technological advancement as you go forward.

Somewhere along the way, we are losing the young men and women who grew up wanting to be truck drivers and airplane drivers and train drivers. With a lack of capacity, the technology will have to take over. We just have to have this technology going forward.

I believe the advances being made by some in the civil sector is pretty impressive.

Senator MCCASKILL. It is. I know that we have some autonomous buses going now and other trucks.

Have you reached out to some of the companies doing this to see if it would be possible for you all to do some pilot work, maybe over on the base at Scott, to begin to get your arms around what driverless trucks would feel like in terms of your need to supply our troops?

General MCDEW. Most of that work is being done in the services, in the organized train and equip role. The Army is working a lot on autonomous vehicles. The Navy has some autonomous vehicles. The Air Force is also working with some semiautonomous and autonomous work through DARPA [Defense Advanced Research Projects Agency].

Senator MCCASKILL. Great.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Warren?

Senator WARREN. Thank you, Mr. Chairman.

Thank you for being here, General.

I want to quickly ask about the importance of our nonmilitary agencies and assistance to your mission.

TRANSCOM maintains a presence around the world, and we need other countries, ports and rail and road networks to be upgraded and to be secure, so that those countries can receive our military equipment. We rely on diplomatic agreements with other countries for our pre-positioned equipment.

So I just want to ask, General, would a reduction in funding to the civilian agencies and programs that enable your global distribution networks make your job easier or harder?

General MCDEW. Senator, our job as a COCOM [combatant command] with global responsibilities relies on every partner we can get our hands on. One of our biggest partners is the State Department, and a lot of interagency partners around the globe, because they help us build relationships in the areas that we cannot be at on a regular basis. You cannot build a relationship when you need a relationship.

Senator WARREN. Right. So I take it the answer is, it would make your job a lot harder.

General MCDEW. It would make it a little harder.

Senator WARREN. It would make it a little harder. I agree with this, and I point out that the administration is seeking significant

reduction to the Department of State and to USAID [United States Agency for International Development].

Of course, our military is critically important to our security, but we cannot forget that nonmilitary programs are critical enablers of the military to do the jobs that you need to do.

Now, General, I also want to ask you another question. When you testified in front of the House Armed Services Committee several weeks ago, you said that getting C-5s out of the backup inventory was your number one priority for the NDAA [National Defense Authorization Act]. The upgraded C-5 is currently our only cargo aircraft that can make a transcontinental flight without refueling.

So, General, would having those additional C-5s back in inventory help mitigate your aerial refueling challenge by providing more capacity to move cargo without needing to refuel?

General MCDEW. I believe we can also do a transcontinental flight with a C-17. But the C-5s, we need those additional C-5s back in the inventory. I believe the Air Force has just recently committed to doing that over the next few years, so that will be very, very helpful.

Senator WARREN. All right. Can you just expand just a little bit on the importance of the C-5? Why the C-5 is a critical piece of equipment for you to get your job done?

General MCDEW. It is the totality of the mission set.

First, we have limited numbers of strategic assets. The C-5 provides an outsized cargo capability and a long-range capability. Having been on the receiving end at a deployed location of a C-5's stuff, there is nothing like a C-5 load full of the stuff arriving time after time after time if you are standing up an operation quickly.

Senator WARREN. Right. I understand it is the only aircraft that can carry two Abrams tanks, or that it can carry six helicopters simultaneously.

So I take it that is a good boost to efforts on the ground.

General MCDEW. That is a good thing.

Senator WARREN. That is right. Good.

Well, I just want to say, making sure that we have every available C-5 seems pretty important to me, not to mention the fact that we have invested a lot of money to upgrade them, and now they are sitting on the ramp. The economics of that just do not add up.

Westover Air Reserve Base in Massachusetts has eight of these aircraft, and the people there tell me that these planes are in use pretty much all the time, and I am sure they would welcome additional C-5s to be able to work on their mission.

So thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Blumenthal?

Senator BLUMENTHAL. Thanks, Mr. Chairman.

Thank you, General, for your service. I would like to focus a little bit on a topic that has been raised before, the cyberthreat, and ask specifically about your experience so far with some of the contractors.

Are they required to report to you incidents or episodes of attacks, cyberattacks by a nation-state?

General MCDEW. I believe that is a Federal requirement, but they are required to report.

Senator BLUMENTHAL. Do they report to you?

General MCDEW. I believe they report to an organization called DC3. I am trying to remember. I have to get back to you on what that stands for. We speak in acronyms, and sometimes we forget what the acronym actually stands for. But they actually report through an organization I believe that is part of DHS.

Senator BLUMENTHAL. Part of what, sorry?

General MCDEW. Department of Homeland Security.

Senator BLUMENTHAL. So they do not report to the Department of Defense?

General MCDEW. Not that I am aware of.

Senator BLUMENTHAL. But they are under contract with Department of Defense.

General MCDEW. Right.

Senator BLUMENTHAL. Why aren't they reporting to you?

General MCDEW. Let me be more clear about that afterward. I will get back to on the record for that. I am trying to remember exactly the reporting chain. The reporting requirement may be dual, and I do not want to misspeak.

Senator BLUMENTHAL. I am somewhat surprised that they are carrying out an essential national security and defense mission; they are under attack, just as they would be as if they were conducting a convoy in Afghanistan; and the Department of Defense is not informed directly.

General MCDEW. Well, part of it, Senator, is "attack." Let's talk about "attack" for a second.

Let's say today, and I hate to name a company, because it will get somebody in trouble. If someone is not necessarily contracted with us and they get attacked, that is the same as if they are actually contracted with us and they get attacked.

So I do not care where they report to, because if an adversary gets on their network and stays on their network, it does not matter whether they are actually doing my work at the time when the adversary moves laterally through their network and potentially invades my network.

Senator BLUMENTHAL. That is exactly the reason, General, why I think they should be reporting to you, because even if they are attacked—well, let me put it differently. It makes no difference whether they do civilian as well as military work. If they are attacked, it is an attack on a network that is performing national security military work and potentially not only undermines the function they do for you but gains entry into your computer networks—

General MCDEW. Absolutely.

Senator BLUMENTHAL.—the Department of Defense computer networks. So I am somewhat at a loss to know why they are not instantaneously telling you, we have been attacked by Russia or China.

General MCDEW. Part of it is I cannot do anything about it. This organization that they would report to has partnerships and alliances with the Department of Defense. So the Department of

Homeland Security in their role to have the non-DOD side of cyberdefense is partnered with DOD and CYBERCOM.

So that organization that would respond to an attack is linked that way. My organization would be interested to know that that company has been attacked, but we would rely on others to do something about it. We would like to know because then it would tell us what we could do with that organization going forward.

Senator BLUMENTHAL. Well, I would think for a variety of reasons you would like to know. Have you ever asked? Have you ever sought that information?

General MCDEW. So that information-sharing is what I am really talking about. We have good information-sharing in some areas. It can be better across the entire spectrum, because most of the time, the attack or the intrusion takes place and no one thinks it is an attack or an intrusion. It can look like a harmless mechanical failure.

Senator BLUMENTHAL. Let me ask you this. Would you like that information directly?

General MCDEW. I think I do need it directly. I do not need it as quickly as CYBERCOM needs it or DHS needs it, but I need the information.

Senator BLUMENTHAL. You do need to directly.

General MCDEW. Right.

Senator BLUMENTHAL. When you talk about it, you do not need it as quickly, if it is made available to them, it can be made available to you.

General MCDEW. Absolutely.

Senator BLUMENTHAL. Thank you, Mr. Chairman.

General MCDEW. The unfortunate thing, Senator, is that the speed of this domain does not comport well to how we do information-sharing. Things happen so quickly, and we have to not think about sharing. We just have to share in a classified way.

Senator BLUMENTHAL. Thank you.

Chairman MCCAIN. General, all I can say is that we need to share. We also need to have an ability, either your organization or someone, to respond and to try to prevent, which is one of the major issues that this committee is having to address since certainly the last administration did not.

Jack?

Senator REED. No, sir. I am fine.

Chairman MCCAIN. Thank you, General.

General MCDEW. Thank you, Chairman. Thank you.

[Whereupon, at 10:56 a.m., the committee adjourned.]

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR JOHN MCCAIN

BIG PICTURE TRANSCOM ISSUES

1. Senator MCCAIN. General McDew, at this time, could TRANSCOM respond to two concurrent global contingencies?

General MCDEW. [Deleted.]

2. Senator MCCAIN. General McDew, can today's TRANSCOM operate in a contested environment?

General McDew. Yes, TRANSCOM can operate in contested environments; however, we expect significant challenges to our freedom of action. We expect that future conflicts will cross regional boundaries and potential adversaries and peer competitors will field numerically superior forces with increasing-technological parity. Those adversaries are aware the United States has become accustomed to geographically-isolated conflicts and enjoyed technological and logistical superiority over its adversaries, so we expect contested global sea lanes and air routes to a degree we have not faced since World War II. Furthermore, we expect significant challenges which could delay and degrade services in the support of combatant commanders and its Allies. Potential adversaries seek asymmetric means to cripple our force projection and sustainment capabilities by targeting critical military and civilian assets, both within the U.S. and abroad. Additionally, our enemies continue to use our dependence on the cyber domain against us. While it is true that a significant cyber related incident has the potential to disrupt and/or delay mission timeliness, TRANSCOM does possess the means to mitigate these challenges on the Department of Defense Information Network. However, unsecure networks and systems of our commercial transportation service providers, coupled with critical infrastructure vulnerabilities around the globe, almost wholly reside outside our control and pose significant risk to mission assurance. With those challenges in mind, the Command remains postured to operate in such an environment and effectively answer the Nation's call.

3. Senator MCCAIN. General McDew, do you believe that TRANSCOM can facilitate the mobilization sustainment of our armed forces if they were called to respond to a contingency in Russia or North Korea?

General McDew. Yes, TRANSCOM can facilitate mobilization sustainment of our armed forces if they were called to respond to a contingency in Russia or North Korea. However, the age of the fleet across our strategic sealift portfolio drives increased risk to the Joint Force—if not recapitalized to retain capacity. For instance, the average age of our government-owned fleet exceeds 39 years. Without a valid sealift recapitalization plan, more than 50 percent of the sealift capacity provided by the fleet will be lost by 2034. The DOD will experience elevated risk without a recapitalization plan of the organic Surge Fleet, by either degraded power projection or being forced to rely on foreign flagged ships. Additionally, the commercial fleet has been in decline over the past several decades and while we can meet force closure requirements today with acceptable delays, additional reductions in the fleet put force closure at risk. USTRANSCOM continues to examine how we execute our logistics missions in contested environments by exercising and war-gaming logistics scenarios, account for transportations' vital roles, and for the first time potential losses. Any loss to the military sealift could severely impact our logistics mission.

4. Senator MCCAIN. General McDew, what assumptions do the COCOMs make for operational planning as to the readiness and capability of TRANSCOM?

General McDew. COCOMs prepare operational plans (OPLANS) assuming an unconstrained environment where the combat forces required to carry out those plans and the corresponding sustainment stocks will be delivered on time and on target. In the rare case where a gap exists in the TRANSCOM deployment and distribution enterprise, the COCOMs assess the gap against the requirement to determine acceptability. All OPLANS are supportable with or without acceptable risk.

5. Senator MCCAIN. General McDew, do the Department's operational plans for regional and global contingencies assume 100 percent logistics, 100 percent of the time?

General McDew. Yes, past mobility studies have assumed uncontested environments with secure air and sea lines of communications based on expected air and sea superiority. Future mobility analysis will consider contested environment challenges and will incorporate both operational readiness and attrition considerations. TRANSCOM advocates for cyber awareness for regional and global contingencies. For instance, nearly 90 percent of TRANSCOM's missions are still executed over unclassified commercial communications networks. TRANSCOM's challenge is the requirement that our commercial transportation service providers are able to provide critical services during times of crisis. It is not only reasonable to expect degradation and disruption of services during a crisis—it is expected. Furthermore, disruption of services not only could be the result of cybersecurity incidents, but also should be considered in the context of any event, man-made or natural, that poses significant consequences to mission assurance. Due to the large extent upon which TRANSCOM relies upon its commercial partners and the subsequent lack of visibility into the applicable cyber terrain and authority to monitor and assess their

ability to operate during disruptions, TRANSCOM assumes a higher risk to mission assurance. This vulnerability extends operational risk to every single combatant command that TRANSCOM supports on a daily basis.

6. Senator MCCAIN. General McDew, as it can take ~200 C-17 sorties to deploy a single brigade combat team, how will TRANSCOM adapt to ensure that global force projection remains a primary capability of the armed forces?

General McDEW. TRANSCOM has many authorities that can be brought to bear to ensure United States' global force projection in all modes of transportation, organic and commercial. We work with the Services and our Components (Air Mobility Command, Military Sealift Command, and Surface Deployment and Distribution Command) to maintain organic transportation capabilities, as well as our commercial partners to supplement that capability, and ensure viable transportation solutions. On a routine basis TRANSCOM works with CCMD planners to review and update their deliberate and contingency operational plan force flow actions to assure the most efficient movement of forces into an AOR. These movements are a conglomerate of air and surface solutions. When an event occurs in an AOR that requires a rapid buildup or movement of forces, the priority of that mission is increased. Thus, if capacity is not immediately available to transport all requirements, the higher priority mission would take precedence and lower priority requirements would be adjusted to ensure necessary transportation capacity remains intact for remaining global requirements.

7. Senator MCCAIN. General McDew, what considerations in OPLANs are used to account for attrition in our air, sea, and land lines of communication during conflicts with a great power competitor?

General McDEW. [Deleted.]

8. Senator MCCAIN. General McDew, do we have the necessary railheads, airfields, and related infrastructure to support the European Deterrence Initiative? If not, what is being done to remedy this shortfall?

General McDEW. In an uncontested operation we have the necessary railheads, airfields, and related infrastructure to support inter-theater logistics to United States European Command (USEUCOM). However, we have identified contested environment challenges as we support the European Reassurance Initiative. As planning matures, we continue to refine our network and identify CONUS, intra-theater logistics, and resilience requirements to meet the maturing demand. Additional requirements will be worked with the Services and USEUCOM.

CONTESTED ENVIRONMENT

9. Senator MCCAIN. General McDew, TRANSCOM has gained considerable experience over the past 15 years supporting extended combat operations in the Middle East, with the larger operating bases positioned in relatively permissive environments.

General McDEW. See answer to question #10.

10. Senator MCCAIN. General McDew, how will TRANSCOM'S job be different when supporting a conflict in a contested environment, and what is TRANSCOM doing to prepare for the different set of challenges this kind of conflict would impose?

General McDEW. [Deleted.]

11. Senator MCCAIN. General McDew, does TRANSCOM have the resources need to support a conflict in a contested environment? If not, what are the primary shortfalls?

General McDEW. While we have a sense of the challenges a contested environment would present, we do not yet have the objective data to understand critical factors such as attrition. We are building that understanding through wargames and exercises. The next Mobility Capability Requirements Study (MCRS) will help complete the picture and inform a resource discussion. That said, we know current challenges such as the readiness of the tanker and the strategic sealift fleets will be exacerbated in a contested environment. It is for this reason initiatives such as fully funding the strategic airlift fleet, the tanker recapitalization and the strategic sealift recapitalization remains critical. TRANSCOM's ability to build redundancy in routes, nodes, and transportation systems, is critical to assuring the deployment mission. In most cases, TRANSCOM does not have its own resources to counter contested environments. We depend on joint capabilities (such as missile defense, port

protection, etc.) to protect critical nodes and assets from interdiction. TRANSCOM is also dependent on the Department of State and the geographic CCMDs to negotiate access to alternate ports and Air/Ground Lines of Communication. Additionally, because the TRANSCOM enterprise primarily works in the “chasm” between the DOD networks and the nation-wide commercial networks through which we interface with our commercial partners, TRANSCOM requires authority to monitor and assess cyber terrain owned and operated by Commercial Transportation Service Providers in order to react and respond to disruptions during times of crises and thus ensure mission assurance.

12. Senator MCCAIN. General McDew, in March 2016, you said that emerging contested environments pose a significant challenge to transportation and distribution networks. However, the assumption that the U.S. military will have uncontested access to international airspace and sea-lanes between these nodes in the future is no longer valid. When a theater of operations is contested by lack of control over air or ground space, who has responsibility for ensuring that the needed materiel is delivered to the point of employment—TRANSCOM or the services? What responsibilities do host nations have?

General McDEW. TRANSCOM serves as the single coordination and synchronization element on behalf of and in coordination with the Joint Deployment and Distribution Enterprise (JDDE) to establish processes to plan, apportion, allocate, route, schedule, track movements, and redirect forces and supplies per the supported commander’s intent. The supported combatant commander (CCDR) is responsible to plan, identify requirements, set priorities, and redirect forces and sustainment as needed to support operations within the respective Area of Responsibility. Visibility through the JDDE provides the CCDR the capability to see and redirect inter-theater and intra-theater force and commodity flow in support of current and projected priorities. The geographic CCMDs, in coordination with the Department of State, will also coordinate with host nation(s) to determine what type of support and force protection they can or are willing to provide.

13. Senator MCCAIN. General McDew, if responsibility is shared among TRANSCOM, the services, and host nations, what mechanism(s) ensure that gaps in the needed logistics support are not present, and can be addressed if discovered after operations commence?

General McDEW. Communication between the supporting CCMD and the supported CCMD in prior deliberate planning and then as a crisis or contingency unfolds ensures that gaps in the needed logistics support are addressed and mitigated. Constant dialogue at CCMD and component levels ensure that as gaps appear, transportation solutions are developed to meet operational requirements once actions commence. This dialogue between CCMD also informs the services, partner nations, and industry if there are capability gaps that must be addressed on a broader global scale.

14. Senator MCCAIN. General McDew, what areas of operations would be challenging for the joint distribution and deployment enterprise, and what mitigations is TRANSCOM planning for those areas? Does it require the services to generate more capabilities to counter A2/AD environments, such as countermine capabilities or ISR capabilities?

General McDEW. [Deleted.]

RESILIENCY VERSUS EFFICIENCY

15. Senator MCCAIN. General McDew, as our adversaries field precision guided weapons, we must continue to review if our efficiency has hampered our ability to remain resilient in how we approach alternative logistics platforms and how the U.S. confronts threats to key logistics choke points such as the Panama or Suez Canal. Our current approach relies on large and efficient transports moving materiel to large efficient hubs. The last tactical mile is a bit more distributed, but we rely on large known Aerial Port of Debarkations, A-PODS, and Sea Ports of Debarkation, S-PODs, in theater until that last leg. These are known targets that could be very hard to defend against precision weapons in a conflict. How is TRANSCOM ensuring resiliency of our crucial lift capability while not losing efficiencies previously created?

General McDEW. TRANSCOM is experienced at building a distribution network robust enough to endure global events. We are first and foremost focused on warfighting effectiveness, but must also account for efficiency as good stewards of taxpayer dollars. As we face new trans-regional challenges, strategic agility has

grown in importance. Over the past decade we have seen the patient movement enterprise swing from west to east in a matter of hours after a volcanic eruption. Our team, in collaboration with the Geographic Combatant Command and Department of State, developed an extremely flexible ground lines of communications system across Europe and Asia to mitigate reliance on the routes through Pakistan. When those routes closed, the entire enterprise including vessels enroute to Karachi, shifted to alternate ports and routes without impacting the Theater Mission. Our ability to pivot is reliant on having sufficient authorities in place to shift the enterprise.

16. Senator MCCAIN. General McDew, additionally, how does TRANSCOM plan for disruption to key chokepoints as vulnerabilities to global logistics?

General McDEW. [Deleted.]

AERIAL REFUELING

17. Senator MCCAIN. General McDew, you have described the KC-46 tanker, which is expected to replace almost 40 percent of the Air Force's tanker fleet, as the highest priority among the command's various recapitalization needs. The KC-46 program originally planned to make an initial production decision in August 2015, but had to delay the decision nine months, to May 2016, because of development problems causing changes to test and delivery schedules. Do you have the authority you need to exercise operational control of the current and future refueling fleet to fulfill your mission requirements?

General McDEW. The ability to globally swing air refueling assets is paramount to TRANSCOM's ability to support national objectives and fulfill responsibilities as the DOD single manager for transportation. There are Congressional restrictions that inhibits TRANSCOM's ability to move global air refueling assets quickly to meet emergent needs. Section 8072 (b) of the Consolidated Appropriations Act of 2012 states that no funds available to DOD may be obligated to modify command and control relationships to give TRANSCOM operational and administrative control of the C-130 and KC-135 forces assigned to the Pacific and European Air Force Commands. While this restriction does not prevent the day to day mission from getting done, it does hamper my ability to execute the mission in support of combat operations. With current scarcity of air refueling aircraft the TRANSCOM Commander needs the authority and agility to optimize the utilization of this fleet.

18. Senator MCCAIN. General McDew, is current KC-46 procurement profile sufficient to meet your mission requirements?

General McDEW. [Deleted.]

19. Senator MCCAIN. General McDew, what will be the impact on current operations and the current maintenance of existing air refueling aircraft because of the production delays of the KC-46 program?

General McDEW. The impact of production delays is the increased cost of operating and maintaining the legacy fleet. It is important to emphasize that our legacy tanker retirement strategy is dependent upon the timing of the KC-46 aircraft delivery schedule. As you're aware, delays in KC-46 deliveries have postponed legacy tanker retirements to now begin no earlier than fiscal year 2019. Even with on-track delivery, the current procurement profile may not be sufficient to meet rising demands for this capability.

20. Senator MCCAIN. General McDew, what short to mid-term mitigation plans does TRANSCOM have in place to address any air refueling shortfalls that may occur?

General McDEW. Mitigation plans, regardless of short-, mid- or long-term, is a constant balancing of competing theater priorities in which TRANSCOM must both set the theater and set the globe, improve utilization, and enhance the agility of our tanker fleet. We simply cannot afford to over-source and under-utilize individual theater air refueling capabilities. TRANSCOM acknowledges Geographic Combatant Commands will require enough air refueling capability to cover their fight-tonight risk. But, DOD and TRANSCOM cannot afford to source tankers to bring any one individual Geographic Combatant Command's risk to zero while increasing risk globally and to other Combatant Commands. TRANSCOM, within its existing Unified Command Plan (UCP) authorities and with Joint Staff leadership, can foster a holistic effort to develop a more agile way to allocate tanker forces across trans-regional lines and refine utilization standards for allocated forces. We are also working closely with the Joint Staff to better de-conflict large exercises with large deployment and redeployment of rotational forces.

21. Senator MCCAIN. General McDew, what are some potential steps that could be taken in the near and mid-term to ensure that TRANSCOM is able to effectively and efficiently meet its requirements?

General McDEW. From the supply side, we need to achieve a sustainable operations tempo that will allow us to begin to recover readiness for the seasoning and retention of our aircrew and the maintenance of our aircraft. This may mean difficult choices to not participate in some lower priority exercises or to not support missions that can be completed with reduced tanker support. From the demand side, we will have to scrutinize the current utilization rates and posture of our forces around the globe and eliminate restrictions to tasking assets across regional geographical boundaries to increase agility and mutual support. For example, currently law prohibits USTRANSCOM from exercising command and control of aerial refueling tankers in the U.S. Pacific and European Command. Legislative relief would enable USTRANSCOM to use air refueling assets more effectively and efficiently; enhancing the overall readiness. In the mid-term it may be wise to reexamine the balance of our forces that we have placed in the Active Component versus the Reserve Component based on the tempo we are operating the Joint Force. Additionally, the current mission capability rate of the KC-135 must be maintained or exceeded to ensure adequate tanker availability since the majority of those forces reside in the Reserve Component. Lastly, we must not slip on the timing of acquisition and recapitalization programs like the KC-46 and strategic sealift.

PEACETIME VERSUS WARTIME DEMANDS

22. Senator MCCAIN. General McDew, in March 2016, you told the House Armed Services Committee that efforts were underway to develop a base plan for all phases of TRANSCOM's operations. The effort was to result in an overarching global plan that would articulate: how TRANSCOM coordinates, synchronizes, and executes its joint distribution and deployment responsibilities; and how TRANSCOM would operate in a contested environment. What is the status of this effort?

General McDEW. The Global Campaign base plan is on target for the end of the summer 2017 completion with the remaining annexes of the overarching campaign plan to be completed summer 2018.

23. Senator MCCAIN. General McDew, assessing the transportation feasibility of OPLANs is one of TRANSCOM's major responsibilities. How often are OPLANs modeled to determine transportation feasibility?

General McDEW. As directed by Joint Staff, TRANSCOM conducts up to two transportation feasibility assessments (TFA) per year for each of the current problem sets.

24. Senator MCCAIN. General McDew, how often are two plans modeled for simultaneous transportation feasibility?

General McDEW. For a directed problem set, TRANSCOM models the family of operational and concept plans from all the CCMDs, supported and supporting, that address the assigned problem. For programmatic purposes, TRANSCOM has and continues (at least once per year) to model simultaneous execution of multiple problem sets.

25. Senator MCCAIN. General McDew, in developing the base plan, has TRANSCOM identified any areas or issues that merit more attention from Congress or DOD?

General McDEW. TRANSCOM areas of concern include (but are not limited to):

- 1) Recapitalization of sealift capacity is a need which must be addressed now. Some ageing ships in the Ready Reserve Force must be replaced to ensure we can meet force deployment requirements until new sealift ship construction begins. Part of the recapitalization strategy is a bridging solution to allow purchase of used vessels, which may include used foreign built vessels, to fill the gap. We are submitting a proposal to Congress for that authority.
- 2) We are concerned for the pool of merchant mariners who man our ships. As the U.S. flag international fleet continues to decline, the mariner labor pool also declines, putting at risk our ability to surge forces overseas and to sustain them for the duration of the conflict. The risk, due to further decline of available merchant mariners and U.S. flag ships, will be increased reliance on foreign owned/operated/crewed vessels to transport U.S. forces in a contingency.
- 3) TRANSCOM needs the flexibility to manage mobility forces on a global scale. The most stressed of those forces today are air refueling tankers; yet, the law prohibits from exercising operational control of KC-135s in USPACOM and

USEUCOM. Relief from that restriction would enable TRANSCOM to use air refueling assets more effectively and efficiently, and enhance the overall readiness of those forces.

- 4) KC-135 forces remain stressed while KC-46 production is expected to remain at 15 per year. KC-46 production is crucial to replacing the aging fleet and must stay on track. The current fleet of 455 tankers (average age of KC-135 is 55 and KC-10 is 3) must grow to at least 479 to meet minimum wartime requirements. At this time, emerging contested environments continue to put greater demand on the global aerial refueling fleet.
- 5) The National Guard and Reserve Component are under increased stress from years of high operational tempo (OPTEMPO) at a level that is commensurate with Active Duty forces. I am concerned the high OPTEMPO, combined with a highly leveraged Guard and Reserve Component and length of time for mobilization, will lead to reduced readiness for future contingencies. Highlighting our concern with a balance of the air mobility forces, over 70 percent of aeromedical evacuation capability, nearly 60 percent of the tanker capability, and over 50 percent of airlift capability reside in the Guard and Reserve Component. Specifically for airlift aircraft, 40 percent of C-5s, 32 percent of C-17s, and 69 percent of C-130s reside in the Guard and Reserve; yet, aircrews comprise a much higher percentage: 55 percent of C-5 aircrews, 74 percent of C-17 aircrews, and 71 percent of C-130 aircrews reside in the Guard and Reserve. The planned buyback of C-17 aircraft currently in backup inventory for the Air National Guard and Reserve—will exacerbate the Active Duty/Reserve component imbalance, reduce readiness over time, and further limit access to aircraft. The C-5M is proving to be a very capable aircraft, but current plans call for retaining 12 C-5Ms in backup aircraft inventory. Placing a portion of those C-5Ms into the Active Duty force would help meet current demand, better balance the strategic airlift fleet, and provide the TRANSCOM with greater flexibility.

TRANSCOM INAUGURAL WARGAME

26. Senator McCAIN. General McDew, in October 2016, TRANSCOM conducted its inaugural wargame in to examine mobility and distribution operations in a contested environment. TRANSCOM's components, subordinate commands, and distribution partners participated in the wargame. In discussing the wargame, a TRANSCOM official noted that operational wargames tend to focus on combat operations and do not consider logistics concerns because TRANSCOM officials participate in other DOD wargames to ensure a realistic, transportation, distribution, and logistics environment. What were the results of the wargame and what challenges, if any, were identified?

General McDEW. In general, the Services' and CCMD wargames are more focused on kinetic effects and less on the logistics necessary to support those robust kinetic operations. Subsequently, while we've enhanced our support to the Services' and CCMDs' wargames, we've injected substantial logistics reality into game designs in an effort to help validate plan feasibility. We have discovered through our participation in these games, that a future contested environment will mandate that logistics planning efforts mirror the rigor of operational planning efforts.

27. Senator McCAIN. General McDew, did TRANSCOM wargame its transportation support for specific operational or contingency plans?

General McDEW. The wargame used regional scenarios, but did not use specific operational or contingency plans.

28. Senator McCAIN. General McDew, did TRANSCOM's wargame involve potential attrition of mobility forces? If yes, what were the results and the implications for the current numbers of mobility forces? If no, why not?

General McDEW. The wargame involved discussion of potential attrition of mobility forces. The discussion highlighted the criticality of ensuring operational planners understood the possibility and resulting implications of mobility force attrition. The wargame also validated the need for an increased emphasis on the need to invest in the recapitalization of air refueling, air lift and sea lift assets. It also validated the significance of maintaining the readiness of existing mobility forces and our Reserve Component.

29. Senator McCAIN. General McDew, how often does TRANSCOM plan to conduct future wargames?

General McDew. The plan is, at a minimum, to conduct an annual wargame, with additional games dependent on the continued development of our wargame staff and funding assistance from the Quad Chairs of the Defense Wargaming Advisory Group (DWAG)

CYBERSECURITY

30. Senator McCain. General McDew, cyber intrusions into operationally critical contractors pose a threat to defense operations. Today nearly 90 percent of TRANSCOM's missions are executed over unclassified communication networks, to include communications with commercial partners. Further, because TRANSCOM is a supporting command, all combatant commands share this risk to operations. A 2014 inquiry by the Senate Armed Services Committee into cyber threats facing TRANSCOM and its contractors found 50 successful intrusions or other cyber events targeting TRANSCOM contractors in 2012 and 2013. The inquiry also found gaps in requirements that resulted in many cyber intrusions not being reported to the command. Who is targeting TRANSCOM and why, and what makes TRANSCOM a particularly attractive cyber target?

General McDew. [Deleted.]

31. Senator McCain. General McDew, TRANSCOM planned on incorporating cyber incident reporting language into most of its contracts by 2016. Where does TRANSCOM stand in terms of achieving this goal?

General McDew. TRANSCOM continues to work closely with its commercial partners to incorporate more stringent and timely reporting requirements into Transportation Service Provider and information system development contracts to create an environment of information sharing and collaboration. To that end, TRANSCOM has determined its contracts provide operationally critical support in accordance with the reporting requirements defined in the Defense Federal Acquisition Regulation Supplement (DFARS) clause 252.204-7012, "Safeguarding Covered Defense Information and Cyber Incident Reporting." This requires reporting of cyber incidents that affect a covered contractor information system or the covered defense information residing therein, or that affect the contractor's ability to perform the requirements of the contract that are designated as operationally critical support and identified in the contract. The designation of operationally critical support has been incorporated into our readiness contracts and continues to be incorporated into TRANSCOM contracts through modifications and renewals.

32. Senator McCain. General McDew, beyond reporting on cyber incidents, what mechanisms are in place to enable or require contractors to strengthen their cyber defenses?

General McDew. TRANSCOM contracts follow the requirements set forth in DFARS clause 252.204-7012. TRANSCOM is also currently working internally and with industry to incorporate additional contract language in all TRANSCOM transportation contracts to further address the security posture of its industry partners. Additionally, TRANSCOM continues to partner with organizations across industry, academia, and the Federal Government to increase mission assurance by identifying and mitigating gaps, seizing opportunities to advance cyber domain capabilities, and enhancing information sharing. TRANSCOM also works closely with the Defense Cyber Crime Center (DC3), DHS, and the Federal Bureau of Investigation to seek opportunities to keep the command's industry and commercial partners informed of cyber threats and cybersecurity best practices.

33. Senator McCain. General McDew, TRANSCOM is increasingly challenged by aging and obsolete infrastructure issues that affect equipment, ports, IT systems, and more. What are your biggest concerns in this area, and how is TRANSCOM addressing and mitigating these issues?

General McDew. My biggest concern is Mission Assurance across the entire TRANSCOM Enterprise. To address this concern, we conducted a Mobility Strategic Portfolio Review which identified top critical areas of concern regarding critical infrastructure and cyber-related dependencies. TRANSCOM is currently undertaking an Office of the Secretary of Defense Program Decision Memorandum directed Cyber Mobility Thin Line Study of two ports identified in the portfolio review. This assessment will analyze these two facilities holistically to identify critical areas to focus on mitigating the effects of cyber disruption and degradation. Additionally, TRANSCOM's Cloud Center of Excellence team is partnering with Defense Innovation Unit Experimental to evaluate & prototype commercial cloud-based technologies such as Infrastructure-as-a-Service, Platform-as-a-Service, and Software-as-a-Serv-

ice. These technologies offer TRANSCOM the ability to host its unique unclassified applications while offering greater security and availability. The team will also evaluate cloud security and application development technologies to prototype a TRANSCOM security boundary within a commercial cloud environment, satisfying our Cyber Security Service Provider responsibilities. TRANSCOM has also implemented several cyber resiliency and digital diversity projects that will enhance mission effectiveness, improving cyber reliability by increasing back-up speed and capacity while eliminating single points of failure.

SEALIFT

34. Senator MCCAIN. General McDew, TRANSCOM is responsible for all of the U.S. military's sealift assets. Military Sealift Command (MSC) provides ocean transportation and sustainment for the Navy and the rest of DOD, operating about 115 ships daily around the world. Operated by civilians, these ships support ongoing operations around the globe. Recently, the Navy has called for a more distributed fleet with distributed lethality to extend the global reach of its combatant ships although the Navy's distributed lethality concept is new and has not been fully incorporated into Navy commands and fleets. The MSC fleet will need to provide the logistics support required by globally distributed operations, and do so during a period of uncertainty as fleets transition to cover a larger geographical area. At the same time, MSC platforms, such as the Expeditionary Fast Transport (formerly designated the Joint High Speed Vessel), are taking on new roles to compensate for the declining numbers of amphibious ships in fleet. How are MSC's mission requirements evolving? What implications do these have for the command's personnel and force structure?

General McDew. TRANSCOM is responsible for 61 of the Nation's 115 strategic sealift assets (15 MSC and 46 MARAD). The maritime system has deteriorated, is more stressed, and more contested than ever before, and this is the environment in which we must operate. Emerging contested environments pose a significant challenge to the personnel, ships, ports and Sea Lines of Communication employed by MSC. The threat is no longer a "hypothetical" in some distant future. Mariners, capital assets, and equipment that convey national power are at risk. Similarly, advances in technology have created a commensurate reliance on its application, creating critical vulnerabilities, particularly in cyberspace. We must overcome these evolving challenges and be prepared to operate in both communications and cyber contested environments while also operating in contested waters requiring tactical proficiency and maneuver. We must adapt our force structure, personnel, and training to meet these challenges. Implications include increased training, more robust self-defense capability and increases in Command, Control, Communications, Computers, and Intelligence (C4I) capability.

35. Senator MCCAIN. General McDew, what personnel and training challenges have impacted the MSC, and what effects do these pose to maintaining warfighting readiness?

General McDew. MSC is implementing new training requirements for our mariners to better operate in a blue-water contested environment. This training runs the gamut of warfare areas (e.g. convoy operations, electro-magnetic maneuver warfare, anti-submarine warfare, etc.) Additionally, the increasing tempo of harassment and "Grey War" activities by state and non-state actors, requires adaptation to ensure mission accomplishment. This puts a heavy demand on our personnel (both military and civilian) to meet the demands to maintain a specific warfighting readiness level. As an example, civilian crews are now faced with understanding and practicing tactical mission-area skills such as Emission Control, Undersea Warfare, Information Operations, tactical maneuvering, tactical communications and more.

36. Senator MCCAIN. General McDew, in what ways will DOD and TRANSCOM equip the MSC fleet with technology that ensures secure communication in contested environments?

General McDew. To date, MSC has stood up a Backup Network Operations Center (BNOC) to provide redundancy to the command's Afloat Network Operations Center (ANOC). The BNOC will ensure seamless and uninterrupted communications with the MSC fleet if the primary network operations center is disrupted for any reason (cyber-attack, natural disaster, power outage, fire, or physical attack). We are updating and improving emissions control procedures, guidance, and training on ships so crews can minimize and/or avoid detection when operating in a contested environment. Additionally, we have plans to install secure, anti-jam Global Positioning System (GPS)/Position Navigation Timing systems on ships and at

ashore facilities. MSC is also currently working with Service and Joint commands to explore innovative ways to better protect communication systems from external threats when operating in a contested environment. Program Objective Memorandum-19 initiatives have also been submitted to upgrade MSC wideband satellite, High Frequency radios, and GPS capabilities on MSC ships to improve the fleet's ability to operate in a contested environment. Also, the command placed cybersecurity professionals at the TRANSCOM Joint Cyber Center and the command's Network Operations Centers to improve cybersecurity readiness and information sharing. Finally, we are conducting comprehensive vulnerability and threat assessments of traditional and non-traditional IT systems in an effort to harden communication, navigation, and ship control systems against cyber-attacks. Furthermore, the command is upgrading the Naval Modular Automated Communications system on ships to provide a backup means of receiving record message traffic if the primary messaging system fails or is degraded when operating in a contested environment.

37. Senator McCAIN. General McDew, how will TRANSCOM prepare civilian mariners to continue missions in the event of a cyber-degraded environment?

General McDEW. The preparation necessary for cyber-degraded environments must reside in commercial industry and in the accession sources that train and credential mariners for their commercial employment. TRANSCOM will continue to work with the Department of Transportation, the Maritime Administration and industry partners to emphasize the need for mariners to retain the skills necessary to operate in cyber-degraded environments including age old maritime navigation skills using sextants and current charts. Many MSC ships are equipped with multiple or redundant communication capabilities which can minimize or mitigate the effects of cyber or other adversary threats while operating in a contested environment. In the event of a complete communication or business system outage, MSC is developing manual backup procedures to ensure critical information or orders continue to flow over available communication capabilities. MSC is taking a multi-pronged approach to prepare mariners to continue missions in the event of a cyber-degraded environment. To increase cybersecurity and mission assurance MSC has taken the following actions:

- Created enhanced cybersecurity training requirements and qualifications for Ships Communications Officer (SCO) / Radio Electronics Technician (RET) positions for civilian mariners serving on ships supporting TRANSCOM and is working with Operating Company and union representatives to establish cybersecurity, computer network, and communication system training qualifications and standards for Electronic Officers and Electro Technical Officers.
- Formally requested seats in Navy training courses. This also applies to SCOs and RETs serving on MSC Fleet Ordnance and Dry Cargo vessels supporting TRANSCOM.
- Begun planning for mariners to participate in In Port C4/IT training events to increase individual and crew proficiency. In the fall of 2017, TRANSCOM will conduct its annual cyber exercise ULTIMATE GUARDIAN in partnership with the Command's annual staff exercise TURBO CHALLENGE. During this event, TRANSCOM and Component staffs will plan and execute high-end Joint Deployment and Distribution Enterprise operations in a contested cyber environment. Spanning three months, the exercise will incorporate a requirement for significant merchant mariner support. TRANSCOM has extended an invitation to commercial industry partners via the Command's Private Sector Representative to participate in addressing the challenges presented to maritime operations in degraded or denied cyber environments.

MARAD

38. Senator McCAIN. General McDew, along with other government agencies, such as the Maritime Administration (MARAD) and the U.S. Coast Guard, TRANSCOM ensures surge sealift vessels are ready to deploy in the event they are activated. In addition, these agencies assess the availability of mariners who make up the pool of civilian U.S. Merchant Mariners available to crew government sealift ships when activated. To what extent is TRANSCOM actively monitoring the mariner pool? What are the methods by which TRANSCOM identifies the total number of mariners in this pool?

General McDEW. The National Security Directive on Sealift assigns the Department of Transportation (DOT) the responsibility for determining whether adequate commercial maritime manpower is available to support the operation of reserve ships during a crisis. This responsibility is delegated to MARAD and TRANSCOM who then work closely with the Office of Maritime Workforce Development to ad-

dress mariner availability. To determine adequate mariner supply, DOT/MARAD uses the U.S. Coast Guard (USCG) Merchant Mariner Licensing & Documentation System database, and union and non-union labor information. Although TRANSCOM does not access the database for specific individual mariner credential information, it collaborates with DOT/MARAD on the number of ships in the U.S. flag fleet that employ the mariners with the specific credentials necessary to operate DOD surge fleet vessels. In this way, TRANSCOM maintains awareness of the size of the mariner pool and its trends. To determine the mariner demand, DOT/MARAD and TRANSCOM monitor the number of billets required on all Government-owned, Commercially-Operated and Commercially-Owned, Commercially-Operated vessels that sail using mariners with credentials needed for the organic surge fleet. The 2017 National Defense Authorization Act requires MARAD to convene a Maritime Workforce Working Group to identify the number of U.S. citizen mariners that have the necessary USGC merchant mariner credentials needed to crew the U.S. flag fleet and surge sealift fleet in times of National Emergency; assess the USCG Merchant Mariner Licensing and Documentation System; and make recommendations to enhance the availability and quality of interagency data. TRANSCOM is an active participant in the working group.

39. Senator MCCAIN. General McDew, does TRANSCOM have a forecast concerning whether the available number of qualified and experienced mariners will be adequate in the future to support a large-scale activation of an extended duration (i.e., beyond 6 months)?

General McDew. MARAD's, Office of Maritime Workforce Development collaborates closely with TRANSCOM to understand trends in the mariner workforce to inform future mariner adequacy forecasting. According to DOT/MARAD, the number of contract mariners is sufficient to meet the initial sealift surge when government reserve sealift ships are activated, but will severely challenge our ability to sustain crewing requirements over an extended period which requires rotation of crew members on both government and commercial vessels.

40. Senator MCCAIN. General McDew, are there opportunities to leverage existing assets—such as MARAD's Ready Reserve Force or MSC's organic sealift fleet in reduced operating status—to provide experience and train mariners?

General McDew. Yes, activations of the Ready Reserve Force or MSC's surge fleet provide training opportunities for mariners especially for steam vessel mariners. However, these activations are insufficient in both number and duration to provide sufficient experience and train mariners alone. Subsequently, our best opportunity to train and maintaining qualified, proficient, and actively sailing mariners is to maintain a robust U.S. flagged fleet for both international and Jones Act trade.

ROLL-ON/ROLL-OFF SHIPS

41. Senator MCCAIN. General McDew, since the early 1990s, mobility studies have concluded that the U.S. needs approximately 19 million square feet of Roll-on/Roll-off (RO/RO) capacity. However, some have noted that DOD may be challenged to meet this capacity requirement as the organic surge sealift fleet starts reaching the end of its service life in the early 2020s. By 2023, 9 of the 50 RO/ROs in the DOD surge fleet—approximately 1.6 million square feet—will likely age out. What limitations do TRANSCOM and DOD currently face that impede their ability to develop a recapitalization plan for the surge sealift fleet?

General McDew. In order to maintain the surge capacity and expeditionary capabilities provided by the Ready Reserve Force (RRF) portion of the National Defense Reserve Fleet (NDRF) and the MSC's Surge Fleet, the U.S. Navy has developed a hybrid recapitalization strategy. In the short-term this strategy seeks the authority to purchase used vessels, regardless of where they were constructed. Used vessels may be needed to fill gaps in the event the long-term strategy (new construction) is not able to meet the entire capacity requirement. In addition to the purchase of used vessels, service life extensions will maintain current vessels to bridge the capacity gap until the long-term strategy of new construction is able to be implemented to provide replacement capacity in the early 2030s to the late 2040s. The legislative authority to acquire used vessels is critical to TRANSCOM's ability to meet rapid power projection requirements and to the Navy's ability to execute its hybrid strategy to replace capacity to meet long-standing sealift requirements as validated in the Mobility Requirements and Capabilities Study (MRCS). The Navy's hybrid strategy provides sufficient capacity and capability in the short-, mid- and long-term with the authority provided by this legislative proposal. Approval in this legislative cycle is necessary to seek appropriations in near-term budget cycles to

recapitalize critical mission capability and capacity and preserve the Nation's power projection capabilities.

42. Senator McCAIN. General McDew, what assessments has TRANSCOM completed to understand these issues and what, if any, progress has TRANSCOM made to address them?

General MCDEW. TRANSCOM has completed multiple assessments starting as far back as the 1990s specifically focused on addressing Departmental sealift requirements. Individual options these studies have highlighted include: New build for the Surge Fleet New build for Marine Prepositioning Squadrons (MPSRONS; acquire new builds for MPSRONS and rotate MPSRON vessels to Surge Fleet) Extended Service Life (ESL) to 60 years Purchase vessels aging out of MSP Purchase vessels on world market Charter build Lease-to-purchase (long-term lease of used foreign ships, purchase at end of lease) Lease Dual-Use Vessel (DUV) The bottom line is that no individual option is acceptable; a hybrid recapitalization strategy as outlined previously best sustains sealift capabilities for the short-, mid-, and long-term.

43. Senator McCAIN. General McDew, are cargo requirements from the 1990s mobility studies still accurate under current warfighting needs?

General MCDEW. The sealift requirement has been and will be enduring. All major mobility studies since the early 1990s report a total sealift requirement of about 19–20 million square feet of capacity, with about 10.2 million square feet required in the current Surge Fleet (50 vessels). Most ships must cycle to-from theater multiple times to meet anticipated cargo delivery requirements. Specifically, the Mobility Capabilities Assessment (MCA), published May 2013, reported 3+ sailings on average for timely closure of the required forces. The sealift requirement is met with a combination of organic and commercial vessels; the surge fleet is available for tasking in five days and provides the majority of capacity required to deliver forces. The Voluntary Intermodal Sealift Agreement (VISA) programs average response time is 18 days (8–25 day range) and enrollment has been declining in recent years. Once the new defense strategy is published, it will be necessary to conduct the thorough analysis needed to match strategy to requirements.

DISTRIBUTION OPERATIONS

44. Senator McCAIN. General McDew, as DOD's Distribution Process Owner, TRANSCOM is responsible for overseeing the overall effectiveness, efficiency, and alignment of DOD-wide distribution activities. One responsibility of the distribution process owner is to oversee the overall effectiveness, efficiency, and alignment of department-wide distribution activities. In October 2011, GAO reported that there appeared to be confusion over whether TRANSCOM—as Distribution Process Owner for DOD—or the services had responsibility to get needed materiel to the point of employment. Specifically, GAO reported that DOD's view that TRANSCOM as Distribution Process Owner should not have any oversight over the last leg of distribution indicates confusion within and outside of DOD regarding TRANSCOM's role. Has DOD clarified this apparent disconnect in where responsibility lies? If so, what actions have been taken to address this disconnect/confusion since the GAO report was issued? If not, what has prevented DOD from resolution?

General MCDEW. The draft 2017 UCP is currently in coordination and has updated language to address the role of the DOD's Distribution Process Owner (DPO) function and provide clarification with regards to responsibilities. Upon approval of the draft UCP, the updated DPO language will reflect TRANSCOM's Joint Deployment and Distribution Coordinator role subsequently clarifying DPO roles and responsibilities.

45. Senator McCAIN. General McDew, what other key issues or challenges is TRANSCOM currently addressing in its role as the Distribution Process Owner?

General MCDEW. As the DPO, TRANSCOM is currently addressing the lack of a distribution network in Western Africa. USAFRICOM requires a logistics network that meets current operational needs in austere environments with little to no infrastructure, which provides Low Volume/Low Frequency distribution solutions, and is flexible enough to meet operational surge requirements. TRANSCOM assisted USAFRICOM in the creation of the West Africa Logistics Network (WALN) to provide full spectrum common user logistics support in West and Central Africa. Another challenge TRANSCOM is addressing as the DPO is finding alternate routes to and within the USCENTCOM AOR should the Straits of Hormuz or the Bab Al Mandeb Strait become non-permissive. In an effort to solve this problem, we are using a network model to simulate the effects of closure, determine alternate Aerial

Ports of Debarkation (APODs) and Sea Ports of Debarkation (SPODs) for delivery options, and determine how much volume the Trans Arabian Network is expected to handle in order to support normal sustainment flow. The Trans Arabian Network is expected to make inter- and intra-movements within USCENTCOM countries easier.

46. Senator MCCAIN. General McDew, what additional tools would help TRANSCOM in carrying out these responsibilities?

General McDEW. TRANSCOM is developing a computer model of the deployment and distribution network. Once developed, the model will simulate the effects of major combat operations on the global distribution network and help determine if other transportation nodes should be employed. Additionally, TRANSCOM is creating a repository of distribution data. This repository will allow TRANSCOM (or any other DOD organization) to access a single source to obtain the information necessary to perform distribution analytics and recommend changes.

47. Senator MCCAIN. General McDew, does TRANSCOM have the ability to conduct its oversight role through the distribution pipeline all the way to final delivery to the warfighter?

General McDEW. To a degree, TRANSCOM leverages processes, collaboration, and IT enabling capabilities to influence and monitor most distribution activities to the point of need in theater. However, we do not yet have the enterprise IT architecture to support the level of integrated oversight I would like to provide.

48. Senator MCCAIN. General McDew, does TRANSCOM have the visibility over distribution performance from major bases to outposts necessary to fully oversee the effectiveness of the DOD-wide distribution system and coordinate potentially necessary improvements to the system?

General McDEW. In most cases the answer to this question is no, TRANSCOM does not have universal visibility over distribution performance from major bases to outposts. TRANSCOM assesses distribution performance for wholesale requisitions, the vast majority of which originate at Defense Logistics Agency (DLA) depots. TRANSCOM collects various Electronic Data Interchange (EDI) events along the pipeline until the requisition reaches the service supply activity which processes the Materiel Receipt Acknowledgment (MRA). It is these EDI events which form the backbone of distribution assessment. The MRA is the EDI event which most closely aligns with the designated point of need and therefore that is where distribution assessment, and associated visibility by TRANSCOM, stop. Further, TRANSCOM does not currently receive EDI event data beyond the MRA. To do so would require the Services to provide this data.

GLOBAL RESPONSE FORCE

49. Senator MCCAIN. General McDew, the Global Response Force (GRF) was established with the objective of providing the Secretary of Defense with an array of rapidly deployable forces to enhance DOD's ability to respond quickly to worldwide contingencies. GRF forces are also intended for augmenting the geographical combatant commands' capability to respond to unforeseen challenges and opportunities. TRANSCOM plays a critical role in the success of the GRF's worldwide mission by providing timely and adequate global mobility support and other joint capabilities. What approaches, if any, has TRANSCOM taken to identify additional capabilities that it may need to enable TRANSCOM's capabilities designated for the GRF?

General McDEW. TRANSCOM constantly engages with each Combatant Command to determine both current and future joint requirements. The analysis of those joint requirements provides insight into possible future capabilities which might be developed and added to the existing TRANSCOM capabilities designated for the GRF. It is important to note that GRF requirements are an important planning factor for current TRANSCOM airlift, tanker and sealift recapitalization efforts.

50. Senator MCCAIN. General McDew, how does TRANSCOM work across organizational lines to integrate its capabilities with those of other components?

General McDEW. TRANSCOM, and the component commands, are force providers for our Joint Task Force—Port Opening (JTF-PO) enabling capability. When a requirement comes to us from a GCC, we stand up a JPT (Joint Planning Team) with the appropriate component representatives to ensure we put the right team size and composition to meet the mission. We also integrate on a daily/weekly/monthly basis in the development and execution of our Turbo Distribution exercise program, pub-

lished directives, and briefings. External to TRANSCOM, we have successfully integrated DLA expeditionary capabilities under the authority of TRANSCOM to deploy in tandem with our JTF-PO elements; we continue to pursue collaboration with U.S. Army Forces Command and Interagency partners to enhance joint mobility capabilities. This includes further developing and codifying integrated capability relationships with Navy Expeditionary Combat and U.S. Army Forces Command for integration of units supporting sea port of debarkation (SPOD) operations. Additionally, the Joint Enabling Capabilities Command (JECC), a TRANSCOM subordinate command, continually coordinates with CCMDs and mission-partners to ensure it understands mission-partner requirements. These habitual relationships allow JECC to remain abreast of joint requirements, anticipate joint priorities, and provide support in accordance with integrated planning priorities in order to better align its capabilities to support joint force commanders. The JECC routinely participates in priority exercises with each CCMD and that provides an opportunity for JECC forces to maintain currency in each area of responsibility by participating in well-resourced, high fidelity environment scenarios. Additionally, it allows CCMDs to partially fulfill their training requirements by learning to work with other organizations like the JECC, enabling the seamless integration of deploying personnel in future operations. The JECC also conducts quarterly Mission Rehearsal Exercises (MRXs) in order to validate the JECC's ability to fulfill its GRF mission requirements.

51. Senator MCCAIN. General McDew, how does TRANSCOM determine if it is able to provide the necessary airlift to meet the most stressing potential GRF employments and where is that readiness captured?

General MCDEW. TRANSCOM Joint Distribution Process Analysis Center (JDPAC) conducts studies in-house to determine if we are able to provide the necessary airlift to meet the most stressing potential GRF employments. As an example, the House National Defense Authorization Act for Fiscal Year 2016, H.R. 1735, Accompanying Report 114-102, recently directed the Chairman of the Joint Chiefs of Staff to submit a report on the strategic vision and plan for an adequately resourced, trained, equipped, and manned effective global response force. In order to support that effort and identify and assess the capacity and readiness of aircraft lift and maritime ships to transport the GRF, TRANSCOM conducted an end-to-end analysis involving a notional crisis for illustrative purposes. The notional scenario involved deploying the GRF Infantry Brigade Combat Team (IBCT) to East Africa for a crisis. This scenario was chosen because it involved a likely use of and location for the GRF. Additionally, the austere nature of the operating environment significantly stressed the mobility system. The analysis helped us to better understand the process of assessing strategic lift for deploying a GRF force package.

52. Senator MCCAIN. General McDew, to what extent has TRANSCOM assessed its ability to muster airdrop-qualified pilots and crews to support potential large-scale GRF missions?

General MCDEW. Air Mobility Command has conducted a number of studies to ensure we have the capacity to support the GRF. From an airdrop perspective, we have adequate airlift pilots and aircrews to exceed what our war plans call for today, but cannot rest on our laurels. The Air Force is experiencing shortages in aircrew and is developing incentives and reforms in order to increase retention.

COORDINATION WITH OTHER COMBATANT COMMANDS

53. Senator MCCAIN. General McDew, what is TRANSCOM's relationship with the Combatant Commands when it comes to managing the distribution of materiel onward from air or sea ports of debarkation all the way through to the last tactical mile?

General MCDEW. TRANSCOM communicates regularly with the Combatant Commands. When managing the distribution of materiel onward from air and sea ports of debarkation through the last tactical mile, TRANSCOM coordinates with the Combatant Commands. The Combatant Commands are responsible for the last tactical mile. Thus, TRANSCOM does not maintain visibility beyond the ports of debarkation. That said, when requested, TRANSCOM will (and has) helped GCCs manage onward integration when requested. The Geographic Combatant Commander and the services own the systems which provide visibility beyond the point of debarkation to the point of need and they are best suited to direct and assess the distribution of that materiel to the Warfighter. The GCC owns the theaters assets, processes, contracts, etc. which control distribution beyond the point of need. The

DPO ends its coordination influence at the point of need and the GCC is empowered to use the resources at his disposal to exercise the joint function of sustainment per the needs of the mission.

54. Senator MCCAIN. General McDew, how does this collaboration happen today, and how do you think it could be improved?

General MCDEW. TRANSCOM hosts major reoccurring planning conferences and participates in GCC exercises with the Combatant Commands to synchronize force deployment, redeployment and sustainment operations. Additionally, as a global combatant command, TRANSCOM routinely provides extensive planning and execution support to GCC exercises, acting in its role as coordinating authority for JDDE operations. The goal of this support is to assist CCMDs with training for deployment, distribution and redeployment execution. TRANSCOM regularly visits GCCs and develops supporting plans and Transportation Feasibility Assessments for GCCs' operations plans. TRANSCOM meets twice a year with the GCCs to establish a holistic understanding of their future deployment requirements. Additionally, the annual Global Distribution Synchronizer seminar (attended by representatives from all combatant commands, Joint Staff, OSD, and DLA) identifies Global Distribution Network issues and develops issue resolution plans. TRANSCOM collaborates with the GCCs from the earliest notification of distribution requirements and stays engaged through execution to measure Time Definite Delivery metrics. Once post execution metrics are gathered, TRANSCOM once again collaborates with the GCCs, Suppliers, and Transporters to use the results of the metrics to ensure continuous process improvement. The new National Military Strategy and the Chairman's push for Globally Integrated Operations to deal with the 4+1 challenges in the Trans-regional, Multi-domain, Multi-functional (TMM) operating environment will also drive improvement in collaboration across the Joint Force by bringing combatant commanders together to work across their historic geographical and functional boundaries.

GAO HIGH RISK REPORT

55. Senator MCCAIN. General McDew, the DOD Supply Chain Management has been on GAO's High Risk Report since 1990. Added to that list in 2005, Materiel Distribution is one of the two remaining sub-categories of Supply Chain Management that GAO assesses to be at risk. As the Distribution Process Owner, what aspects of materiel distribution are most in need of attention from TRANSCOM?

General MCDEW. As materiel distribution is embedded in—and therefore reliant on—the cyberspace domain, the security of that domain stands out as TRANSCOM's most significant challenge requiring a whole-of-government approach to mitigate. Because 90 percent of transportation and logistics operations are carried out by commercial providers, USTRANSCOM missions rely on unclassified networks and systems also used by our numerous commercial partners. The defense of these systems is critical to protecting movement information and requires a holistic partnership with the Department of Homeland Security, other interagency entities, and commercial industry. Additionally, we are in the beginning stages of migrating our unclassified systems to cloud-based technology with the goal of migrating the entirety of our unclassified and classified networks to the cloud to increase security, access, and reliability. This risk mitigation is my highest priority and represents a first step toward reinforcing both our military and commercial providers' readiness, resiliency, and ability to secure materiel distribution activities from disruption. A second concerning aspect of materiel distribution is management of the massive amounts of data throughout the Joint Deployment and Distribution Enterprise. To mitigate our risk in supply chain management, we must instill a culture that treats distribution data as a precious commodity to be standardized, protected, and leveraged as a documented responsibility of TRANSCOM in our Joint Deployment and Distribution Coordinator role. Currently, the availability, aggregation, and ability to make timely decisions to operate a data-centric, predictive materiel supply chain is lacking authority, oversight, and technology to drive distribution responsiveness required to meet the evolving needs of warfighter readiness. Elevating the data culture supporting materiel distribution to levels that parallel commercial best practices requires assistance from the Strategic Capabilities Office, Defense Innovation Unit—Experimental (DIUx), and funding to nominate TRANSCOM as the “pathfinder” for big data within the Department of Defense. Finally, to ensure materiel distribution readiness in the future, we must address the recapitalization of the strategic sealift fleet. Some aging ships in the Ready Reserve Force must be replaced to meet future force deployment requirements while waiting for new sealift construction. We have submitted our proposal to Congress for the authorities to pur-

chase used vessels, currently pending NDAA approval, and ask for special attention on this matter to ensure TRANSCOM's ability to deploy military strength when required.

FORCE STRUCTURE RECAPITALIZATION

56. Senator MCCAIN. General McDew, during your confirmation hearing in 2015, you said that there were a number of recapitalization efforts that would need to take place over the next 5 to 10 years that would become problematic if sequester were triggered. Now that our joint fear has become our shared reality, what shortfalls will TRANSCOM face in the coming years?

General McDEW. [Deleted.]

MARITIME SECURITY PROGRAM

57. Senator MCCAIN. General McDew, the 2003 Maritime Security Program (MSP) provides support for up to 60 active, commercially viable, militarily useful, privately-owned U.S.-flag vessels. MSP vessels have been key contributors to our nation's efforts in Afghanistan and Iraq over the last decade, moving over 50 percent of all military cargo—over 26 million tons—to the Middle East. Under the MSP program, participating operators are required to make their ships and commercial transportation resources available upon request by the Secretary of Defense during times of war or national emergency. In addition, MSP vessels are required to leave the program once the vessel is 25 years old. While the program can support 60 ships, recently the program has had as few as 57. In an effort to attract and maintain participants in the program, MARAD has requested an increase to the stipends provided to participants. To what extent is TRANSCOM monitoring the health and viability of the MSP?

General McDEW. TRANSCOM considers MSP critical to meeting our ability to deploy and sustain forces across the globe. We closely track and report capacity levels monthly and compare it to our mobility requirements to ensure the command's strategic sealift portfolio is adequately sized to meet any contingency. MSP is a joint program between MARAD and TRANSCOM and both organizations are involved in all transactional requirements associated with the program to ensure it continues to meet national defense needs. In the rare case when the 60-ship program was filled to 57 ships, TRANSCOM worked closely with MARAD to fill the vacancies with modern, efficient, roll-on/roll-off capacity which is TRANSCOM's number one priority for vessel type to support our force projection capability. The short gap in time to bring the program from 57 to 60 ships was required to allow the contractors adequate time to strike a balance between meeting TRANSCOM's priority for fill while also achieving commercial viability.

58. Senator MCCAIN. General McDew, what is TRANSCOM's assessment of the health of the MSP program at this time?

General McDEW. MSP continues to be a critical component of our strategic sealift portfolio and is even more important today as we've seen the commercial U.S. flag fleet slowly decline over the past couple of decades. Today with only 80 U.S. flag ships engaged in international trade, MSP represents 83 percent of the total U.S. flag fleet's roll-on/roll-off force projection capacity. The importance of the program is evident when you compare this to the U.S. flag fleet capacity in 2006 when the program grew from 47 to 60 ships and 96 ships were engaged in international trade and only 62 percent of the roll-on/roll-off capacity came from MSP. The provisions within the program ensure that not only TRANSCOM has access to 60 of the most militarily useful capacity in the U.S. flag fleet, but also has access to an extensive network of commercial intermodal capabilities and a pool of qualified U.S. merchant mariners available to crew our government-owned fleet when activated.

59. Senator MCCAIN. General McDew, are there opportunities to replenish the surge sealift fleet with ships formerly in the MSP?

General McDEW. Yes, the MSP may provide opportunities to recapitalize the surge sealift fleet, if section 2218 of title 10 United States Code is amended to provide the Secretary of Defense the discretionary authority to purchase used vessels constructed in shipyards outside of the United States. MSP vessels are part of the DOD's transportation solution to meet military mobility requirements and are full partners in the movement of military equipment. As these vessels reach the end of their useful commercial life, they still have substantial service life available and proven military utility, making them excellent candidates for the Ready Reserve Force and the Military Sealift Command surge fleet.

QUESTIONS SUBMITTED BY SENATOR DAN SULLIVAN

RAPID DEPLOYMENT CAPABILITIES OF KC-46A

60. Senator SULLIVAN. General McDew, the KC-46A has over three times the pallet and personnel carrying capability of the KC-135. Can you explain the strategic capabilities of the KC-46A that make it more than simply a new Tanker, but rather a key to increased global mobility? Does the U.S. Air Force consider these capabilities when deciding main operating base decisions for the KC-46A?

General McDEW. The KC-46 is being procured as part of a tanker re-capitalization effort and will primarily accomplish the air refueling mission. In addition to increased cargo and passenger capacity, the KC-46A offers additional capabilities to the air refueling mission. These include both centerline boom and drogue, wing air refueling pods, receiver air refueling, and updated communications, navigation, surveillance, and datalink capabilities which provide increased flexibility to the global reach air refueling mission. The Air Force Strategic Basing Process evaluates potential main operating base locations using criteria which includes operational factors.

61. Senator SULLIVAN. General McDew, Does TRANSCOM plan to use KC-46s to rapidly deploy 5th generation fighters to theater with maintenance and support personnel as passengers? What are the arguments for and against collocating this KC-46A "Rapid Pegasus" capability with the 100 5th gen fighters at Eielson AFB, AK? What type of message would that send to North Korea, China, and Russia?

General McDEW. Our tanker fleet will be used in conjunction with our airlift fleet to meet our nation's wartime mobility requirements. The KC-46A Strategic Basing process is still underway and therefore we cannot speculate on the advantages or disadvantages of any particular base or location. To date, the Air Force has identified five continental United States Main Operating Bases. Bases in Alaska are considered part of the United States Pacific Command (USPACOM) area of responsibility (AOR) and will be evaluated in future strategic basing actions.

62. Senator SULLIVAN. General McDew, what TRANSCOM priorities weigh heavier in an OCONUS basing decision than the ability to rapidly deploy 5th generation fighters and meeting local refueling mission requirements? What would be the arguments against basing the KC-46A in Alaska?

General McDEW. TRANSCOM prioritizes all Defense Transportation System movements, to include aerial refueling, based on the Chairman of the Joint Chiefs of Staff priority system for that movement. The Air Force Air Mobility Command (AMC) must continually balance forces at Outside Continental United States (OCONUS) locations with CONUS-based forces to plan for and execute missions in any forward area of operation worldwide. The KC-46A Strategic Basing process is still underway and therefore we cannot speculate on the advantages or disadvantages of any particular base or location. To date, the Air Force has identified five CONUS Main Operating Bases. Bases in Alaska are considered part of the PACOM AOR and will be evaluated in future strategic basing actions.

RETAIN LOW MILEAGE KC-135'S TO INCREASE CAPACITY

63. Senator SULLIVAN. General McDew, Would you agree that instead of simply replacing some of the KC-135 fleet with KC-46s, we should retain some of best condition KC-135s and use them to enhance our tanker capacity?

General McDEW. In order to maintain the most capable fleet within current budget constraints, Air Mobility Command (AMC) carefully reviews each aircraft's flying hours, operational capabilities, pending sustainment investments, and other critical life limiting factors, such as structural fatigue and corrosion. Collectively, these elements will help AMC make the best operational and economic decision on the remaining KC-135 fleet. The emerging contested environments can put greater demands on the global air refueling tankers, which must be addressed in the near future. Any attrition would exacerbate the stressed aerial refueling fleet, which will only number at 479 by fiscal year 2019 if there are no further delays in the KC-46 production.

64. Senator SULLIVAN. General McDew, in result of the fiscal year 2015 NDAA there was a business case analysis for the 168th ANG Air Refueling Wing, which found that the 168th meets only 52 percent of mission requirements locally. This was before Eielson was selected to receive 54 F-35's in 2020. Would you agree that meeting less than 50 percent of mission requirements deserves a hard look at adding more tanker capacity to Alaska?

General McDEW. The Air National Guard conducted this business case analysis and is therefore best positioned to answer this question about the 168th ARW local mission support. However, due to the existing shortfall in tanker capacity and the growing need for tanker support globally, I am seeking authority for operational control of KC-135s in U.S. Pacific Command (USPACOM) and U.S. European Command (USEURCOM). This authority currently restricted in law will enable more effective and efficient use of KC135s and enhance overall readiness of these forces.

QUESTIONS SUBMITTED BY SENATOR RICHARD BLUMENTHAL

CYBER BREACH REPORTING

65. Senator BLUMENTHAL. General McDew, you testified that commercial companies that contract with TRANSCOM are required to report a cyber breach within their network to DC3. What is the specific reporting requirement? Do you believe this reporting requirement is sufficient?

General McDEW. TRANSCOM contracts follow the requirements set forth in the Defense Federal Acquisition Regulation Supplement (DFARS) 252.204-7012, Safeguarding Covered Defense Information and Cyber Incident Reporting. (DFARS) 252.204-7012: (c) Cyber incident reporting requirement. (1) When the Contractor discovers a cyber-incident that affects a covered contractor information system or the covered defense information residing therein, or that affects the contractor's ability to perform the requirements of the contract that are designated as operationally critical support and identified in the contract, the Contractor shall—(i) Conduct a review for evidence of compromise of covered defense information, including, but not limited to, identifying compromised computers, servers, specific data, and user accounts. This review shall also include analyzing covered contractor information system(s) that were part of the cyber incident, as well as other information systems on the Contractor's network(s), that may have been accessed as a result of the incident in order to identify compromised covered defense information, or that affect the Contractor's ability to provide operationally critical support; and (ii) Rapidly report cyber incidents to DOD at <http://dibnet.dod.mil>. With regard to sufficiency, I believe the current requirement is a positive development for DOD contracts, however, this requirement does not fully address the need for timely reporting during time of crisis for our most critical contracts. For our most critical contracts, we must define and ensure we are notified of any cyber-related events that impact our commercial partners ability to execute their (and subsequently our) mission in a rapid manner. We are working to incorporate more stringent and timely reporting requirements into out information system development contracts to ensure source code and technology are not compromised while in development. This will result in our systems being more secure once they are implemented. We plan to add these more stringent requirements into our contracts in the coming months as our contracts are renewed or completed.

66. Senator BLUMENTHAL. General McDew, please describe the steps required by a commercial company contracted with TRANSCOM if the company experiences a breach to their cyber network. Who is a company required to report the incident to? What roles do the Department of Homeland Security and the Department of Defense play in this reporting process? How do these agencies assist in addressing a breach and protecting the DOD network?

General McDEW. In addition to the reporting requirements described in DFARS 252.204.7012, 2(c) Cyber incident reporting requirement the Contractor must also take the following actions pursuant to DFARS clause 252.204-7012 and as applicable to the incident: (d) Malicious software. When the Contractor or subcontractors discover and isolate malicious software in connection with a reported cyber incident, submit the malicious software to DOD Cyber Crime Center (DC3) in accordance with instructions provided by DC3 or the Contracting Officer. Do not send the malicious software to the Contracting Officer. As stated in the DFARS excerpt the company must report to the DOD's Defense Industrial Base (DIB) Cyber Incident Reporting & Cyber Threat Information Sharing Portal via <http://dibnet.dod.mil>. The DC3 receives and disseminates reports on behalf of the DOD. There are several organizations that receive the disseminated report based upon their assigned DOD roles. TRANSCOM—Receives reporting and performs risk determination based upon effected contractor. CYBERCOM—Receives reporting for potential situational awareness and indications Defense Security Service—May receive report if the contractor is a Cleared Defense Contractor. Under Secretary of Defense for Acquisition, Technology and Logistics, (USD/AT&L)—If there is an actual breach and informa-

tion is exfiltrated, AT&L is responsible for damage assessment. While the Department of Homeland Security (DHS) is not mandated as part of the contractually required response, contractors may voluntarily provide information to a number of organizations that have reporting relationships with DHS. These include: National Cybersecurity and Communications Integration Center (NCCIC), United States Computer Emergency Readiness Team (US-CERT) and Industrial Control System Computer Emergency Readiness Team (ICS-CERT). These organizations provide mechanisms to share reporting with the U.S. Government with a certain level of protection and anonymity. TRANSCOM subscribes to DHS dissemination mechanisms. The DHS has responsibilities to the Federal Government, with the exception of DOD, to protect the U.S. Government networks. They provide some emergency response capability to the DOD depending on the nature of the breach. Finally, TRANSCOM is addressing this issue by defining more stringent, timely cybersecurity incident reporting requirements to ensure we are notified of any cyber-related events that impact our commercial partners' ability to execute their (and subsequently our) mission in a rapid manner. We are also incorporating more stringent and timely reporting requirements into our information system development contracts to ensure source code and technology are not compromised while in development. This will result in our systems being more secure once they are implemented. We plan to add these more stringent requirements into our contracts in the coming months as our contracts are renewed or re-competed.

**DEPARTMENT OF DEFENSE AUTHORIZATION
FOR APPROPRIATIONS FOR FISCAL YEAR
2018 AND THE FUTURE YEARS DEFENSE
PROGRAM**

THURSDAY, MAY 4, 2017

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

UNITED STATES SPECIAL OPERATIONS COMMAND

The committee met, pursuant to notice, at 9:30 a.m. in Room SD-G50, Dirksen Senate Office Building, Senator John McCain (chairman of the committee) presiding.

Committee members present: Senators McCain, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Perdue, Cruz, Reed, Nelson, McCaskill, Shaheen, Gillibrand, Blumenthal, Donnelly, Hirono, Kaine, King, Heinrich, Warren, and Peters.

OPENING STATEMENT OF SENATOR JOHN MCCAIN, CHAIRMAN

Chairman MCCAIN. Good morning. The Senate Armed Services Committee meets this morning to receive testimony on the posture of the U.S. Special Operations Command, known as SOCOM.

I would like to welcome Ms. Theresa Whelan, who is representing the Office of the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict, and General Tony Thomas, the Commander of SOCOM. I thank our witnesses for appearing before the committee and for their many years of dedicated service to the Nation.

The purpose of today's hearing is to hear directly from the senior civilian and military leaders responsible for ensuring our special operations forces are trained, equipped, and ready to confront what is the most complex and daunting set of national security challenges our Nation has faced since the Second World War.

In response to the increasing threats, our combatant commanders around the world have developed a seemingly insatiable demand for the unique capabilities of our special operators. That is especially true in the fight against terrorism.

For the last 15 years, special operations forces have been heavily engaged in the fight against global terrorist groups. As a result, SOCOM's budget has emphasized optimizing and sustaining counterterrorism capabilities. This is unlikely to change anytime soon. The United States will remain engaged in global counterterrorism operations of varying scope and intensity for the foreseeable

future, and special operations forces will continue to play a vital role.

But we must be careful never to equate special operations with counterterrorism. Special operations forces must be prepared to perform a variety of other critical missions beyond counterterrorism, missions that will continue to grow in scale and importance, and demand more from our special operations forces.

China, Russia, Iran, and North Korea are becoming more aggressive in challenging United States interests and partners through the use of asymmetric means that often fall below the threshold of conventional conflict. The ability of our special operators to conduct low-visibility special warfare operations in politically sensitive environments make them uniquely suited to counter the malign activities of our adversaries in this domain.

Put simply, special operations forces have an indispensable role to play in great power competitions and global counterproliferation.

The challenges posed by militarily advanced great powers will require the development and employment of new technologies and capabilities. It also warrants a serious review of the need for additional special operations force structure.

However, posturing a force to effectively operate in this domain will not be possible until we in Congress step up and repeal the misguided and disastrous defense spending caps and forthcoming defense budget cuts required by law in the Budget Control Act. Persistent budgetary uncertainty undermines the ability of our military leaders to plan and forces them to choose between near-term readiness to support ongoing operations and optimizing the force and its capabilities to address emerging and future requirements.

This is not sustainable, and this is not right.

I look to our witnesses to explain how SOCOM is attempting to balance the need to support ongoing operational warfighting requirements while also ensuring that the force is prepared to deal with emerging threats, as well as describe in detail where budget shortfalls are forcing you to accept risk.

Lastly and most importantly, I expect our witnesses to provide the committee with an update on the overall health of the force and what is being done to mitigate the impact to our operators and their families. Fifteen years of continuous combat operations in back-to-back deployments have placed enormous strain on the force, challenging readiness, resilience, and retention.

We owe our operators and their families who have given so much in defense of our Nation the support that they deserve.

Again, I thank our witnesses for being with us today and look forward to their testimony.

Senator Reed?

STATEMENT OF SENATOR JACK REED

Senator REED. Thank you very much, Mr. Chairman. Let me also join you in thanking our witnesses for appearing today to discuss the United States Special Operations Command and the readiness of our special operations forces. You are both ably leading your respective organizations through a period of both high operational tempo and also significant transition.

The United States Special Operations Command, or SOCOM, recently celebrated the 30th anniversary of its establishment by Congress. Those 30 years, and particularly the last 15, have been characterized by great successes, including the operation that killed Osama bin Laden. SOCOM's history also includes tragedies that resulted in the loss of brave special operators.

Fortunately, our special operations forces have learned from each of these events and have emerged as a stronger and more capable force.

General Thomas, the high quality of men and women you lead today are a testament to that lineage.

SOCOM is unique within the Department of Defense as the only functional combatant command with service-like responsibilities for the training, equipping, organization, and readiness of special operations forces.

When Congress created SOCOM, it also established the position of the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict, or ASD/SOLIC, to be the service secretary-like civilian tasked with day-to-day advocacy and oversight of special operations forces. For many reasons, including competing responsibility for other policy matters, the ASD/SOLIC has not adequately fulfilled the mandate to date.

The National Defense Authorization Act (NDAA) of Fiscal Year 2017 sought to address this issue with a number of reforms designed to optimize the partnership between the Commander of SOCOM and the ASD/SOLIC for the benefit of special operations forces. For that reason, we are pleased to have Ms. Whelan, the Acting Assistant Secretary of Defense SOLIC, testifying today in the service secretary-like role envisioned by last year's reforms.

We look forward to receiving an update from both of you as to the progress you have made toward achieving the goals of last year's bill and what we expect over the next several years.

Our special operations forces remain heavily engaged in the fight against ISIS [Islamic State of Iraq and Syria], al Qaeda, and other violent extremist organizations, sometimes directly, but more often in support of local partner forces on the ground, as we have seen most prominently in Iraq and Syria. I hope both of you will give us your assessment of what, if anything, we can do to accelerate progress in defeating these groups.

While the last 15 years of special operations deployments have been primarily focused on countering violent extremist groups, there is growing realization that special operations forces, and the unique skillsets that they possess, may be called upon for other missions as well.

General Thomas, you and many in your community have sought to characterize this so-called gray zone of competition short of direct military conflict. We saw such tactics most notably as part of Russia's eventual illegal annexation of Crimea, and should expect more such challenges as adversaries pursue efforts against the United States and other countries.

I hope that you will provide the committee with your views on the suitability of special operations to direct gray zone challenges today and what changes in special operations capabilities and au-

thorities, many of which were designed to confront the terrorist threat, may be necessary.

Given the demand for special operation forces across these various mission sets, we must always remain mindful of the already high operational tempo faced by our special operators and their families. SOCOM has sought to mitigate the stress of these repeated demanding deployments through the of the Force and Family Initiative. I look forward to an update on the lessons learned from this initiative and SOCOM's plans going forward.

General Thomas and Ms. Whelan, I hope you will pass along the committee's admiration and thanks to our special operators and their families for the tremendous sacrifices they make in support of our national security.

Thank you, Mr. Chairman.

Chairman MCCAIN. Ms. Whelan?

STATEMENT OF THERESA M. WHELAN, ACTING ASSISTANT SECRETARY OF DEFENSE FOR SPECIAL OPERATIONS/LOW-INTENSITY CONFLICT

Ms. WHELAN. Thank you, Senator. Chairman McCain, Senator Reed, and distinguished members of the committee, I am honored to appear before you today in my capacity as the Acting Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict. I am pleased to share the table with General Tony Thomas, who has served at the forefront of the special operations forces at all levels of command. Our entire SOLIC team is proud to partner with him and his command in forging the future of DOD special operations.

I would like to thank you and your predecessors for the foresight to create SOLIC and USSOCOM 30 years ago, and for your commitment to maintaining that vision over the last three decades. We are grateful for this committee's strong support for special operations, as evidenced by the resources, authorities, and depth of understanding you provide in your oversight. Our military is stronger and more capable due to your efforts.

Today, I will focus on three topics: winning the current fight and defeating emerging threats, building on the foundations of section 922 ASD/SOLIC authorities, and continuing to hone the edge of SOF [Special Operations Forces] personnel and capabilities.

SOF is a vanguard force in countering emerging threats at the leading edge of the modern security landscape. In the last 15 years, we encountered a networked enemy, we flattened our organizations and accelerated our targeting cycles, and we built a network to defeat them. We now face advanced transregional threats that demand greater levels of coordination and collaboration, and we are redoubling our focus on building relationships and international and interagency partners.

Today, SOLIC provides advocacy for the special operations budget, which is approximately 1.8 percent of our defense budget in 2017. We directly manage over two billion dollars in various budgets that support counterterrorism and counternarcotics efforts.

The three decades-long partnership between SOCOM and SOLIC has generated a force capable of dealing with emerging threats and a force that is able to translate those gains across the Department.

We will win the fight against VEOs [Violent Extremist Organizations] and protect our citizens, vital interests, allies, and partners.

This requires a long-term strategic approach that combats terrorists, disrupts terrorist networks, discredits extremist ideologies, and diminishes factors that contribute to recruitment and radicalization.

Sustained funding and flexible legislative authorities have been instrumental to those efforts. I want to thank the committee for establishing section 127(e), formerly known as section 1208, as a permanent authority. The maturation of this program has provided our warfighters a powerful tool to employ to support our allies, attack our enemies, and protect our force, and it is a great example of interagency synergy enabled by strong congressional support and oversight.

Congressional support for countering threat finance and transnational organized crime is also crucial to our efforts. Terrorists, insurgents, and other threat networks depend upon illicit revenue streams and criminal facilitators for logistics support, money laundering, or obtaining weapons and fraudulent documents.

Thank you also for codifying the responsibilities of ASD/SOLIC's important oversight role, comprised of the complementary tasks of monitoring and advocacy in the fiscal year 2017 NDAA.

USSOCOM has made dramatic advances during wartime in response to urgent battlefield demands, gains that require an institutional foundation to endure. The service secretary-like authorities in section 922 serve as a strategic linchpin ensuring that we lock in these hard-won gains.

These authorities have empowered the Special Operations Policy Oversight Council, which we have used over the past year to resolve base infrastructure and casualty evacuation issues among SOCOM and the services. Ultimately, these gains can be leveraged across the entire force with SOF best practices in technology and talent management serving as templates for the Department in addressing emerging challenges.

A key part of SOLIC's role is to advance the state-of-the-art in concepts, technologies, and strategies for both humans and hardware. Our Combating Terrorism Technical Support Office leads this effort with SOLIC developing cutting-edge technologies for SOF, the interagency, and law enforcement.

The SOF Truths state that humans are more important than hardware. As we continue to provide agile and innovative capabilities, we must also continue to build and sustain an elite work force suited to the unique and diverse demands of 21st Century warfare.

We will also continue to work closely with Congress to ensure that we have the right policies, agile authorities, and necessary resources to employ SOF effectively. I thank Congress for its continuing support of our men and women in uniform, and their families, and I look forward to your questions.

[The prepared statement of Secretary Whelan follows:]

PREPARED STATEMENT BY SECRETARY THERESA WHELAN

INTRODUCTION

Chairman McCain, Ranking Member Reed, and other distinguished members of the Committee, I am honored to appear before you today in my capacity as Principal

Deputy Assistant Secretary of Defense for Special Operations/Low-Intensity Conflict (SOLIC). I am pleased to share this table with General Tony Thomas, who has served the special operations force (SOF) community at all levels of command. Our entire SOLIC team is proud to partner with his command in forging the future of special operations on behalf of the Department of Defense and the American people.

We are grateful for this committee's strong support of special operations, as evidenced by the resources, authorities, and depth of understanding you provide in your oversight. We pledge to make the best use of these resources to accomplish all special operations mission sets—including defeating the threat networks of terrorists, illicit traffickers, and transnational criminals; denying the acquisition, proliferation and use of weapons of mass destruction; and countering unconventional threats. At the same time, we appreciate your support in advancing SOF warrior care and force resiliency through the Preservation of the Force and Family—which places psychologists, counselors, and exercise physiologists into the daily routines of SOF to perform 'preventative maintenance,' catching and resolving problems before they become chronic—and SOF-for-Life initiatives.

As part of its roles and responsibilities, the OASD(SO/LIC) provides oversight and advocacy for the special operations budget, which is approximately 1.8 percent of our defense budget in 2017. Additionally, we directly manage over two billion dollars in various budgets that support our counterterrorism and counternarcotics efforts, such as the Counterterrorism Fellowship Program, the Combating Terrorism Technical Support Office, and the counternarcotics budget. We ensure that these investments are leveraged to provide return on investment across the strategic landscape, the interagency, and across the joint force.

I am here to report to you on the current and anticipated strategic environment that our Nation's special operations enterprise will face during this time of transformation. As global events shape our environment, our special operations mission continues finding, fixing, and finishing an innovative enemy while harnessing these trends and technologies for our own advantage. Let me begin by discussing that rapidly evolving environment and its effect on combating terrorists, state-sponsored unconventional warfare, and illicit networks that include, but are not limited to, transnational organized crime. I will then describe three SO/LIC focus areas that will allow us to: 1) win the current fight and defeat emerging threats, 2) build on the foundation of the section 922 authorities, and 3) hone the edge of SOF personnel and capabilities.

STRATEGIC ENVIRONMENT: THE MEGATRENDS OF INDIVIDUAL EMPOWERMENT, DIFFUSION OF POWER, AND DEMOGRAPHIC INSTABILITY

When John Arquilla and David Ronfeldt wrote their seminal work *Networks and Netwars* in 1991, they introduced the now-ubiquitous phrase: "it takes a network to defeat a network." Their work foresaw changes in the nature of warfare, which shaped how both we and our enemies encounter each other. Previously, al Qaeda leveraged the advantage of flat networks to strike fielded forces and vulnerable targets around the world. In response, we built our own global network to harness these trends and seize the initiative.

Where al Qaeda leverages globalization and franchised network structures to threaten our interests, the Islamic State in Iraq and Syria (ISIS) evolves its threat networks further, presenting new analytical and operational challenges by harnessing emerging megatrends. ISIS thrives in the volatile space carved out by these trends. This generation of VEOs adopts the latest technology to communicate on the battlefield and to influence new individuals and groups on behalf of the organization. They also use existing tools in novel ways—the non-state equivalent of the "gig economy"—and adapt so quickly that they overcome most governmental decision cycles. This generation of threats is challenging U.S. national security interests in ways we have not seen before. Social media allows ISIS to connect with individuals who share alienation and grievances. Digital innovation, both in warfighting and communications technologies, is a key to their success. Technologies such as 3D printers, mobile applications, and the dark web help enable illicit trade on an exponentially increasing scale and have contributed to the growth in the number and power of illicit groups. As these groups leverage the darker side of these megatrends, SOF must adapt and innovate in order to disrupt threat networks and deter unconventional adversaries.

30 YEARS OF USSOCOM AND ASD (SO/LIC): SOF AT THE INTERSECTION OF GLOBAL MEGATRENDS

This year, we celebrate the 30th anniversary of both USSOCOM and ASD(SO/LIC). It is appropriate for us to reflect and build upon the past as we look to the

future. For the latter half of the past 30 years, war has transformed our nation's special operations community from a unique, specialized force that occupied a crucial niche in our security posture into a vanguard force that is reshaping our world. In combatting terrorists, special operations forces have built flat networks that bridge interagency divides down to the tactical level. Inherently joint, our special operations warfighters have continued to support global U.S. Government objectives by leveraging critical interagency and international partnerships. These boundary-spanning networks minimize our tactical response time while radically accelerating innovation. They also counter illicit threat networks, such as drug, weapons, and human trafficking, that fuel terrorist organizations and organized criminal enterprises. SOF support in Afghanistan for counter illicit drug trafficking has resulted in increased interdiction of opiates in various forms, reducing this funding resource for the Taliban and other insurgent and criminal groups.

Transregional threats like ISIS and transnational organized crime like drug cartels are demanding greater levels of coordination and collaboration from their—including operational planning, resource requirements, and information sharing. Effectively disrupting ISIS and other threat forces, requires all tools of U.S. national power, including diplomatic, intelligence, military, economic, financial, information, and law enforcement capabilities. The innovations the special operations enterprise has built to defeat adaptive threat networks are informing emerging concepts of unconventional and conventional warfare alike. In this way, SOF leads in Department-wide innovation, fielding, and optimizing emerging technologies and theories of warfighting.

WIN THE CURRENT FIGHT AND DEFEAT EMERGING THREATS

We must win the protracted fight against terrorist organizations and their enabling networks in order to protect our Homeland, our citizens, and support our allies and partners. This will require a long-term strategic approach to support the U.S. Government and international partnerships. Within this DOD strategy, SOF contributes its unique capabilities to combat terrorists, disrupt adversary networks, discredit extremist ideologies, and diminish those factors that contribute to recruitment and radicalization. Sustained funding and flexible legislative authorities will continue to be instrumental in the defeat of priority terrorist organizations like ISIS and al Qaeda.

In light of U.S. conventional dominance, adversary powers are increasingly turning toward unconventional warfare to pursue their objectives. State sponsors of unconventional warfare, such as Russia, China, and Iran, have doctrinally linked conventional, warfare, and cyber warfare, information operations, clandestine, criminal, and other activities to undermine United States and allied national security objectives, particularly in ways and places that fall below thresholds conventional U.S. Government or international response. Our special operations forces are exploring the capabilities and authorities required to defeat these challenges to our influence and our interests.

At the same time, I want to thank the committee for establishing section 127e—formerly known as section 1208—as a permanent authority. The maturation of this program has provided our warfighters a powerful tool to employ to support our allies and confront our enemies and is a great example of strong congressional support and oversight.

Congressional support for countering threat finance (CTF) and transnational organized crime is crucial to both of these efforts. Terrorist, insurgents, and other threat networks depend upon illicit revenue streams and criminal facilitators for logistical support, money laundering, or the procurement of weapons and fraudulent documents. These activities often involve both state and non-state actors in spaces between traditional war and peace. As the global synchronizer for DOD counter-threat finance, USSOCOM is uniquely positioned to synchronize efforts across the geographic combatant commands to disrupt the threat finance systems of ISIS, as well as other illicit networks. USSOCOM works alongside the National Guard Bureau and USG [United States Government] components in CTF teams in each GCC [Gulf Cooperation Council]. Together, they provide essential support to military operations and to interagency law enforcement partners. The CTF teams analyze financial intelligence, integrate intelligence and operations, and coordinate and execute CTF activities. Countering threat finances disrupts and weakens terrorist and criminal adversaries in ways and places that traditional military weapons typically cannot reach. This capability is valuable across the full spectrum of conflict, including irregular and unconventional warfare. These efforts have enabled action against drug trafficking and other illicit networks, as emerging counter-network doctrine and technologies help unmask dark networks that threaten our national security.

CTF efforts have proven to be a cost-effective tool to impact threatening forces and transnational criminal organizations, whether through law enforcement actions, designations, sanctions, or—as in the case of ISIS—through military actions against economic and financial targets.

The unique skills, culture, and capabilities underpinning SOF's success against these dark networks enable the command to serve as synchronizer against complex problem sets. As with CTF, this expertise underwrites the recent transfer of the counter-WMD mission set, which USSOCOM recently inherited as a result of changes in the Unified Command Plan.

TRANSFORM THE ENTERPRISE: BUILDING ON THE FOUNDATIONS OF SECTION 922 AUTHORITIES

We appreciate the committee's support in codifying the responsibilities of the ASD (SO/LIC) to provide oversight and advocacy for SOF. As our force continues to adapt to meet the enduring challenge of global campaigns against global threats, we find ourselves at an institutional crossroads. SOF has made dramatic advances during wartime in response to urgent battlefield demands, gains that require an institutional foundation to endure. SOLIC has completed a preliminary analysis of previous and newly assigned functions and activities to determine where there are gaps and associated risk. Currently SOLIC is reviewing whether these functions are directed by law or directed by Department guidance in order to make recommendations to our senior leaders on the divestiture of non-legally binding responsibilities. In overseeing SOF acquisitions, technology, logistics, personnel, readiness, and talent management functions, SOLIC will be positioned to institutionalize these hard-learned lessons of contemporary conflicts. The "Service-secretary-like" authorities in section 922 serve as a strategic linchpin, ensuring that we lock in these hard-won gains.

The fiscal year 2017 NDAA codified the Special Operations Policy Oversight Council, which we have used over the past year to resolve Department-wide SOF-related issues, such as base infrastructure. We are already serving in a 'Service-secretary-like' role in approving waivers for mission-essential positions under the current civilian hiring freeze. We now sit alongside our colleagues from USSOCOM at budgeting and programming Deputy Management Action Group meetings. Our office is currently implementing the full scope of these far-reaching authorities, even as we benchmark concepts from these initial gains. By leveraging existing Service processes and relationships, we aim to minimize administrative burden and focus on architecture building and strategic awareness. Ultimately, we intend to leverage these gains for implementation across the entire force.

HONING THE EDGE OF SOF PERSONNEL AND CAPABILITIES

A key part of ASD(SO/LIC)'s role is to leverage our elite force to advance state of the art concepts, technologies, and strategies for both humans and hardware. For our operators, we strive to improve mental and physical performance on the battlefield and to take care of them and their families at home. For hardware, our investments in technologies and our policy advocacy for special operations capabilities give our SOF the tools they need to get the mission done.

The Countering Terrorism Technical Support Office (CTTSO) develops cutting edge technologies for SOF, the interagency, and law enforcement. For instance, we are exploring deep learning and big data analytics to sharpen strategies for outcompeting our adversaries. We are also investing in better technologies to analyze and present fused information to the warfighter. CTTSO's ability to leverage crowdsourcing pathways has helped field data tools that support operational preparation of the environment in ways we never thought possible. The versatility of these tools allows small tactical units to conduct a broad spectrum of military, special warfare, and cyber operations. Because the CTTSO model is inherently collaborative, these gains are leveraged across the interagency, as well as with international, state, and local governmental partners.

The first SOF Truth states that "humans are more important than hardware." Therefore, as we provide agile and innovative capabilities in support of high-priority U.S. national objectives, we must also continue to build and sustain an elite workforce suited to the unique and diverse demands of 21st Century warfare. SOF has borne the weight of grueling deployments and protracted overseas contingency operations over the course of the last decade, and we have accordingly turned our culture of innovation toward fostering and protecting our people.

CONCLUSION

As we look back at the last thirty years, we note that SOf has consistently remained at the leading edge of global megatrends. This past year has been no exception. We have diligently leveraged your investment by deriving key concepts for the larger force from that experience. The small portion of the budget that supports our nation's SOf provides a tremendous return on investment. We are applying your support and oversight to institutionalize a decade and a half of hard-earned warfighting lessons and advances the goal of a joint SOf enterprise. With these authorities, we will continue to evolve how we man, train, and equip our force in order to: win the current fight and defeat emerging threats; transform the special operations enterprise; and hone the edge of SOf. We will continue to work closely with Congress to ensure we have the right policies, agile authorities, and enhanced oversight structure in place to employ SOf effectively.

I thank Congress for its continuing support of our men and women in uniform and their families, and look forward to your questions.

Chairman MCCAIN. General Thomas?

STATEMENT OF GENERAL RAYMOND A. THOMAS III, USA, COMMANDER, UNITED STATES SPECIAL OPERATIONS COMMAND

General THOMAS. Chairman McCain, Ranking Member Reed, and distinguished members of the committee, thank you for the opportunity to appear before you today. I am especially grateful to be here today with Principal Deputy Assistant Secretary Whelan in a session dedicated exclusively to special operations as it provides us the opportunity to discuss in detail the unique requirements, capabilities, and challenges associated with your United States Special Operations Command.

This body legislated us into existence a little over 30 years ago to act as a unique Department of Defense organization, a dual-hatted, service-like entity responsible for the manning, training, and equipping of special operations forces, as well as a globally focused, functional combatant command.

In fulfilling the first role, which continues to be our primary function, I believe we have consistently provided the world's best special operations forces to the geographic combatant commanders. However, it is in the second role, as a globally focused combatant command, where SOCOM has evolved the most.

As we carry out both of these roles today, special operations forces are more relevant than ever to the current and enduring threats facing our Nation. We have been at the forefront of national security operations for the past three decades, to include continuous combat over the past 15.5 years. This historic period has been the backdrop for some of our greatest successes, as well as the source of our greatest challenge, which is the sustained readiness of this magnificent force.

We are thankful for the resources you have provided not only to operate this force but also to perform the critical sustainment efforts that underpin our most precious resource—our people.

Last month was particularly difficult for the United States Special Operations Command, losing its 407th hero, Staff Sergeant De Alencar, a father of five, in a firefight in the Nangarhar Province of Afghanistan while operating alongside his Afghan partners. Then last week, we lost Ranger Sergeants Thomas and Rogers, our 408th and 409th casualties, respectively.

This comes on the heels of 16 other combat fatalities since I assumed command a year ago. It is a stark reminder that we are a command at war and will remain so for the foreseeable future.

My current priorities for the command fall into three broad categories. First, we must win the current fight, which consists of carrying out assigned missions running the gamut from defeating Islamic extremism, both Sunni and Shia, to countering Russian aggression, to preparing for contingencies in Korea, as well as various security operations to defend the Homeland. Second, we must continue to transform our enterprise to remain relevant in the rapidly changing security environment. Finally, we must take care of our people and their families as they form the foundation upon which our force is built.

My first year in command has seen us focused on these priorities as we transform the way the Department of Defense looks at many of the national military strategy challenges in our role as the coordinating authority for countering transregional threats. More recently, we have also poured significant resources into defining our role as the Department's synchronizer for countering weapons of mass destruction.

Both of these substantive roles are additive to the current missions, where approximately 8,000 special operations forces are deployed in over 80 countries, working with international, inter-agency, and DOD [Department of Defense] partners in support of the geographic combatant commanders' priorities.

This focus is also occurring during a period of unprecedented recapitalization of substantive parts of our warfighting capability, to include the conversion of our entire C-130 fleet to J model C-130s, as well as other major platforms. We are extremely thankful to the services for enabling this transformation of the force, as it sets us on the path for success for decades to come.

We are equally grateful for the support of Congress for the required resourcing that, in turn, has produced a SOCOM which is relevant to all the current and enduring threats facing the Nation. We appreciate your continued oversight and advocacy for your United States Special Operations Command, and I look forward to your questions today.

Thank you.

[The prepared statement of General Thomas follows:]

PREPARED STATEMENT BY GENERAL RAYMOND A. THOMAS, III

OPENING REMARKS

Mr. Chairman and distinguished Members of the Committee, thank you for the opportunity to address you today as the 11th Commander of United States Special Operations Command (USSOCOM). This is my first address on the posture of U.S. Special Operations Forces (SOF). Even in the short span of my first year in command we've seen the world evolve in complexity and the desire for SOF continue to increase. While challenges endure, and new ones emerge our force continues to evolve in the attempt to present options and decision space for our national leadership. During my remarks, I would like to highlight the breadth of missions where SOF is integral to the support of the current National Military Strategy (NMS), as well as how we are adapting to future challenges and transforming our capabilities. It goes without saying that None of this is possible without the professionalism, talent, and innovative problem solving capabilities of our most precious asset, our people, the decisive edge, who constitute the greatest Special Operations Force in history.

Last month we celebrated the 30th Anniversary of the creation of USSOCOM as a result of The Goldwater-Nichols Act and the Nunn-Cohen Amendment—prescient pieces of legislation that created U.S. Special Operations Command from an ad hoc, individual service-based confederation of capability to become both a highly effective service-like entity and an extraordinarily collaborative and effectively networked global functional Combatant Command. USSOCOM's service-like responsibilities continue to be the command's primary focus providing the world's best SOF to the Geographic Combatant Commanders. We look forward to working closely with the Assistant Secretary of Defense/Special Operations and Low Intensity Conflict's (ASD/SOLIC) assigned role in our chain of command in the title 10 role of manning, training, and equipping the force.

USSOCOM has evolved enormously since its inception. Rather than a mere “break-glass-in-case-of-war” force, we are now proactively engaged across the “battle space” of the Geographic Combatant Commands (GCCs), providing key integrating and enabling capabilities to support their campaigns and operations. We operate and fight in every corner of the world as an integrated joint, combined and inter-agency force. Today, there are approximately 56,000 Active Duty, 7,400 Reserve, Guard, and 6,600 civilian personnel across the SOF enterprise. On a daily basis, we sustain a deployed or forward stationed force of approximately 8,000 across 80-plus countries. They are conducting the entire range of SOF missions in both combat and non-combat situations with a wide variety of Joint, Interagency, International, and Multi-national partners.

We have recently taken on a number of new roles intended to leverage our global perspective on problems, and focus our unique capabilities in support of not only the GCCs, but also the Department of Defense (the Department) as a whole. First, we are the designated coordinating authority for trans-regional terrorist organizations and other threat networks. Acting in support of the Chairman and the Secretary of Defense, our responsibility in this role is to provide a coherent global framework for action and synthesize the perspectives and inputs of the Geographic Combatant Commanders into a single comprehensive military assessment of DOD's global counter-terrorism efforts. This assists the combatant commands, the Chairman, and the Secretary in understanding and prioritizing efforts to counter violent extremist networks that operate across GCC boundaries in pursuit of a coherent and effective campaign.

To date, our team's combined quarterly assessments, supported by productive dialogue with our mission partners and the integration of dozens of other assessments conducted by combatant commands, combat support agencies, and specialized task forces, have led to specific recommendations for the conduct of the Counter-Violent Extremist Organization effort. Specifically, we have identified the necessity to understand and address the underlying infrastructure that terrorist organizations use to generate and sustain their “combat power,” especially their enablers which include foreign fighters, financing and strategic communications. We have galvanized international and interagency focus on the effort in the form of Operation Gallant Phoenix, a SOF-led activity, designed to empower, support and integrate the efforts of our international (currently 19 foreign members with several others in the queue), interagency, and Joint Force partners to disrupt trans-regional terrorist networks and their ability to develop and field foreign fighters. Through information sharing, our partners support security and law enforcement actions against these networks, and inform decision makers on border security, identification of legal remedies and tools, and the structuring of counter-messaging campaigns.

Our second new responsibility is the assumption of the Countering Weapons of Mass Destruction (CWMD) synchronization mission for the Department of Defense, recently transferred from USSTRATCOM. In this role, we are responsible for maintaining the DOD CWMD Campaign, establishing intelligence priorities, monitoring global operations and conducting assessments. We are publishing a new Global Campaign Plan to provide a comprehensive, trans-regional approach which integrates ongoing regional and interagency efforts. We have also established a CWMD Coordination Center to design, execute and assess this new trans-regional approach and connect to other USG Departments and Agencies, as well as international partners. The Center leverages the resources and skills of multiple agencies that will result in a multi-layered comprehensive approach to address the CWMD problem set. In coordination with the Geographic Combatant Commanders, we will conduct this campaign attempting to focus more intently on the transregional nature of identified portions of the CWMD challenge and assess effectiveness towards national objectives, while providing resourcing and strategic recommendations to the Chairman and Secretary.

While the Department is addressing our stated requirements, USSOCOM has already implemented temporary manning strategies to mitigate risk as we transfer funding and manpower, hire new personnel, and build a network of partners. We have an established counter-terrorism (CT) network and a committed partner in the Defense Threat Reduction Agency to assist us as we move into this mission space. We are no stranger to adapting and building our network, and we have embraced this mission as we do all others—bringing focus and energy to some of the nation's most complex challenges.

While we have evolved and now field an unmatched capability to conduct counter-terrorism operations with our partners and execute a select set of niche missions in support of the Joint Force, this expertise is not necessarily tailored to compete with near-peer competitors. We are focused on transformation as rapidly as possible across a broad range of mission capabilities.

SOF IN TODAY'S COMPETITIONS AND CONFLICTS

The Chairman of the Joint Chiefs of Staff identified five current and enduring threats in the new National Military Strategy (NMS): Violent Extremist Organizations (VEOs), Russia, Iran, North Korea, and China. Although constituting only 2 percent of the Department's budget and about 2 percent of its manpower, as a Combatant Command with global responsibilities, USSOCOM plays a critical role in the campaigns against each of these. While not a panacea nor a stand-alone solution, SOF produces substantive results at low cost, and with a potentially low profile / signature. However, none of the challenges can be effectively dealt with in isolation as they are interrelated and cut across GCC boundaries. USSOCOM is striving to be part of our whole-of-government efforts to face these threats.

Violent Extremist Organizations. The threat posed by VEOs remains the highest priority for USSOCOM in both focus and effort. Special Operations Forces are the main effort, or major supporting effort for United States VEO-focused operations in Afghanistan, Syria, Iraq, Yemen, Somalia, Libya, across the Sahel of Africa, the Philippines, and Central/South America—essentially, everywhere al Qaeda (AQ) and the Islamic State of Iraq and Syria (ISIS) are to be found. Our priorities are disrupting external attack capability, destroying/neutralizing AQ and ISIS, developing a long-term approach to defeat and/or counter VEOs, and building partner capacity—helping our partners stabilize their environment and secure gains. SOF are also engaged in countering aggressive Iranian behavior that not only destabilizes the Middle East, but also, stokes sectarianism. SOF activities are in support of the GCCs' efforts toward a strengthened deterrence posture, targeted counter-messaging activities, and building partner nations' capacity.

This methodology is more comprehensive than simple counter-terrorism, and is an important part of an overarching whole-of-government approach to advance broader national security objectives. Organizations such as ISIS and AQ are trans-regional threats that require the Joint Force to work with partners across the U.S. Government as well as coalition partners. It requires focused effort to secure and hold our gains by empowering local entities within and among the populations that terrorists exploit. As we move forward in our coordinating authority role within DOD, we are committed to further developing this comprehensive approach to support the U.S. military's integration across the range of activities that like-minded organizations are pursuing. In this vein, we appreciate the NDAA mandate to expand the role of the State Department's Global Engagement Center, with whom we work, which provides critical counter messaging against state and non-state actors—a key to ultimately defeating organizations such as ISIS.

Russia. Our second priority in terms of resources and impact is supporting United States European Command (USEUCOM) in countering Russian aggression in Europe. As Secretary Mattis pointed out, Russia is seeking control over the economic, diplomatic, and security decisions of its neighbors. Further, Russia has reemerged as a strategic competitor of the United States around the globe. This trend is most pronounced in the post-Soviet space, where Russia has shown itself as willing to act aggressively to limit United States and Western institutions there. They are particularly adept at leveraging unconventional approaches to advancing their interests and it is clear they are pursuing a wide range of audacious approaches to competition—SOF often present a very natural unconventional response. USEUCOM is responding by using European Reassurance Initiative funding to deter Russia and reassure Allies, including by working with NATO to build more effective defense institutions in partner nations. In support of this, we have had persistent SOF presence for over 2 years in nearly every European country on Russia's western border (Baltics, Poland, Romania, Ukraine, Georgia)—assuring our allies and partners while building host nation and NATO capabilities to compete short of conflict in a hybrid

environment. Our current focus consists of assuring our allies through building partner capacity efforts to counter and resist various types of Russian aggression, as well as enhance their resilience. We are working relentlessly with our partners and the Department of State to build potency in eastern and northern Europe to counter Russia's approach to unconventional warfare, including developing mature and sustainable Special Operations capabilities across the region. In support of GEN Scaparrotti, we will continue to refine our SOF posture to strengthen these partnerships in order to deter or respond to aggression in the region, as well as reassure our allies and contribute to a broader deterrent effect.

North Korea. USSOCOM has recently focused more intently on the emerging threat that is of growing concern to us as well as most of our DOD teammates—the nuclear threat of an increasingly rogue North Korea. Although previously viewed as a regional threat, North Korea's relentless pursuit of nuclear weapons and intercontinental ballistic missiles, facilitated by a trans-regional network of commercial, military, and political connections, make it a threat with global implications. In response, United States Pacific Command (USPACOM) and United States Forces-Korea (USFK) are focused on sustaining credible combat power in the region, maintaining unrelenting resolve in the face of multiple provocations, and sustaining partnerships with our closest allies. We maintain a persistent and rotational presence on the peninsula, working with our increasingly capable South Korean partners to prepare for future crises. In the meantime, we are actively pursuing a training path to ensure readiness for the entire range of contingency operations in which SOF, to include our exquisite CWMD capabilities, may play a critical role. As previously noted, we are looking comprehensively at our force structure and capabilities on the peninsula and across the region to maximize our support to USPACOM and USFK. This is my warfighting priority for planning and support.

Iran. Iran uses both traditional state-based military capabilities and a network of terrorist, sub-state, and non-state partners to conduct operations, actions, and activities that incite violence and threaten U.S. security interests. It relies on militias and a range of partner organizations to expand its influence and develop access to key areas. SOF activities are in support of CENTCOM's efforts toward a strengthened deterrence posture, targeted counter-messaging activities, and building partner nations' capacity. Our priority remains illuminating this Iranian network in order to understand its capabilities as it seeks to expand its influence. We also support and assure Israel and regional Gulf partners with foreign internal defense and security force assistance, aiding their efforts to counter Iranian threats.

China. China is pursuing a long-term, comprehensive military modernization program designed to improve its armed forces' capability to fight short duration, high intensity regional conflicts. China is intent upon expanding its regional and global influence, while developing capabilities to limit our ability to project power in the Pacific. SOF actions support USPACOM's efforts to focus on building military-to-military relations with China, focused on risk reduction. At the same time, we maintain persistent SOF presence in over a dozen countries in the USPACOM AOR [Area of Responsibility]—assuring our allies and building partner capabilities to address complex threats. The SOF community has worked to connect experts across the region, and between regions, to share lessons learned that provide opportunities to help our partners grow more effectively.

Other Challenges. Although the five NMS threats are the priority challenges for DOD, we remain focused on other parts of the world in terms of presence and engagement. The USSOUTHCOM Commander recently testified that aspects of the NMS-specified threats in the Southern Hemisphere are likely to become security challenges to the U.S. Homeland itself. Four out of the five named challenges are active in this region. To help mitigate these challenges, USSOUTHCOM's lines of effort are focused on countering threat networks, preparing for and responding to disasters and crises, and building relationships to meet global challenges. SOF are actively supporting Interagency efforts that range from counter-threat financing, for which USSOCOM is the DOD lead, to counter-terrorism. We will continue to assure allies and support efforts to counter malign activities in Latin America while working to undermine transnational criminal networks. We have learned that the best way to deal with competition short of conflict is to match the range of tools we have at our disposal to the needs of the Ambassadors and GCCs. We recently hosted a Senior Leader Seminar focused on special interest aliens that involved representatives from USNORTHCOM, USSOUTHCOM, Secretary Kelly from the Department of Homeland Security (DHS), other members of the IA, and various South and Central American Country Teams. We enjoy tremendous collaborative efforts as part of the team that provides layered security relative to our southern border and beyond.

THE SOF ADVANTAGE

USSOCOM provides a focused set of unique capabilities to deal with the challenges facing our Department and Nation today. Maintaining a forward presence in strategically important areas, leveraging established relationships, and identifying and addressing problems before they become full blown crises. Our ability to see, understand, and act across geographic boundaries is what allows SOF to operate globally at the speed of war, provide value to the GCCs, and provide options and decision space to national leadership. Additionally, we have increased the lethality, precision and mobility of our forces over time, which assists us in rapidly repositioning and focusing—providing enhanced options and effects.

Although SOF are effective across the spectrum of conflict, we are most optimally employed “left of bang”—pre-crisis. We believe that specialized application of SOF alongside partner nations, the Joint Force, and the Interagency conducting activities across the spectrum of conflict allows us to present options that best serve our national interests. In fact, a critical component of our effectiveness in the field is the ability to work with the Services, defense agencies, and interagency partners to support forward deployed forces. We have approximately 30,000 personnel actively engaged in providing support to deployed units in the areas of intelligence collection and analysis; Intelligence, Surveillance, and Reconnaissance (ISR) operations; cyber operations; exploitation activities; and communications and logistics support.

TRANSFORMATION: THE NEXT EVOLUTION OF SOF

While we are fully committed to winning the current fight, we are simultaneously working to prepare for the conflicts of tomorrow. We are always searching for improvements and relentlessly pursuing our next advantage. Key to this effort is USSOCOM’s approach to requirements validation and acquisition, which allows us to rapidly field resources to those forces actively engaged in the fight. We appreciate Congress’ continued resourcing of these efforts—I assure you we will continue to maximize the return on that investment.

Our current budget supports recapitalizing our platforms as well as developing our technological capabilities for dealing with near-peer competitors and competition short of armed conflict. Programmatically, we remain focused on enhancing Service-provided platforms with Major Force Program-11 funds to provide for the unique needs of our force. As always, the effectiveness of our investments is highly dependent upon the investment decisions of the Services.

A good example is seen in the success of our critical AC/MC-130J aircraft re-capitalization efforts, which include Radio Frequency Countermeasures, Terrain Following Radar, Airborne Mission Networking and Precision Strike Packages. We have taken delivery of 10 new AC-130J Ghostriders and remain on track to declare Initial Operational Capability by the end of 2017. In our legacy Gunship fleet, we fielded eight up-gunned AC-130W Stinger IIs with 105mm large caliber guns and immediately deployed this enhanced capability to the fight in Syria and Iraq.

To improve our intelligence and analysis capabilities, we have distributed acquisition efforts across the air, ground and maritime domains—particularly for those systems and platforms that support operations in remote locations. We are developing and fielding interoperable, networked sensors built to enable common operational and intelligence pictures as well as feed data into all-source analysis tools. This further assists us in leveraging interagency partnerships.

As previously noted, our effectiveness over the last 15 years does not necessarily equate to success against near-peer competitors. We also require urgent investments in capabilities necessary for denied battlefields of the future. This includes submersibles, terrain following / avoidance and all-weather radar, advanced electronic attack capabilities, countermeasures, and precision munitions. We must enhance our effectiveness in partnership with the services. For example, we look forward to continuing work with the Department of the Navy to develop and enhance new options to support undersea operations—a key SOF capability. This is not a one way relationship. Recently the Army leveraged the efforts of our AT&L directorate to determine their future ground mobility vehicle. We continue to refine both our tactics and technological developments to enhance our man hunting and network defeat capabilities.

To integrate the advantages of rapidly evolving technology, we are making investments that will pay dividends for future mission sets. For example, “deep / machine learning” will help us mitigate thousands of man-hours spent on sorting through vast sums of data. The analysis of publically available information; the processing, exploitation, and dissemination of information, specifically, ISR data; and sensitive site exploitation, are all wide-open areas for the application of this technology. We are pursuing technology which can be applied to open architectures, enabling rapid

upgrades and integration of commercial off-the-shelf capability to leverage the latest advancements in data analytics and machine learning.

USSOCOM continues to build networks and venues that support innovation in our research, development, and acquisition programs. These networks include industry, academia, and other government organizations. The command also continues to support agile acquisition with appropriate venues, including SOFWERX—our open collaboration facility that has now been in operation for over a year and has successfully brought hundreds of non-traditional partners together to work on our most challenging problems.

A key part of the unique capabilities that SOF bring to the fight is the ability to fight in contested areas, often leveraging and enhancing the capabilities of indigenous partner forces. Accordingly, we continue to invest in ways that allow SOF to assist our partners better: command and control; ISR; Building Partner Capacity (BPC); and Aviation Foreign Internal Defense. The emphasis for all partner capabilities is on systems and infrastructure which is organically sustainable. An enhanced ability to leverage local relationships will ultimately help us better influence regional outcomes.

We also continue to invest in safeguarding our networks and communication infrastructure. USSOCOM has a unique service-like responsibility to provide all of SOF with networks and communications capability through the SOF Information Environment (SIE). The Global Enterprise Operations Center (GEOC) located at USSOCOM HQ manages network operations for over 70,000 SOFNET users around the world, to include over 1,200 deployed nodes. The ability to share information across our network—from the unit deployed forward to the USSOCOM Headquarters—provides us with a key advantage in dealing with the information-rich environment we find ourselves in today. Defending the SIE requires sustained investment for cyber defense sensors and tools.

A continuing key area of concern for SOCOM (cited over our last five years of testimony) is our reliance on Overseas Contingency Operations funding, or OCO. Since 9/11, we expanded the size of our force by almost 75 percent in order to take on mission-sets that are likely to endure. OCO underwrites much of that growth, which remains critical to ensuring SOF readiness. OCO represents about 28 percent of our fiscal year 2017 budget—triple the rate of OCO reliance among the Services. Approximately 90 percent of USSOCOM's OCO funds enduring capabilities, which are applicable to the threats beyond the current combat environment. Ultimately, we must reconcile the nature of SOF's work, which requires enduring structure and capabilities, with the relatively temporary funding achieved through OCO. Migrating this funding to the base budget over time will provide SOF a degree of certainty in tomorrow's turbulent security environment that enables us to better program for, train, and equip our joint force.

THE SUSTAINMENT OF SOF

Our people are our single greatest resource. The goal continues to be to recruit, assess, and select the very best, providing them the requisite training and experience, empowering them to exercise their initiative and problem solving abilities, while managing them over a potential career in SOF. This is underpinned by an ethos and process to build in resiliency and provide the best possible care system for servicemembers and their families.

It is critical that SOF preserves its high state of full-spectrum readiness in order to support enduring, priority tasks while maintaining the ability to surge in support of major contingencies. Healthy dwell rates and Personnel Tempo are essential here. Most SOF units are employed to their sustainable limit, while some are consistently under that goal. Despite growing demand for SOF, we must prioritize the sourcing of these demands as we face a rapidly changing security environment. As we work to support the GCCs in addressing the challenges they face, we are constantly on guard against overcommitting this relatively small force.

Another key aspect of sustainment is our dependence on our Service and inter-agency partners. The Services provide the foundation upon which we build our force. This includes recruitment, acquisitions, intelligence, mobility, and logistics support—to name just a few. Many of the programs we have are based on Service investments and we often point out that a major shift in Service priorities will require a reassessment of our own. Our purchasing power and our readiness are inextricably linked. We will continue to work with all of the Services as well as Congress to ensure we preserve these foundations. In support of these efforts, we have scheduled annual war fighter talks with all of the Services, as well as key interagency partners (DIA, NSA, NGA, CIA), to integrate our approach to developing and resourcing the force.

Our interoperability with the Services also extends to the operations we conduct. Today we support the Joint Force in countering ISIS in Syria and Iraq, in Afghanistan, and elsewhere around the world. Examples of our interoperability occur every day, most recently in Sirte, Libya, where Special Operators assisted Libyan forces in re-taking the city relying heavily on over 450 airstrikes conducted by our Joint Force partners. Similar relationships are routine throughout all areas of active hostility, such as with the 5th Fleet in the CENTCOM AOR and multiple service and IA partners in the Philippines, where our SOF Headquarters ensure we remain closely nested with theater service components as an integral component of the Joint Force. Today we are more than simply interoperable with the Services ... we are truly interdependent.

We are also highly dependent on the capabilities that reside within the defense agencies, such as the Defense Intelligence Agency (DIA), the Defense Logistics Agency (DLA), the Defense Information Systems Agency (DISA) and the Defense Threat Reduction Agency (DTRA). With improvised threats, we continue to see examples of our adversaries taking commercial off-the-shelf technologies and manipulating and employing them as weapons as well as surveillance systems, such as small Unmanned Aerial Systems (sUAS). The recent integration of Joint Improvised-Threat Defeat Organization (JIDO) with DTRA provides us with an expanded ability to counter the improvised threats confronting our force today.

We invest heavily in developing relationships with our interagency partners, as well, such as the Department of State, the Central Intelligence Agency, the National Counter Terrorism Center, and others. In total, we have 36 Special Operations liaison officers working across 16 agencies. This is indicative of the importance we place on whole-of-government solutions to the problems we all share—integrated efforts being the objective.

Operational requirements demand that we recruit, assess and select mentally and physically resilient SOF who can anticipate, respond, and adapt to any operating environment; excel in ambiguous situations; and are skilled at operating in the human domain in order to deal with population-centric conflicts. In addition to rigorous training, SOF require specialized education in areas related to our unique mission sets. SOF-specific education opportunities are an investment in our people and we will continue to augment Service-provided career development programs. A critical component to how we accomplish this is through the efforts of our Joint Special Operations University, or JSOU, which shapes the future strategic environment by not only providing specialized joint professional military education through specific undergraduate and graduate curriculum, but also through engagement with partner nations militaries. It is imperative we continue to provide the most highly trained and educated force to support persistent, networked, and distributed GCC operations to advance our nation's interests. Furthermore, it is critical that we continuously develop their talent by providing demanding, realistic training and placing people in the right jobs at the right times to gain valuable experience. In doing so, we empower our people while challenging them to exercise their initiative and make difficult decisions. Maintaining this highly trained and experienced force is the critical objective—it enables everything we do.

Because USSOCOM is significantly engaged in current operations, we continue to incur casualties, along with training injuries and illnesses. Caring for over 6,000 Active Duty wounded and ill SOF Service Members, our Warrior Care program—a peer program to the Service Warrior Care programs—remains the gold standard for SOF Service Members and families whose resiliency has been challenged by a life-altering wound, injury, or illness. Recognized by Congress as one of USSOCOM's Service-like responsibilities, the USSOCOM Warrior Care Program (also known as the Care Coalition) executes our mission of returning wounded, ill, and injured SOF personnel to their units, maintaining their experience within the force and capitalizing on the immense investment of time and resources invested in them. The USSOCOM Warrior Care Program conserves its Service Members at rates higher than the conventional Service programs due to our focus on retention.

The Preservation of the Force and Family (POTFF) initiative remains a command priority, and we are deeply grateful for Congress' support for the resources required to execute this effort. The POTFF program enables us to build in physical, psychological, spiritual, and social resilience in our servicemembers and their families to cope with the unique challenges of this demanding profession. The unique demands placed on SOF requires specialized attention to reduce injuries, speed recovery, and assure the overall well-being of our force. With your support, we've been able to place professional staff and equipment at our operational units where they have paid huge dividends in sustaining our warriors and their families. In partnership with academia, we are studying how we can continue to enhance the application of

the POTFF's holistic approach to improve the effectiveness and sustainment of our force.

Although the command has made progress in reducing suicides, we still have a great deal of work to do. Through our partnerships with the Services and academia, we are analyzing how to better predict and prevent suicidal behaviors. We recently completed an analysis of SOF suicides over the past four years and are using what we learned to inform our suicide prevention strategy going forward. We will improve suicide prevention training for our military members and their families by addressing the underlying cognitive processes that lead to suicides and providing enhanced screening of our military members.

One consequence of our high PERSTEMPO is the challenge it creates for our families (over two-thirds of our force are married). Ensuring our families are cared for is a necessary component of our readiness posture. The Department of Defense as well as the Military Services have provided outstanding resources and support for USSOCOM families. I am also deeply appreciative of Congress's support in allowing the command to tailor family programs that are geared toward meeting the specific needs of our community. This support enabled the command to conduct pre and post-deployment programs, SOF unit orientations, and programs that enrich marital and parental relationships. This year we are using the pilot family program authority to develop suicide prevention training for families, given we have found that spouses are often the first to notice when their partners are struggling.

CONCLUSION

In closing, I would like to emphasize my three priorities for SOCOM now and into the future. First, SOCOM is fully committed to winning the current and future fights. Second, we must transform our force to be prepared to deal with all future adversaries. Finally, we must continue to place the greatest emphasis on selecting, retaining, and empowering our people, and sustaining them and their families.

I would like to thank you for your continued support of USSOCOM and our people. As we adapt to new roles and challenges, I look forward to sustaining an open dialogue with Congress on how we can work together to safeguard America's security interests.

Chairman MCCAIN. Thank you, General.

General, how are the spending caps under the Budget Control Act impacting the readiness and capabilities of special operations forces?

General THOMAS. Chairman, that has been a consistent challenge over the last couple years as two of the things that we would endeavor to control in terms of predictability, and that is the deployment tempo and the resourcing of our force. Resourcing has not been very predictable over the last several years, and the potential for continued cuts undermines both our readiness and our modernization going forward.

Chairman MCCAIN. So what does that do to morale?

General THOMAS. Chairman, indirectly, I think, obviously, it affects the morale of our servicemembers who are concerned about the support of the Nation and this body.

Chairman MCCAIN. When it is not predictable as to where and when they will be required because of budget constraints. True?

General THOMAS. Chairman, it is true. Yes, there is a ripple.

Chairman MCCAIN. How can you plan, in this budgetary environment, when we lurch from crisis to crisis?

I guess I am a little redundant here, but when I look at this map of where all of your people are, spread all over the world, it seems to me at least we owe them some kind of predictability.

Let me ask, what is your assessment? Do you know when we will see an updated counter-ISIS strategy from the administration?

General THOMAS. Chairman, we are currently working on updating that strategy.

Chairman MCCAIN. What is your assessment of Russia's malign activities aimed at destabilizing Eastern Europe and our NATO allies?

General THOMAS. Chairman, as I think you know, we are supporting General Scaparrotti's efforts to both discern and determine the nature of Russian aggression, as well as to compete short of conflict in the various countries where it occurs.

Chairman MCCAIN. Have you seen the Russia malign activities increase, decrease, or stay the same?

General THOMAS. Chairman, I would assess they are a steady state of aggressive activities.

Chairman MCCAIN. How do you think we deter that?

General THOMAS. Chairman, I think by, with, and through our allies is the primary approach. I think we have great support and great opportunity there, and we are continuing to enhance that approach.

Chairman MCCAIN. Has the European Reassurance Initiative had a positive impact?

General THOMAS. It has, Chairman.

Chairman MCCAIN. Do you think we are in a "stalemate" in Afghanistan, as General Nicholson testified before this committee, in light particularly of recent successful, at least in their view, Taliban attacks, including the killing of over 100 Afghans at a base?

General THOMAS. Chairman, I am aware of General Nicholson's description of the current status of the fight as a stalemate. I recently returned from visiting Afghanistan where you know our special operations forces play a key role with our associated forces.

It is, admittedly, a very tough fight, and we are beginning yet another fighting season. I would offer, though that, in terms of stalemate, the one objective we had for why we went there in the first place that we have accomplished over the last 15.5 years is the avoidance of another attack from that area. That certainly is an accomplishment and something that we need to reinforce going forward.

Chairman MCCAIN. But if you have a "stalemate," that means that it does not end, doesn't it?

General THOMAS. Chairman, I understood the commander's assessment of stalemate as an opportunity to change the strategy.

Chairman MCCAIN. But that opportunity, if the present status quo prevails, then there is no end to it. In other words, what do you think needs to be done to end a stalemate?

General THOMAS. Chairman, I think that General Nicholson and the Secretary are pursuing new initiatives to—

Chairman MCCAIN. What do you think is needed, General Thomas?

General THOMAS. Chairman, we are integral to the discussion on what is needed going forward. Again, I am supporting the commander there, and supporting our Secretary of Defense in terms of the strategy—

Chairman MCCAIN. You know, you testified before this committee that you would give your opinion, if it is requested by this committee. I will ask you again. What do you think needs to be done in Afghanistan to end a stalemate?

General THOMAS. Chairman, I think the critical factor is the commitment, the commitment to some enduring state that has not been described effectively in the past. I think the new strategy is going to establish that definition of what——

Chairman MCCAIN. Does that mean, in your view, additional troops commitment?

General THOMAS. Chairman, additional troops are being considered, changes to the ROE [Rules of Engagement]——

Chairman MCCAIN. In your opinion, do you think it requires additional troops?

General THOMAS. Chairman, right now, I think we have an adequate number of my troops, special operations forces, on the ground.

Chairman MCCAIN. Of your troops, you think you have enough?

General THOMAS. I do.

Chairman MCCAIN. How often do your average individuals under your command serve overseas?

General THOMAS. Chairman, I believe what you are getting at is the deployment tempo for folks.

Chairman MCCAIN. Right.

General THOMAS. It varies across our force. In some cases, various parts of our force, various components are in a 1-to-1.2 worst-case deployment.

Chairman MCCAIN. Meaning how many months deployed versus how many months back in the United States?

General THOMAS. With that ratio I just described, they are about a 1-to-1, so 6 months or so deployed, if that is the rotation, 6 months back. That is the worst case. In the best case, we have been able to establish a balance of 1-to-3, so for every 6 months deployed——

Chairman MCCAIN. Isn't it a significant strain to have half your time deployed? Doesn't that put a lot of strain on the individuals and their families?

General THOMAS. Chairman, that worst case is actually less than the DOD's desired rate, and we are endeavoring to get that back in balance.

Again, that is not our entire formation. That is only parts of our formation. But it is unsustainable, to your point.

Chairman MCCAIN. I thank you, General.

Senator REED. Thank you very much, Mr. Chairman.

To both Ms. Whelan and General Thomas, do you believe that both SOCOM and SOLIC have an adequate seat at the table when discussions are made about budget acquisition and other issues impacting your force, vis-a-vis the other services?

Ms. Whelan?

Ms. WHELAN. Thanks for the question, Senator.

Actually, I think that the recent language in the NDAA in section 922 has significantly improved the ability of ASD/SOLIC to gain a seat at the table. To that point, specifically, we recently used that language to justify getting a separate seat for ASD/SOLIC on the Deputy Secretary's management action group, which previously SOLIC did not have.

We have also gained a separate seat for SOLIC on the Deputy Secretary's SAP [Special Access Program] Oversight Council.

SOCOM has a number of special access programs that we previously had not been able to manage independently.

Further, within the Department, we have established a tiger team to cross departmentwide in order to determine other areas in which ASD/SOLIC needs to gain additional authorities and abilities within the Department to represent SOCOM and have a seat at the table.

One other recent accomplishment is I think we will have a seat for SOCOM in the upcoming defense strategy development process.

Senator REED. General Thomas, any comments?

General THOMAS. Senator, I would reinforce Theresa's points. We very much embrace the recent language that reinforces ASD/SOLIC's role as a service-like entity. We are well-represented at all of the appropriate venues.

It sometimes takes reminding that we are unique in that case, because we are seen as either one or the other, and we sometimes have to remind folks that we are both, a service-like entity and a combatant command.

But you have empowered us to be at the table for all those venues, and we are adequately represented. Thank you.

Senator REED. Secretary Whelan, are there any responsibilities you have that you feel might be more effectively and efficiently carried out by another entity? You have a broad range of responsibilities. Is there anything that should be repositioned?

Ms. WHELAN. Within ASD/SOLIC, I think that there is consistency, actually, across the portfolio in terms of the types of activities that the Assistant Secretary is responsible for. In terms of the Assistant Secretary's role in providing policy oversight, all of the activities that ASD/SOLIC has purview over are in some way related to either the employment of SOF forces or the environments in which SOF forces operate. Whether they be SOF MISO [Military Information Support Operations] capabilities, civil affair capabilities, foreign internal defense capabilities, training capabilities, and, of course, counterterrorism capabilities, the portfolio is consistent in that context.

Senator REED. My understanding, and correct me if I am inaccurate, is that you also have responsibility for information warfare?

Ms. WHELAN. Yes, Senator, information warfare does fall under the purview of ASD/SOLIC.

Senator REED. But you do not have responsibility for cyber operations. As we know, cyber operations and information warfare, on the other side, our adversaries seem to be one, merged together, with each day.

Ms. WHELAN. Correct, Senator. It is a seam. There are a lot of seams, as you all know, within our organizational structure, and it is difficult. If you eliminate one seam, you will create another. So it is kind of a difficult balance to strike.

One of the things that we have done, though, is SOLIC recently put out a strategy for operating in the information environment. This strategy impacts the entire Department, to include the cyber warriors in the Department. So we have an integrated interdepartmental approach to implementing that strategy.

Right now, we are going through a capabilities-based assessment of that strategy to determine where we have additional needs and

where we have seams that we need to fix in order to operate effectively.

Senator REED. Thank you.

Just a final and very quick question. As the Chairman has noted, we have threats that are not strictly counterterrorism today with this gray area of operations. Section 1208, which I think has been very useful, as you have described it, is focused more on counterterrorism. Is there anything we have to do to give you that same degree of authority with respect to these gray areas in unconventional warfare rather than counterterrorism?

General Thomas, your comments?

I have no time.

General THOMAS. Senator, we are actively pursuing both the authorities and the resources that would enable more enhanced unconventional warfare operations. Again, we are very appreciative of what 1208 does for us, and that is actually—I mean, it is very—kind of enthusiastic. Its similar authority, similar resourcing might be advantageous for the force and for the Nation for unconventional warfare purposes, and I look forward to having that continuing discussion with you and others.

Senator REED. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Inhofe?

Senator INHOFE. Thank you, Mr. Chairman.

I do want to pursue this a little bit, in terms of your response to the Chairman's question in terms of the adequacy of the force.

But I want to first mention your activity in Africa, which really surprised me. I can remember when we first brought AFRICOM [Africa Command] along, and we started paying attention to what is going on over there, the potential threats there, the terrorism that is infiltrating the countries. So I know you have been active over there. I have talked to a lot of the African leaders. Very complimentary on some of the results that we are getting.

This surprises me, because AFRICOM did not even come online until the first of 2008, and yet, if you go back to 2006, the deployments to Africa have increased by more than 1,600 percent. It went from 1 percent to 17 percent in terms of deployments outside the United States. That is huge. That is a lot of increase in activity.

In addition to combating terrorism and the expanding network of violent extremism organizations, General Thomas, what impact, what can you elaborate on, on your activities in Africa? It is an inordinate increase, in terms of percentage, when you realize that some 17 percent of all deployments are actually affecting Africa.

General THOMAS. Senator, I would actually attribute that to our adversaries' activities. The migration of ISIS and al Qaeda to Africa, to ungoverned spaces over the preceding decade has been palpable. You know the specific locations. I probably, in an open session, should not get into the details of where and what. But we have endeavored to move where they have tried to establish new provinces, new areas of influence, in support of General Waldhauser and AFRICOM.

So that transition over time has really been driven by adversarial action. But I think the good news is that we have had the

ability to move those locations and attempt to defeat and disrupt them where they try to reside.

Senator INHOFE. I do not think anyone anticipated back in 2008 or even in the years since then that the activity would increase as it has there, so I am interested in following through with that.

On the idea of what you guys are in a position to handle right now, most of the deployed SOCOM forces, 55 percent, went to the Middle East. Next was Africa, that was 17 percent. Then Europe, 13 percent, and 9 percent.

Now, when you look at the optempo that was involved over there, in your written testimony, you acknowledge that adversary powers are increasingly turning toward unconventional warfare to pursue their objectives.

But maybe I misunderstood you when you responded to the question of the Chairman, that you are adequately staffed to carry on these functions. Is that not an accurate recollection I am having?

General THOMAS. Senator, we are adequately staffed to maintain the current tempo, the current distribution of special operations forces. It is a strain. It is certainly not an easy burden, but we are adequately resourced.

Senator INHOFE. I am looking for the quote that we had. Yes, this would have been from the House committee yesterday. I cannot find it right now, but there were quotes that—here it is right here. You said most special operations forces units are employed to their sustainable limit.

Now, to me, that seems a little inconsistent with being adequately staffed. You went on to talk about as or more challenged as a conventional force by the problem of suicide, other problems in the ranks that come with what I consider to be over-deployed.

What are some of the problems that you are facing that give you the indication that maybe you are not adequately staffed?

General THOMAS. Senator, again, we can sustain the current rate of deployment. It is something we scrutinize every day.

You mentioned, the Chairman mentioned early on, that there is a large demand signal from our geographic combatant commanders to do the things they have to do. As a service, one of our roles, we aim to meet their requirements. As a global combatant command, we also attempt to synchronize special operations activity to the greatest efficacy possible. I think we are doing that, to the degree we can.

There are challenges on the force. You mentioned certainly some of the more dire symptoms. We address them directly every day. That is large focal point for us.

I would have to thank all of you as well for providing us the tools that we did not have a decade ago to build in resiliency for our force in terms of our Preservation of the Force and Family, and also for our ability to care for our warriors in the event of mishaps, injuries, et cetera. We did not have that capability. You helped us gain it over time, and that is a critical part of how we sustain ourselves.

Senator INHOFE. Well, as one member of this committee, I look at some of the results, some of the problems that you have, and I have to question as to whether or not it is adequately staffed.

One short question, I know my time has expired, but you can do this for the record, if you like, Ms. Whelan, there is some confusion, as I mentioned to you earlier, in the words that you use when you are talking about adversary powers increasing, turning toward unconventional warfare. You said, “exquisite integration across multiple components of not only the Defense Department, also the United States Government, as a key challenge to confronting growing threat.”

You might, for the record, since my time has expired, elaborate a little bit on that. Would you do that?

Ms. WHELAN. Yes, Senator. We would be happy to.

Senator INHOFE. Thank you very much.

[The information referred to follows:]

Ms. WHELAN. Our adversaries have specifically calibrated their model of unconventional warfare to exploit the seams in our interagency process. We must bridge seams among U.S. Government departments and agencies in ways that go beyond mere procedural coordination, and we must operate with a shared purpose. For classification reasons, I cannot fully describe the range of these cross-functional teams in this document. That said, we have convened experts from across DOD and other U.S. Government departments and agencies to understand our adversaries’ strategy and operations. As we gain insight into one layer of the problem, we discover additional layers. After identifying the problem and understanding the environment, U.S. Government departments and agencies move to develop a solution. We have established new working groups to apply novel analytical capabilities, especially in the fields of information operations and indications and warning. We develop and test response options while drawing on history for operable models. Furthermore, many of the principles and structures developed during the long war against terror are applicable against other unconventional adversaries.

Chairman MCCAIN. Senator Hirono?

Senator HIRONO. Thank you, Mr. Chairman.

I want to thank both of our witnesses for your service. In particular, I would like to thank the men and women that you lead in our armed services, both in the military and in the civilian side, and, of course, particularly the Special Ops Command in the Pacific arena who provide great support to the Asia-Pacific region.

Secretary Whelan, guidelines for the use of force were established by President Obama in the 2013 Presidential Policy Guidance. The rules include the requirement for a “near certainty” that the terrorist target was present and that no civilians would be injured or killed.

There is no legal requirement that President Obama’s successors adhere to the same rules. President Trump has recently directed you to advise him on any recommended changes to the rules of engagement, and there were reports that there were a large number of civilian casualties after the raid in Yemen recently.

Have the rules of engagement requirement of near certainty that no civilian casualties will result been modified for special ops missions?

Ms. WHELAN. Thanks for the question, Senator. Absolutely not.

Senator HIRONO. Are there differences in the steps a conventional force would take versus special operations to prevent collateral civilian loss of life during missions?

Ms. WHELAN. Senator, I will let General Thomas answer that question.

Senator HIRONO. General Thomas?

General THOMAS. Senator, no is the answer. We both adhere to the Law of Armed Conflict. There are different techniques in terms of how we develop targets, but the same absolute standard applies.

Senator HIRONO. So these rules of engagement that require near certainty that your target is there and that you will minimize collateral damage, that was applied in the Yemen case?

Ms. WHELAN. Yes, the rules of engagement were not changed for the Yemen case.

Senator HIRONO. Although there was a high number, we were told maybe 200 or so civilian casualties, that did not result in a review of what happened there?

Ms. WHELAN. There have been extensive reviews of what happened, after-action reports, and lessons learned, but the casualties were not a result of a change in the rules of engagement.

Senator HIRONO. What were they the result of?

Ms. WHELAN. They were a result of operational circumstances that the forces on the ground found themselves in.

Senator HIRONO. I see.

General Thomas, in your testimony, you identify SOFWERX as a SOCOM initiative to support agile acquisition with appropriate venues. This is an open collaboration facility in Florida that has been in operation for over a year and has successfully brought hundreds of nontraditional partners together to work on your most challenging problems. I think that is a really good idea, although we have a lot of innovators and idea folks all over the country, also in Hawaii.

How do you search for ideas, collaborators, and solutions outside of your SOFWERX construct?

General THOMAS. Senator, you actually teased out the bigger part of the problem. I have the luxury of commanding 70,000 of the best, most creative problem solvers in the world. How I marry them up with the absolute innovation that is everywhere in terms of industrial approaches is the real challenge.

But SOFWERX is one way we are doing that, where we are compressing the space between academia, innovators, businessmen, and our operators in the pursuit of very specific problems. So you might imagine the whole gamut of issues that we are endeavoring to accomplish there that are enabling our force. But we are able to do that and go into rapid fielding and accelerated fielding of capabilities that enable our force.

So a relatively new initiative, SOFWERX, about 1.5 years old, but also already paying some huge dividends for us.

Senator HIRONO. So based on your experience so far with SOFWERX, would you recommend that something like this, maybe a physical location for PACOM [Pacific Command] or other commands?

General THOMAS. Senator, the Defense Department is actually endeavoring to do this at a number of different locations. Secretary Carter certainly invested in the valley. There are other initiatives around the United States, tapping into the various laboratories and academic facilities.

I cannot speak to where the Department is going in terms of the Pacific and where we might invest out there, but I am sure we are

interested in wherever we can tap into that kind of innovative capability.

Senator HIRONO. I hope you all will take a look at spreading the opportunity around, because there are a lot of small businesses all over the country who could provide the kind of innovation that you are seeking.

The Pentagon has acknowledged more than 100 United States special operation forces operating with Iraqi units in and around the Mosul with upwards of 600 more playing a support role in staging bases farther from the frontlines.

This is for General Thomas. Can you comment on the seemingly ever-increasing use of special operation forces? Do you think we are relying too heavily on special ops?

General THOMAS. First and foremost, we are not a panacea. We are not the ultimate solution for every problem. You will not hear that coming from us. That has been misconstrued in some media circles. Everything we are doing is in concert with conventional forces, with our allies, completely integrated.

I just visited Mosul. I was there about 3 weeks ago. Mosul was my hometown for 15 months, from 2007 to 2008, so I am very familiar with how daunting that challenge is.

In that area, you have a mix of conventional forces. I met with a brigade commander from the Army who was there. We had our special operations forces and our forces all integrated with the Iraqis, who are doing the majority of the fighting and incurring most of the casualties there. So it is an absolute blend of all of our forces, and I think the right mix.

Senator HIRONO. Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Wicker?

Senator WICKER. Thank you both.

Let's talk about collaboration with your international counterparts. Which one of you would like to discuss the extent to which we collaborate with our international allies? General?

General THOMAS. Senator, in a word, extensively. At almost every part of our formation, you will see where we are endeavoring to bring everyone in who has a part of the problem.

I am very appreciative that the Director of National Intelligence has enabled us to crush through pre-existing prohibitions for information-sharing, probably one of the most powerful things that we have in this day and age, to be able to share exquisite information that the United States has that we may or may not be intent on acting on, but be able to share that with our allies and enable them to act.

But that is at almost every point of our formation, where that level of collaboration is ongoing right now. So "exquisite" is the best way I can describe the extent of the collaboration, and getting better every day.

Senator WICKER. Is there anything else you need in the next NDAA to help you there? Do you have what you need?

General THOMAS. Senator, I believe we certainly have no restrictions that I can mention to you nor that I can specify to right now. So we feel very enabled there.

As I mentioned, the intelligence community is finding ways to enable us more every day, certainly with the concerns of safe-

guarding methods and sources and things like that, but with a lean toward sharing and collaborating more than we have ever done before.

Senator WICKER. I understand you have a particularly strong relationship with our neighbors to the north in Canada.

General THOMAS. A phenomenal relationship, yes, Senator.

Senator WICKER. What can you tell us in this non-classified setting about Exercise Vital Archer?

General THOMAS. Senator, hard to go into detail about that exercise, which we recently completed, as I think you know. But it is part of a cycle, if you will, to ensure our interoperability with our neighbors, with one of our greatest partners, for a very specific mission set that is of critical interest to both Canada and us.

Senator WICKER. Let me shift then to special boats and say, first of all, that we in Mississippi are thankful and honored to have Special Boat Team 22 headquartered in our state.

Would you describe the ways in which these special boat teams contribute to different missions?

General THOMAS. Senator, I recently had the privilege of running all over Stennis here about a month ago, and getting out on the water in some of those capabilities. They are integral to many of our activities around the globe. NAVSCIATTS [Naval Small Craft Instruction and Technical Training School], the institution that you have there as well, is also a critical enabler for many of our foreign allies.

So, again, two phenomenal aspects of our portfolio that are important to everything that we are doing.

Senator WICKER. We are continuing to do a lot of significant work in riverine environments.

General THOMAS. Where it applies, Senator, we certainly have that capability, and we continue to improve it.

Senator WICKER. Where does that apply?

General THOMAS. Senator, on several locations around the globe that probably would be best to address in a closed hearing.

[The information referred to follows:]

General THOMAS. WARCOT maintains a 1.0 Riverine detachment capability. Each detachment consists of 2 x SOC-R Boats and 15 Personnel. The SOC-R detachment is deployed under Force Tracking Number 6170CTS3411 in support of the SOUTHCOM Theater Campaign Plan conducting theater security co-operation missions as well as prepared to conduct contingency operations and directly support the Counter-Drug/Counter Narco-Terrorism lines of effort in the SOUTHCOM AOR. The SOC-R detachment is deployed to Columbia.

Senator WICKER. Okay. Let me just say, to follow up on the Chairman's line of questioning about Afghanistan, I just think it is very important for you to know, and for everyone listening to know, that we need to move beyond anything that puts us at a stalemate in Afghanistan.

This is an important fight that we need to win, and there is every reason that we should be able to do that. We have a populace in Afghanistan who supports our presence there. The overwhelming majority of the ethnic groups, of the tribes, appreciate what we stand for and look to the United States for leadership.

So to the extent that either of you, both of you, can give us correct and helpful information about how to move past what some people have described as a stalemate, to me, is very, very helpful.

Ms. Whelan?

Ms. WHELAN. Senator, I think we are actually actively looking at adjustments to the approach in Afghanistan right now. I expect that these proposals will go to the President within the next week, and the intent is to do just that, to move beyond the stalemate and also to recognize that Afghanistan is a very important partner for the United States in a very tricky region. We want to maintain that partnership with Afghanistan, and we want to ensure that Afghanistan reaches its potential. So that is the objective of the strategy, sir.

Senator WICKER. That is very good to know. Thank you.

Chairman MCCAIN. Senator Heinrich?

Senator HEINRICH. Thank you, Chairman.

Thank you both for being here. Please pass along our gratitude to everyone who serves in your command. I think the work they do every day has an enormous amount of respect from all of our constituents, and we should be very grateful for that.

General Thomas, yesterday, I want to thank you for just sitting down with me in my office. You and I discussed a number of things.

The high operational tempo was one of the things we touched on. One of the things you mentioned to me that really stuck in my head are the numbers. You also indicated that now somewhere between 28 percent and 30 percent of your funding is now from war supplemental, or OCO [overseas contingency operations] funding, versus 7 percent across the other Military Services.

I was hoping you could talk a little bit about what that means in terms of that budgetary overreliance on OCO and how that impacts your ability to plan and execute your mission.

General THOMAS. Senator, thanks for the question and thanks for the opportunity to discuss a number of issues with you in more detail yesterday.

I mentioned the two things that I look to that pressurize us most are unpredictable de tempo, and certainly there are aspects of that are affecting our force, and resourcing, the predictability or not of resourcing, which has been challenging over time.

We are monitoring very closely the budget discussions. We are integral to all those budget discussions. Truthfully, I am somewhat sanguine that we will get the resources required to continue to pursue the tempo and the effects that we are producing right now.

You pointed out my one concern is that we have trended to be much, much more dependent on operational contingency funds than anybody else in DOD. So the current budget would push us——

Senator HEINRICH. If your overall budget were held flat, would you rather have that in base budget or would you rather see it over in the OCO?

General THOMAS. Senator, I hope that we will be able to get consideration to move that into the base over time. Again, I have talked with Secretary Mattis, so I do not want to appear inconsistent. The Department is not pushing that as aggressively for the remainder of the other services because they are only leveraged to OCO to about a 7 percent degree. We are 30 percent or near 30

percent right now. So that is some risk that we certainly would like to mitigate over time.

Senator HEINRICH. One of the other things we mentioned and talked a little bit about is the contributions out at Cannon Air Force Base. Would you take a moment and talk a little bit about the importance of the RPA [Remotely Piloted Aircraft] contribution that happens there? Do you have concerns with regard to operational tempo? We have made huge investments in the facility over the years because of the growing mission, but, obviously, the tempo has been incredible.

General THOMAS. Senator, I think this committee is very aware that ISR [Intelligence Surveillance Reconnaissance] is a significant portion of our portfolio, to the tune of about one-fifth of our investment strategy on any given annual basis. It runs the gamut from tactical ISR all the way to high-end ISR that our Air Force component produces, which is the best in the world. It is better than anything on the planet.

Cannon plays a critical role in terms of the basing and training of that ISR capability, both manned and unmanned. Then the range complex there allows us to work it every night. So, again, state-of-the-art ISR capability produced by our Air Force and others that we leverage on a consistent basis.

Senator HEINRICH. I also want to commend SOCOM's interest in pursuing what General Goldfein described as silent sabotage with regard to directed energy. An airborne high-energy laser on a C-130 gunship could certainly deliver a number of capabilities before and during clandestine ground operations.

Do you want to share any thoughts you have on how directed energy might contribute to your future mission and how SOCOM's plans for developing that system are coming along?

General THOMAS. Senator, as we discussed yesterday, we see a number of applications for high-energy weapons capabilities, so we are interested from a number of approaches. You mentioned that we have offered to base it on one of our platforms as a test basis. That was relatively easy for us to offer up and obviously gives us kind of an immediate developmental capability. So, again, very interested, not exclusively a SOCOM pursuit—

Senator HEINRICH. Do you feel good about Air Force's willingness to get in that game as well?

General THOMAS. I do. We have a phenomenal relationship with General Goldfein and the Air Force.

We have actual annual service talks with all the services to talk through how we can crush through our combined equities, and the relationship with our sister services is phenomenal. I have no concerns.

Senator HEINRICH. My time has expired here, but I also want to express a willingness to work with you on the 1208-like issues with regard to unconventional warfare.

Thank you all for being here today.

Chairman MCCAIN. Senator Ernst?

Senator ERNST. Thank you, Mr. Chair.

To Ms. Whelan and General Thomas, thank you so much for being with us today. As a soldier and a citizen, I want to thank you very much for your relentless work on the battlefield. As the

spouse of a former SOF operator, I want to thank you for SOCOM's dedication to the health and wellness of those operators and especially the commitment that you have to those servicemembers' families. So thank you very much for being here.

General Thomas, during your confirmation hearing, we spoke about SOCOM's Preservation of the Force and Family, POTFF, initiatives. As you know, I am glad to see that SOCOM has done a lot in those areas to help our special operations warriors and their family members. The wounded warriors especially is an interest of mine. I would encourage everybody on this committee to take a look at those programs and learn more about them.

Can you give us just a brief update on POTFF and specifically on THOR 3 [Tactical Human Optimization, Rapid Rehabilitation and Reconditioning]? I had the opportunity to do PT [physical therapy] at a THOR 3 facility with some of your operators. It was an experience.

Can you tell us if SOCOM has the support it needs from Congress for these types of programs?

General THOMAS. Senator, thanks for the question. Thanks more specifically for your personal support for this critical capability.

It is, admittedly, an awkward acronym, POTFF, Preservation of the Force and Family, but it captures the essence of what we are trying to enable, focused on both our force and, arguably, something that we talked about but did not have the resourcing before, the readiness and the preservation of our families.

It literally builds in or enables us to build in resilience prior to and in preparation for potential deployment for both our servicemembers and their family members across a broad array of approaches—psychological, physical, spiritual—that again has paid huge dividends for us.

You mentioned a specific aspect of that that pertains mostly to the physical maintenance and the physical recovery of our force. But over time, this committee and the Congress has enabled us to put the right infrastructure in place with the right technicians, therapists, and psychologists, et cetera, to provide state-of-the-art, as good as anything on the planet, sustainment capability for our individual operators, our individual servicemembers, and their families.

Command Sergeant Major Patrick McCauley and I go around the formation. We get nothing but rave reviews from the force. In some cases, in fact, the challenge forces in some of our most distant locations where smaller forces, they are looking for the same capability, and we are finding ways to parlay that to them as well, as opposed to just at the larger special operation installations.

Senator ERNST. Outstanding. It is a great program. Thank you, sir, for being so supportive of that.

It is not surprising that so many of our SOF warriors, even after injury, are able to get back into that fight. While I was at THOR 3 with a dear friend of mine from Iowa, we met another one of his teammates who had also been injured. He had a near, at the hip amputation and had a prosthetic. He has been able to return to the fight because of those facilities. But he has been back to Afghanistan a number of times.

But we also have those warriors who are not able to deploy again. So what is SOCOM doing to utilize their talents and abilities even after injury if they cannot deploy? Are there things that we should look at as Congress to enable those warriors to stay on duty?

General THOMAS. Senator, you touched on one of the unique challenges that we have, that most of our servicemembers, even despite extraordinary wounds, debilitating wounds for any other human being, desire greatly to continue serving. So you highlighted one example. I can highlight dozens where we have been able to accommodate individuals to stay in the force and to continue to contribute.

You mentioned an amputee. We have amputees that are operating as operators, frontline operators, special forces, SEALs, the tip of the spear although way through all of our supporting functions.

Again, our goal is, if they want to continue serving, we find a way to enable that. You have given us the wherewithal, the committee has given us the wherewithal to be able to do that through our Warrior Care program.

Senator ERNST. Very good. I appreciate that very much.

I do have a few other questions. We will get to those. Just a quick yes or no, though.

President Trump today is saying that he does support leaving troops in Iraq in the fight against ISIS. Is that something that you would support?

General THOMAS. Senator, I support the strategy, so whatever the nature of the special operations support is required to obtain our objectives, I am supportive.

Senator ERNST. Ms. Whelan?

Ms. WHELAN. Yes, actually, we are totally linked, and the strategy is based on our requirements of the generals on the ground.

Senator ERNST. Thank you very much.

Thank you, Mr. Chair.

Chairman MCCAIN. Senator Kaine?

Senator KAINE. Thank you, Mr. Chair.

Thanks to the witnesses. I have a concern and a question.

On the concern side, on the SOCOM website, you have a SOF Truths, five of them. One of them is, most special operations require non-SOF assistance. That seems pretty obvious. I have a concern about what I worry is a sort of growing SOF myth, and that is you can do special forces and have special forces and nothing else to accomplish your goals. Even conversations in this body sometimes are, well, we do not want to use ground troops, no boots on the ground, but it is okay to use special forces.

I sometimes think that is a little bit of not really a military calculation but kind of more of a political one, that ground troops are a little bit more notable, special forces tend to be more covert, so we can do things with special forces and not really have to be accountable for it to the public.

Am I right to worry about that?

General THOMAS. Senator, I think you are right to worry about the perception. It is something that we battle all the time. There have been too many books and movies and publications that might

imply that we go it alone, do it alone, and that is completely incorrect.

Certainly, I share your concern that that is out there, but it is something that we push back on all the time. It is just not the case.

Senator Kaine. A question Senator Wicker asked you about, collaboration with international partners, I want to focus on a piece of that, the training that you do. I think one of the best parts of our DOD budget, and it is a very small part of the budget, is the training work that we do with other nations, either bringing military leaders of other nations here or doing training with countries all over the world.

Senator King and I have done some traveling and have seen U.S. special forces doing training in some tough parts in the world that are pretty impressive. Without saying anything in an open setting that you should not, talk a little bit about the scope of the training activities that our special forces are involved in with partners all over the world.

General THOMAS. Senator, we are consistently trying to align ourselves with the appropriate partner forces where our national interests pertain in the interest of building their capability to the range of missions that they might be required to do.

I think we are pursuing a much more enlightened training approach, all the way through security force assistance. Where I think my fellow combatant commanders would tell you that we are probably not keeping pace is in terms of the bureaucracy that pertains to foreign military sales and things of that ilk. I know we are trying to get those to be as coherent as possible going forward. That would help us.

But I think we are doing a much better job of identifying partner forces ahead of time that need various capabilities, and we are pressing to make sure they have that capability.

Senator Kaine. This training, when you do it, it is not only about just sheer military capacity-building. It is also about rules of war and human rights and elevating professional standards in these militaries around the world, and that is all for the good.

General THOMAS. Senator, you are nailing what I think is one of the critical aspects of it. It is literally imparting our American values to them in the means of a military-to-military relationship.

Too often, in my mind, the first billpayer is that military-to-military relationship when we have missteps, and we are the first to address it. If we even get a scent of extrajudicial killings or inappropriate behavior, we address that immediately with the respective element. But we are attempting to bring their understanding of what we believe is the right way to conduct combat operations along as part of our training.

Senator Kaine. One of the most important things I think we can do is kind of be the partner of choice as other nations are looking to build capacity, and I think there is probably no area more than special forces where we are really seen as a partner of choice by nations all around the world. That is a great way to build relationships and improve capacity, compliance with rule of law.

So I commend you on that and look forward to talking about that more as we get into working on the NDAA together.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Sullivan?

Senator SULLIVAN. Thank you, Mr. Chairman.

Ms. Whelan, General, thanks for your testimony.

General, I appreciated the opportunity to meet with you and your team yesterday. I wanted to follow up on some of our discussions.

Obviously, we focus a lot here on ISIS and al Qaeda and some of the other terrorist groups. But certainly, one of your most important missions is the counter-WMD [weapons of mass destruction] mission. As the threat is growing from North Korea, Iran, it is not just a direct threat. As you know, it is a proliferation threat. I think that is going to be an enduring mission for you and your team and the SOF Command for decades.

So in 2016, in the unified campaign plan, it was amended to transfer responsibility from STRATCOM [United States Strategic Command] to SOCOM for the synchronization of DOD's global counter-WMD strategy. To the extent you can discuss it in an open hearing like this, what are the things that we can do to support that critically important mission in terms of resources? How is the transfer going? Are there any other things that this committee should be aware of to help you most effectively focus and undertake that critical mission?

General THOMAS. Senator, thanks for the question, and thanks for the time yesterday as well.

As you mentioned, this is an enormous and incredibly important mission set that we accepted responsibility for in January. So January of this year was when it was officially assigned to us from the Department of Defense. We have had about 4 months to work our enhanced appreciation for all that entails. Obviously, we had studied ahead of time, but there is nothing like embracing a mission to really understand it.

We have had a chance to do our first of what is a semiannual synchronization session with all the interagency partners that are part of this problem set, all the geographic combatant commanders, our international partners, a really, really valuable session that we conduct semiannually.

We are currently now trying to confederate all the ongoing activities so that we can provide the Secretary an assessment here. I am aiming for the August timeframe to give him a comprehensive assessment of where we are in terms of the United States Government policies and objectives for countering weapons of mass destruction, where we are from a DOD approach, and relative to both our interagency and our international partners.

So, again, we are leaning into this mission as aggressively as we do most everything at SOCOM. But it is obviously much, much bigger than us, and we are honored to have that coordinating role for the Department of Defense, and we are endeavoring to provide the best product possible for the Secretary and the Department.

Senator SULLIVAN. As you undertake that analysis and that transfer of authority over to you, which has already happened, please make sure that this committee—I can almost guarantee you that you would get bipartisan support for additional responsibilities or resources that you will need with regard to that critical mission, so please keep us posted.

Let me ask this, it is kind of related to Senator McCain's and Senator Kaine's question.

We seem to have, in some ways, adopted a strategy of fighting our wars now with a combination of SOCOM forces and airpower. But in your professional military opinion, what other capabilities would be beneficial to help our forces and our country bring success in places like Iraq or Syria or Afghanistan?

I know you are looking at that issue, but there is kind of this, and I think it is a theme here, you are hearing a bit of a myth that, once the SOCOM men and women are on it, everything is good to go. But we know that there are a lot of other capabilities and other forces that need to bring to bear.

Specifically, what do you see as most important in terms of other capabilities, supporting or even in the lead?

General THOMAS. Senator, it is kind of ironic, I am running through my brain right now 80 different countries, 8,000 special operations forces forward deployed, and I cannot think of a single circumstance where we are not dependent on another service, another supporting function out there—not one.

So if and when it has been described as special operations forces by themselves, it is a misconception.

Now, unfortunately, in some cases, we are too prominent, too prominent because it is interesting, it is, again, the stuff of too many books and movies. But we are not doing anything by ourselves.

The good news is, as we go into a problem, as special operations goes into a problem, I consider the entirety of the DOD inventory at our disposal, and vice versa. That is, I think, the benefit of the joint force approach, that we do not feel constrained that there is nothing available in the DOD arsenal that we cannot leverage, and they look at us in the same fashion.

So, again, that is happening about anywhere I can imagine, anywhere I have been lately, without any shortcomings.

Senator SULLIVAN. So you are integrated, for example, with marines who are doing artillery fire missions with you in Iraq right now?

General THOMAS. I think I mentioned to you I will not get into specifics, but I just visited some marines that were shooting more 155 ammo than I can supply them right now, and they are integral to everything we are doing.

Senator SULLIVAN. Great. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator King?

Senator KING. Thank you, Mr. Chairman.

Ms. Whelan, I could not help notice your former title of Principal Deputy Assistant Secretary of Defense for Special Operations Low-Intensity Conflict.

When I was a junior staff member in this body 40 years ago, I once called OMB [Office of Management and Budget] for an administration witness. They gave me a title. He said I am sending you so and so, the principal deputy. I said I do not know these titles. What does that mean? The fellow gave me an answer, which if I ever write a book about Washington, it will be the title of my book.

The answer was, "He is at the highest level where they still know anything."

[Laughter.]

Senator KING. I just want you to know that you are at that level, and I am now above it. So I have never forgotten that.

General Thomas, there has been a lot of talk about tempo. Let me go back to the left about tempo and talk about retention, recruitment, and throughput. Do you have adequate people in the pipeline to maintain the tempo that you are at today?

General THOMAS. Senator, again, something that we look at incredibly closely every day. The answer is we are having some challenges for portions of the force for recruitment. I contribute some in terms of Army special operations forces to the downsizing of the Army, partly for some internal challenges that I think we have rectified.

But in some cases, we have had some challenges. I think we are trending in the right direction now though going forward, but we had some temporary challenges over the last couple years.

Senator KING. I certainly hope that you will let the committee know about those issues. If there are recruitment and retention issues that our actions here can help to alleviate, we certainly want to do that.

General THOMAS. Will do, Senator.

Senator KING. Ms. Whalen, the command-and-control is an issue that is of some concern. Do you believe that we have effective command-and-control of the special operations forces?

I am concerned about interested parties, your command, geographic combatant commanders, service components, all receive and share information in a quick and efficient manner. Talk to me about command-and-control.

Ms. WHELAN. Certainly. I will actually also let General Thomas comment on this as well.

But I think from our perspective, in the SOLIC oversight role, we actually have excellent command-and-control. In fact, I think the integration of our forces between SOCOM and the combatant commands that they support, the regional combatant commands—

Senator KING. So if there is an action of special operation forces in a particular geographic area, the combatant commands are integrated, they know what is going on.

Ms. WHELAN. Actually, Senator, the way it works is that SOCOM forces, the SOF forces actually fall under the command of the combatant commander, the geographic combatant commander. So the Gulf Cooperation Council (GCC) is fully in charge of the operations that take place in their Area of Responsibility (AOR). For example, if you are looking at the CENTCOM [United States Central Command] AOR right now, General Votel and his subordinate commanders, that is the chain of command that operates all of the forces that are in that AOR right now, to include special operations forces.

Not necessarily for this forum, but there are some specific elements that operate under a slightly different chain of command, although still under General Votel's purview but with more direct access to General Votel that belong to General Thomas.

But there is total integration, and nothing happens in a geographic commander's AOR that he does not know about.

Senator KING. General Thomas, you are comfortable with the structure?

General THOMAS. Senator, absolutely comfortable. I reemphasize Theresa's point. There are no special operations in the world right now that are not under the command-and-control of geographic combatant commander.

There are provisions for exceptions in some scenarios. Truthfully, the exceptions are single digits over the course of our history where SOCOM could be the supported commander. But day in, day out, all of our operators right now are under the control of a geographic combatant commander.

I have combatant command of all special operations forces, and I apportion them to their respective geographic combatant—

Senator KING. There is always coordination with the combatant command?

General THOMAS. Always, constant, incessant. Senator, our role for synchronizing is where these geographic combatant commanders get to their prescribed limits. So you might imagine, for CENTCOM, for instance, as their borders literally butt up to other geographic combatant commanders, Syria to Turkey, Yemen to Somalia, Egypt to Libya, that is where we play a critical function of synchronizing special operations activities across those respective geographic combatant commanders.

Again, they fight the forces. We provide a transregional perspective and role.

Senator KING. Ms. Whelan, my time is up, but very quickly, you mentioned information warfare. What does that consist of?

Ms. WHELAN. Information warfare is a complex set of functions that include some of our military information support teams, as well as some of our communications specialties. There is a whole list. I know you are short on time, Senator, if you like—

Senator KING. Perhaps you could, for the record—

Ms. WHELAN. Absolutely.

Senator KING.—give us a definition of what that is.

Ms. WHELAN. We will take that for the record and get you the answer.

Senator KING. Thank you very much.

[The information referred to follows:]

Ms. WHELAN. Although there have been several references to "information warfare" in this hearing, our current doctrine uses the term Information Operations, which is defined as "integrated employment, during military operations, of information-related capabilities in concert with other lines of operation to influence, disrupt, corrupt, or usurp the decision-making of adversaries and potential adversaries while protecting our own." Examples of information operations-related capabilities include Military Information Support Operations, Military Deception, Electronic Warfare, and Cyberspace Operations, among others. As I mentioned earlier, we are implementing our 2016 Strategy for Operations in the Information Environment, which describes the Joints Staff's development of a new joint concept that I expect will change some of the terms we associate with military operations, actions, and activities in the information environment.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Cotton?

Senator COTTON. Thank you both for coming today.

General Thomas, thank you, in particular, for your service, and all the men and women underneath your command.

Over the last 8 years, there has been some tension between civilian and uniformed services over the number of flag officers that we have seen grow in all the services. The committee made an effort to reduce the number of flag officers last year.

I have heard some generals and admirals, though, say that when the civilian command authority reserve decision-making power to the highest levels, decision-making power that was once delegated to colonels and captains and, heaven forbid, even lieutenants on the battlefield in Iraq and Afghanistan in the last decade, then we should expect to see an increase in the number of flag officers.

Have we begun to see in the last 4 months more delegation of operational decision-making authority back to where I suggest it belongs, in the hands of commanders who are on the frontlines?

General THOMAS. Senator, the short answer is yes.

I am a little bit humored by how you described the situation in that my youngest son, who just gave up company command of the 82nd recently wrote to me and said since when did we stop letting company commanders command companies? My response to him was, Michael, that question has been asked since time immemorial. Where and how are you restricted right now?

But I think, to your overall point, that while certain authorities had been elevated to very senior levels, I typically ask our force, are you empowered at the right level with the right ROE to do your job? I think it is turning in that direction.

Senator COTTON. As that delegation occurs, do you think we might see a concomitant decline in the number of flag officers in the Pentagon who need to make those decisions for our company and field grade officers in the field?

General THOMAS. Senator, I would tell you, truthfully, flag officers in the Pentagon are not empowered to make those decisions because they are not in the chain of command. So I think the right folks in the chain of command are being empowered to make the decisions that you certainly experienced from your time in combat. We are going back in that direction positively.

Senator COTTON. On a related note, last month, we deployed the Massive Ordnance Air Blast in Afghanistan for the first time. There was some media controversy about that, about why that bomb was deployed.

At what decision would something like that be made?

General THOMAS. Senator, I think it was described that that decision was in General Nicholson's authority, so he had the capability, he had the discretion and decision-making to deploy it.

I think you know we used it as an area denial weapon in an area that we have been having a protracted fight with ISIS and the Khorasan in Nangarhar Province in Afghanistan. So I think it was the right deployment of a weapon system that avoided a more extensive of loss of life.

I mentioned Sergeant De Alencar and our two rangers who died out in the area recently.

So, again, that decision-making authority was General Nicholson—

Senator COTTON. The commander in Afghanistan.

General THOMAS. The commander on——

Senator COTTON. Not the Chairman, nor the Secretary of Defense, the National Security Adviser, the President.

General THOMAS. No.

Senator COTTON. Deciding what kind of ordnance to employ, would you say that is a decision for commanders in the field to make?

General THOMAS. I believe it is.

Senator COTTON. They do not need to get approval from anyone 8,000 miles away in Washington?

General THOMAS. I think that could actually cause great risk to the force, if it had to go back that way.

Senator COTTON. I hope all the rest of our bombs are overcoming the laws of their mother. Are they?

General THOMAS. I think they are over their grieving.

Senator COTTON. Good.

Another question I want to raise is the relationship between special operations forces and conventional forces. By definition, special operations forces are special. They do amazing things, but they are limited in numbers and focused in mission.

Would you agree that you cannot simply flood special operations forces and expect them to be a substitute for what our conventional forces or what a broader strategy would do?

General THOMAS. Senator, I agree, and, more pragmatically, we do not have the forces, the special operations forces, to do that. So it is not a viable solution.

Senator COTTON. So special operations forces are an important complement to conventional forces in a broader strategy, but they cannot be a substitute for either?

General THOMAS. Agreed, Senator.

Senator COTTON. A related question, does that mean that if we expect to increase the number of special operations forces, or the mission sets that we provide them, or the operational tempo at which we deploy them, we also need to see a concomitant increase in the number of conventional forces as well to support those missions?

General THOMAS. I think that is a good assumption, Senator.

Senator COTTON. All right. Thank you.

Chairman MCCAIN. Senator Peters?

Senator PETERS. Thank you, Mr. Chairman.

Thank you to our witnesses here today for your insightful testimony.

General Thomas, I would like to go back to something you brought up in your testimony as well as to a question earlier from a panelist, and that is the SOFWERX effort that is undergoing right now to bring together academia and industry and some high-tech work.

As you know as well as anyone, the nature of warfare is going to change dramatically in the years ahead. Technology focus will be greater than ever. In the past, the military has always been a leader in that area and will continue to do that. But one difference is that what we are seeing now in the civilian industry is accelerating in terms of new innovations.

We have, in Michigan, TARDEC [U.S. Army Tank Automotive Research Development and Engineering Center], which is the Army's tank and vehicle research lab, which is also working on the model that you have mentioned. But I was just curious, I know your effort is only about 1.5 years old now, but what would you consider the major takeaway of that effort in the last 1.5 years? Or perhaps a lesson that you have learned in that 1.5 years that is going to be instructive for entities like TARDEC and others to emulate?

General THOMAS. Senator, I could probably on the record provide you a list of initiatives that have actually resulted in fielding capabilities to our forces, so some very specific dividends that have come out of that environment.

Truthfully, our director of Acquisition Technology and Logistics is leveraging that platform every day. For instance, the Counter-Unmanned Aerial System challenge that cropped up recently in Iraq and Syria, which was relatively nuanced, we were able to pour some very directed resources at that, have what he calls a collision of academia, technicians, operators, come together on that problem, among others, to really crash on it in a hurry and, more importantly, leverage off-the-shelf technologies, things that would otherwise take an inordinate amount of time to get to the field.

So if I can, I would like to provide you a list of specifics of what we have accomplished and, more importantly, what we are endeavoring to do going into the future.

Senator PETERS. I appreciate that.

[The information referred to follows:]

General THOMAS. Through efforts at SOFWERX we have been able to identify and discover many new and novel technologies, capabilities, ideas and process to facilitate accelerating the acquisition cycle. These efforts begin with building a robust network across many spectrums of innovation in the private and academic sectors, commercial markets and the DOD. A representative sample includes the following:

New Products: Through rapid prototyping efforts, SOFWERX has produced new designs for consideration to enable more rapid follow-on acquisitions for:

- Prototype/initial design for next generation communication systems for SOF vehicles for consideration in future acquisition strategies
- Concept and initial design for new bow bumpers for SOF boats that are in prototype manufacturing for further testing
- Developed Casualty Evacuation modifications for MRZR SOF vehicles—provided to units for local build
- Initial design studies for weaponizing SOF surface combatant boats for consideration in future acquisition strategies

SOFWERX has conducted or facilitated rapid evaluation of commercial off-the-shelf (COTS) products for potential SOF use, either for immediate needs or for future concepts:

- *Go-Tenna:* Allows use of cell phones as point to point and network radios; analyzed and prototyped alternative antennas for SOF use
- Open source software—enables rapid fielding of capabilities, especially with partner nations
- Commercial drones—both how to use them with COTS software for radically low-cost ISR, as well as how to exploit current drones for Counter-Unmanned Air System capabilities

SOFWERX has proven to be a venue which attracts unique products for potential SOF use, which has reduced barriers to entry and has facilitated interaction with new and unique suppliers:

- Hendricks Motor Sports STEED—an electric powered cart to increase range of SOF tactical units
- Fly-board Air—Novel single-man flying machine invented in France

- Virtual Reality Demo—Enabled operators to experiment with next-generation Virtual Reality/Augmented Reality systems

New Ideas: SOFWERX has aided in inspiring and inaugurating new ideas that can transform how SOF approaches thinking and solving the most challenging problem sets:

- Use of biological models as a means to better understand counter-terrorism
- Next generation design concepts to power Light Tactical All-Terrain Vehicles (fuel cells, hybrid, etc.)
- Non-Radio Frequency communications for SOF (e.g. magnetic resonance) for enhanced survivability

New Business Models: SOFWERX is a springboard for using new business models to reach non-traditional business partners, technologists, hackers/makers and other individuals with novel solutions:

- Developing a SOF-unique workflow on Amazon to potentially enable rapid discovery/purchase/delivery of equipment for partnered operations
- Fostering new solutions to SOF problems through prize challenges; 10 prize SOF prize challenges have been executed to date
- Fostering new solutions to SOF problems (especially in the data arena) with Hackathons. Hackathons have also identified a large pool of local talent which can be leveraged to solve SOF problems

New Networks: SOFWERX has enabled us to establish and broaden our relationships with a wide spectrum of non-traditional DOD partners:

- SOFWERX has already established a network of over 6000 members
- Academia—USF is now developing advanced payload solutions for SOF cubesats
- Hacker/Maker network—400+ non-DOD affiliated hackers and makers are networked in with SOFWERX. SOFWERX is being dubbed as the “friendly feds” space, allowing access to ideas, products, and innovations
- Far Ridgeline Reviews—enables us to assemble world-leading talent on specific challenges to include most recently a session on Machine Learning.

More information on many other events and activities to include Hackathons, Science, Technology, Engineering and Math (STEM) events in the local community can be found on the SOFWERX website at sofwerx.org.

SOCOM is pursuing wearable robotics technology in the form of an actuated exoskeleton as part of the Tactical Assault Light Operator Suit (TALOS). This test-ready prototype suit is currently in development and planned to begin operator assessment in late 2018. SOCOM's goal is to develop a next generation technologically advanced combat operator suit that provides unmatched and unprecedented advantage to our Special Operations Forces Operators as they execute the most complex and high risk mission sets. TALOS will provide the SOF Operator of the future enhanced survivability, capability, and situational awareness.

SOCOM is partnering with the Army on plans, strategies and innovative research in the field of robotics and autonomous systems. Special Operations Forces (SOF) interdependence and interoperability with conventional forces remains a top priority for USSOCOM especially regarding emerging technologies. Earlier this year, TALOS leadership visited U.S. Army Tank Automotive Research Development and Engineering Center (TARDEC) to collaborate on investments in the field of autonomous robotics. SOCOM recently benefited from a visit by key TARDEC staff members, namely Dr. Robert Sadowski (Chief Roboticist for the Army), to discuss the TALOS program and the Army's robotic and autonomous systems strategy. USSOCOM plans to continue its integration with the U.S. Army in the autonomous robotics and exoskeleton fields to ensure the prudent investment of our finite Special Operations resources.

We are collaborating with the Services on various unmanned underwater and ground systems. While the SOF operator will always be the key element to our success, we foresee robotics and autonomous systems playing an increasing role in support of our SOF formations to better enable safe, efficient and effective mission completion.

We also use a wide range of remotely piloted aircraft and are experimenting with, in conjunction with the Services, various unmanned underwater and ground systems. While the SOF operator will also be the key element to our success, we foresee robotics and autonomous systems playing an increasing role in support of our SOF operator to better enable him or her to complete the mission safely and effectively.

Senator PETERS. I would also like to do a deeper dive, perhaps with some folks there to talk specifically about some of the work

that they are doing and how we can replicate that in other places, because I think this is critically important in future warfare.

As you know, and you have alluded to it in your answer there, autonomy and robotics will probably have some of the greatest potential to change how we conduct warfare.

In fact, I was struck that, last week, the Marine Corps conducted an exercise at Camp Pendleton on the future of amphibious warfare, which included using robots as the first boots on the ground, resupplying troops with drones, and even robots providing covering fire for those marines.

In general, how do you see autonomy and robotics changing battlefield tactics in some of your operations? It appears this is coming a lot quicker than folks may have anticipated.

General THOMAS. Senator, I would like to think we are at the forefront or writing all the initiatives that pertain to that. As you might imagine, our mission set, especially our direct-action mission set, entails an element of risk that we are trying to mitigate for literally the number one man in a formation that could absolutely be mitigated through robotics and other kind of sensory improvements over time.

So we are pursuing that actively. I was going to ask, if your time allows, that maybe we can get you to come visit in Tampa. We have had several visitors come in and actually provide us other opportunities to connect with academia and industry to some of the other activities that you mentioned.

Senator PETERS. I would appreciate that opportunity.

What do you consider some of the main benefits and tradeoffs that we need to consider as this technology moves forward?

General THOMAS. Right now, it is a practical challenge for us, because, as you might imagine, we have tried to push the application of robotics where just the agility, in terms of sensory capability, decision-making, and physical capabilities of robotics just are not there yet. But nonetheless, we are pushing in that regard. But we see some great opportunities.

Senator PETERS. Great. Thank you, General. I appreciate it.

Chairman MCCAIN. Senator Cruz?

Senator CRUZ. Thank you, Mr. Chairman.

Good morning. Welcome. Thank you both for your service to our Nation, particularly at this perilous time.

General Thomas, in recent months, special operations forces from across the services have made the ultimate sacrifices in conflicts around the world. Most recently, a number of brave special operators lost their lives fighting ISIS in northeastern Afghanistan. The reduction in conventional forces in Afghanistan and the closure of a majority of combat outposts and forward operating bases in the country has left a considerable gap in United States presence in critical enemy engagement areas.

Would special operations forces in Afghanistan be better supported if there were a greater presence of conventional soldiers in combat outposts and forward operating bases throughout the country?

General THOMAS. Senator, I think General Nicholson and others are looking at enhancing the capability in terms of train, advise, assist, so more conventional forces that would thicken the ability

to advise and assist Afghan forces. That would absolutely be to our benefit.

Right now, you mentioned the casualties that we recently incurred. Those are accompanied operations. That is where our special operations forces are accompanying Afghan special operations capabilities.

Ultimately, we want to make them capable of doing it on their own, and we are certainly making some progress there. But I think parallel efforts to advise and assist the larger conventional capabilities of the Afghan forces would absolutely enhance the effort.

Senator CRUZ. Do the special operations forces have the dedicated assets and resources that they need to fight and win, given so many competing areas of conflict around the world? Are you ever put into a position where you are forced to choose which mission to fully support and what can be accomplished with less dedicated assets?

General THOMAS. Senator, to answer your first question, I do think we have adequate resources to task.

The bigger challenge, which was prefaced by the Chairman at the beginning, is that, from a DOD standpoint, we are a microcosm of the DOD from a global approach, in that we are trying to provide the necessary special operations requirements to all the geographic combatant commanders at the same time with a relative prioritization.

The Secretary and the Chairman are endeavoring to make sure that prioritization is as precise as it needs to be for us as service components so that we can support the effort and priority, but it is a challenge. We, like the Department, are trying to do a lot of things at the same time in a challenging world, so that has some inherent friction to it.

Senator CRUZ. On a different topic, I understand that the decision regarding which combatant command would be responsible for weapons of mass destruction has been decided, and that, starting in January, it now falls under your command at the Special Operations Command.

This is obviously a critical component of our Nation's nuclear deterrent and counter-WMD programs that have a major responsibility, including nuclear, chemical, and biological agents.

Could you please comment on how the addition of WMD responsibility has affected current and future operations?

General THOMAS. Senator, I mentioned previously that we absolutely embrace the enormity of this mission. It is much, much bigger than special operations and SOCOM, so we are looking to leverage as much of the rest of the interagency community and our international partners to accomplish our Government's objectives in this regard as we can.

Right now, we have the resourcing required to embrace this set, and we are in discussion for what we need going forward. I mentioned earlier that I hope to provide an assessment to our Secretary of Defense in August in terms of a comprehensive review of what we are trying to accomplish from a U.S. Government policy and strategy objective, and how well we are doing.

So, again, we look forward to providing that to the committee as well, once we brief the Secretary.

Senator CRUZ. Ms. Whelan, do you have additional thoughts on the impact of WMD responsibility under SOCOM?

Ms. WHELAN. Senator, thanks for the question.

I think we fully supported the decision to shift the responsibility to SOCOM. SOCOM has the capabilities on that, we were intended to utilize to address this issue, so I think, organizationally, it made a tremendous amount of sense to us to move it from STRATCOM to SOCOM, so we fully support.

Senator CRUZ. Thank you very much.

Chairman MCCAIN. Senator Warren?

Senator WARREN. Thank you, Mr. Chairman.

Thank you for being here. I just want to quickly ask about the importance of our nonmilitary agencies and programs to your mission.

For much of the past decade, special operations forces have deployed around the globe 24/7, and we often think of them as conducting raids and taking out terrorists. But I understand that a big part of your mission is actually to advise and assist local forces to build their own capacity.

General, how important is our State Department to that mission?

General THOMAS. Senator, the relationship to the State Department is indescribably critical, both at the State Department level, but I would offer, as I mentioned earlier, we are in 80 different countries, and we look to have the most enhanced relationships possible with every one of those countries through our country team. If that is not the baseline for our United States Government approach, then we are flawed from the start.

Senator WARREN. So at the national level and at the country level.

Would a reduction in funding to the State and USAID [United States Agency for International Development] that conduct foreign assistance in diplomacy make your job easier or make your job harder?

General THOMAS. Senator, as you are implying, it makes their job harder, which I think, by extension, would make our job harder. So I cannot calculate the specific cost, but I know an already strained State Department would be more pressed to do their job.

Senator WARREN. Good. Thank you. That is very helpful.

The administration is seeking a significant reduction in the State Department and USAID budgets. Diplomacy and development are critical for alleviating the very conditions that contribute to the security challenges that SOCOM confronts every single day.

Now, if I can, I would like to return to a question that Senator Sullivan raised about SOCOM's responsibility as the lead organization for countering WMDs. I know that this responsibility was shifted over to you to ensure that we are paying enough attention to the nuclear proliferation threat and to ensure that we are synchronizing the WMD work with the counterterrorism mission so that we can prevent a terrorist group from ever getting a hold of a nuclear weapon.

This mission, as I understand it, includes three lines of effort: preventing the acquisition of WMDs by foreign powers, containing and reducing WMD threats, and responding to a WMD crisis.

As I understand it, you seem pretty prepared to tackle the first of those, given your hard-won experience using intelligence to track bad actors over the past 15 years. WMD threats and responding to WMD crises are going to require some new skills here.

General, to the extent that you can in an open session, can you just say a word about what you see as the biggest challenges in taking on this new responsibility?

General THOMAS. Senator, absolutely. You mentioned that we were already pre-established in various aspects of this mission set. I think to Secretary Whelan's earlier comment, I think that is what made it an almost natural fit for the mission to transition to us, that we have a pre-existing approach and process, kind of an ethos to dealing with transregional terrorism. I think there was a natural application or kind of a fungible application to the WMD set.

Going forward though, even from a first blush assessment, the biggest challenge for all of us is seeing and sensing the nature of the threat in an environment that runs the gamut from dual-use technology, proliferation of nefarious items in the same stream as things that are for the good of industry and not of a nefarious use.

So I really see the major onus as we go forward is determining how we, both DOD and the interagency, see and assess the threat and obviously can enable operations to do what we need to do, whether it is disruption of activities or something else. So the most daunting challenge I think will be of an intelligence variety in terms of assessing the threat.

Senator WARREN. Thank you. I appreciate that.

I understand that the committee has asked you to prepare a report on the resources, personnel, and authorities you are going to need to carry out this mission. I understand you are working on that. I know it will be very helpful.

General THOMAS. Yes, ma'am, we are.

Senator WARREN. Good. Can I ask you one last quick question? That is, Senator Sullivan asked about what you needed from us to carry out the mission. I just wanted to see if you could say a word about what you expect to receive from Strategic Command, who is giving up this mission, in terms of personnel and funding.

General THOMAS. Ma'am, we are actually still co-joined with Strategic Command for this mission set. So as they shifted the set specifically to us, there are still a number of co-related activities that have kept us co-joined. They did transfer an entity with the Defense Threat Reduction Agency that was part and parcel of their approach that came directly to was and is integral to what we are doing now. But we are also addressing what we think are the future requirements to enhance this mission.

Senator WARREN. Do you expect more transfers to occur?

I am going to quit, Mr. Chairman, because I am over my time.

General THOMAS. I am hopeful that within the Department, not necessarily from STRATCOM, which is a busy command with a profound portfolio, but I am hopeful that within the Department, that the resources that we describe will be resourced.

Senator WARREN. All right. Thank you. Your job to stop the proliferation of nuclear weapons is powerfully important, and we want to make sure you have the resources you need. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Rounds?

Senator ROUNDS. Thank you, Mr. Chairman.

Ms. Whelan and General Thomas, first of all, thank you for your service to our country.

In the 2014 QDR [Quadrennial Defense Review], manpower requirement for Special Operations Command was approximately 72,000. However, this number was capped at 69,000 due to budget constraints. It is clear the world is not any safer now than it was in 2014. I would expect the current demand on your operations has not been diminished, and, if anything, it has been increased.

What is the current manpower requirement for SOCOM to meet its global requirements? Is additional force structure required?

General THOMAS. Senator, I believe our stated requirement is the requirement. We are working to refine, if there is any needed growth in the future.

I am thankful, as you mentioned, that, in spite of the fact that we did not receive the growth that was prescribed and validated, that we have had tremendous support from across the Department in terms of augmentees and additional units that have enabled us to continue to pursue our jobs.

So again, I am thankful that the Department has reapportioned to allow us to do what they have asked us to do.

Senator ROUNDS. When you were not allowed or not authorized the amount requested, clearly, then, you have to take on additional risk in certain areas. Where is that risk at, at this time? Where did you have to take on additional risk?

General THOMAS. Senator, again, I think, without getting into details of specific locations and activities, there was curtailment in terms of some of our activities.

Senator ROUNDS. Diminished operations.

General THOMAS. Diminished operations. Then, as I mentioned, in many cases, we merely went back to the Department and said, while we cannot grow it or maintain it internally, might we receive additional augmentation? In almost every case, they have afforded that to us.

Senator ROUNDS. Recent testimony from both the U.S. Navy and the U.S. Air Force has identified a significant difficulty in retaining qualified pilots. How is pilot retention going for special operations aviation?

General THOMAS. Senator, a great question. Senator King asked the earlier question about recruitment and retention. I should have mentioned that we are experiencing similar retention challenges to the Air Force and others relative to the enticement of pilots to join industry. So it is something that is certainly affecting us right now, and we are trying to come up with creative alternatives or solutions to rectify that.

Senator ROUNDS. So you are indicating that you do have the same challenges as everyone else has on it and—

General THOMAS. To a lesser degree, but, yes, we have that.

Senator ROUNDS. To a lesser degree.

General THOMAS. Yes, we do.

Senator ROUNDS. Okay. Does USSOCOM need service-like acquisition authorities for the purposes of developing, acquiring, and sustaining special operations technology, equipment, and services?

General THOMAS. Senator, we enjoy those authorities right now. Interestingly, we do not have all the authorities that the services have. They have some unique authorities. Usually folks think it is a flip on that, that special operations have unique authorities that enable us. There are actually some authorities inherent in the services that we are looking to gain over time.

Senator ROUNDS. Could you specify?

General THOMAS. Specifically, I cannot get into the technical aspects of it.

Senator ROUNDS. For the record, would you provide us with that?

General THOMAS. I would be glad to do that. But again, I would also emphasize that our structure with our director of AT&L [Acquisition, Technology and Logistics] working directly for me with a streamlined relationship with our program executive officer has enabled us to do some pretty extraordinary things too. So we are very well-enabled. We are looking to try to enhance and have all the tools that the services have.

[The information referred to follows:]

General THOMAS. Yes. USSOCOM could benefit from 10 U.S.C. § 2353 Research and development projects using grants or cooperative agreements or 10 U.S.C. § 2373 Procurement of experimental purposes. In addition any new flexible acquisition authorities that may be enacted. These authorities will ensure USSOCOM is able to leverage flexible, innovative acquisition methods afforded the Services. Title 10 section 167 clearly states the Commander of USSOCOM shall be responsible for “the development and acquisition of special operations-peculiar equipment” with an acquisition executive “responsible to the commander for rapidly delivering acquisition solutions” and “subordinate to the Defense Acquisition Executive in matters of acquisition, subject to the same oversight as the service acquisition executives.” However, authorities often flow from Congress directly to the Secretary of Defense and the Secretaries of the Military Departments without specific mention of ASD (SO/LIC) or USSOCOM. Without explicit authorities, ASD(SO/LIC) and USSOCOM pursue individual staffing actions for required authorities. Recent examples include approval to conduct Other Transaction Authority for Prototype Projects and the authority to conduct Prize Challenges. We are working with the Department for the authority to engage in Grants and Cooperative Agreements. The pursuit of each of these individual authorities is time consuming and contrary to the intent of rapidly development capability for our operators. If it is the intent of Congress that USSOCOM acquisition exercise the same authorities as our service counterparts, ASD(SO/LIC) and USSOCOM would benefit from overarching language that recognizes USSOCOM’s acquisition authority as equivalent to a Military Department.

Senator ROUNDS. Cyber capabilities are critical when it comes to your operations as well. I suspect you would agree with that. Can you share with us right now your ability to maintain a cyber superiority with regard to the operations that your—let me put it this way. Clearly, you have to be able to maintain cybersecurity when it comes to your operations. Can you describe for us the challenges you have, shortcomings you may have, or needs that you may have with regard to cybersecurity capabilities?

General THOMAS. Senator, I would start by expressing my appreciation to CYBERCOM [United States Cyber Command] for the great capabilities that they have provided us, much like they have to other combatant commands, to first and foremost protect our infrastructure. Again, we have some very, very valuable resources to do that.

Similarly, we are working with them closely to enhance our offensive capabilities, the cyber capabilities that must be integral to our approach to the full spectrum of combat operations going forward. Again, I think we have endeavored to have some pretty

nuanced approaches, again thanks to CYBERCOM and others who have helped enable us.

Senator ROUNDS. My time has expired.

Mr. Chairman, thank you.

Chairman MCCAIN. Senator McCaskill?

Senator MCCASKILL. Thank you, Mr. Chairman.

Thank you both for being here and preparing for this hearing today.

I wanted to emphasize at the start that, according to the materials I reviewed, countering Russian aggression is the number two priority.

Is that correct, General Thomas?

General THOMAS. Senator, right now, that is the number two priority, although I would tell you it is being challenged by our preparations for Korea.

Senator MCCASKILL. As I look at the map that we have, the only place you have more deployed other than EUCOM [United States European Command] is, in fact, CENTCOM, correct? It is the number two deployment?

General THOMAS. Yes, ma'am. That is accurate.

Senator MCCASKILL. You have 1,400 forces deployed to protect against Russian aggression right now?

General THOMAS. Ma'am, working with our partners in the respective countries, we do.

Senator MCCASKILL. In addition to that, could you ballpark how many other American military personnel are we putting on the frontlines to counter Russian aggression?

General THOMAS. Senator, I cannot speak specifically to the other complementary forces that are out there, other than to say that we are closely linked with them in terms of—

Senator MCCASKILL. Would it be thousands of American military in the countries on the western border of Russia?

General THOMAS. Senator, I think you would have to discern between those assigned to Europe and additive forces. But I do not have the specific numbers.

Senator MCCASKILL. Okay. The point I am trying to make is, we are putting real resources out there in the military going after Russian behavior. We have determined and you have determined, and the military leadership has determined, that Russia is a problem.

I just want to emphasize that because it is frustrating to me that they try to break the backbone of democracies all over the world, and we consider it such a threat that we are putting the biggest treasure we have, which are the lives of men and women of our military, on the frontlines of this aggression, but there does not seem to be a sense of urgency about Russia. I wanted to underline that as I began.

The other thing I want to talk to you about today is I had a chance to review the GAO [Government Accountability Office] report that was recently released. It is a classified report. Have you had a chance to look at that, General Thomas?

General THOMAS. Senator, I am not aware of that specific GAO report. Regarding what subject, ma'am?

Senator MCCASKILL. Countering ISIS and its effects?

General THOMAS. I have not seen that report, no, ma'am.

Senator McCASKILL. I highly recommend it to you. I think it would be very helpful to you.

Since you are the key DOD element responsible for global antiterrorism operations, several of the recommended oversight questions seem really particularly relevant to your command. For example, the problems that we are having, we have spent billions trying to train and equip the military in both Iraq and Afghanistan. Would you agree with that, General?

General THOMAS. We have, Senator.

Senator McCASKILL. We continue to spend billions trying to do both of those things, correct?

General THOMAS. Correct, Senator.

Senator McCASKILL. I am not sure that we are getting adequate information about how much success we have had. I think that it would be helpful to know what steps have been taken to address the challenges to train and equip regarding the underlying factors that have caused the personnel shortages in Iraq. We continue to have insufficient numbers of soldiers even to round out units in Iraq.

I think with the amount of money we are spending, it would be great, you may not be prepared today, but since you all are so involved in the train and equip, it would be helpful for us to get more information about, what is the problem? Are we adjusting what we are doing? Or are we just pouring in money and still having folks walk away and still have people who we have trained and equipped show up on the other side?

General THOMAS. Senator, I can guarantee that for every problem that you have identified, we are endeavoring to try to rectify it. I will work with General Votel, the CENTCOM Commander, to make sure we get you a response on the record for the concerns that you have, ma'am.

[The information referred to follows:]

General THOMAS. We continue to work closely with our CENTCOM partners in both Afghanistan and Syria. Specifically, in Afghanistan, we continue to take the fight to the Taliban and retain control of both major population centers as well as key lines of communication. Additionally, the Afghan National Defense and Security Forces have demonstrated the ability to rapidly respond to and reverse gains made by the Taliban during limited engagements. In Syria, over the past three years our partners have taken significant strides against ISIS. By successfully pushing ISIS out of numerous towns and cities while cutting key lines of communication, we have seriously damaged ISIS through significant losses in people and equipment which has led to a decreased capability to engineer offensives in Syria as well as orchestrating attacks against the United States directly. I defer to the CENTCOM Commander for more specific operational details in both Afghanistan and Syria.

Senator McCASKILL. I know that DOD recently revised the train and equip program in Syria. As you are well-aware, we had a number of problems, especially the first attempt at train and equip that was disastrous.

Could you tell us what have been the results of the revisions that occurred in the train and equip mission in Syria in 2016?

General THOMAS. Ma'am, there are really two different programs that I think you are referring to there. One was the one that was certainly challenged. I think we have made great strides. I am hesitant to get into details in an open forum in terms of the very, very capable surrogate forces that we are now leveraging in Syria and certainly with the organic forces in Iraq. But we have gone—

Senator McCASKILL. I learned about some of that when I was in Jordan.

General THOMAS. Very good.

Senator McCASKILL. But what kind of assurances do you feel like we have now that the individuals associated with the terrorist organizations of either Syria or Iran are not benefiting from our train and equip missions?

General THOMAS. In my particular lane, where our special operations are supporting CENTCOM activities, I am very comfortable that we are vetting them to the degree that we are very certain that we are not contributing to those particular threat organizations.

But, again, I will get you more for the record.

Senator McCASKILL. That would be terrific.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Tillis?

Senator TILLIS. Thank you, Mr. Chairman.

General Thomas, it is good to see you.

Ms. Whelan, you as well.

I was just back down at Fort Bragg a couple weeks ago. I get down there frequently, probably they are sick of seeing me. But it is such an important part of what we do globally that I want to send the message there.

I know that many of my members have asked questions about the stress on the force and optempo and a number of those things. What I would like to maybe spend my time on has more to do with the employment side and my capacity as Personnel Subcommittee chair.

I know that, in your opening testimony, you said we must continue to place the greatest emphasis on selecting, retaining, and empowering our people and sustaining them and their families.

With two-thirds of the SOCOM force married, what more do you think we need to do? The nature of their mission is such that even the relative stress level has to be higher because there is so much that the person back stateside does not know what is going on.

What do you think we need to do to more of to provide better support for the families of our SOCOM forces?

General THOMAS. Senator, I mentioned earlier to a similar question that I am very thankful to the committee that you have actually given us some tools that have allowed us to put our money where our intent is.

I think, for years, our approach to family readiness was sort of, be ready, your spouse may or may not deploy. We did not actually build in specific resilience to that eventuality, the fact that it is on the training schedule, that you folks will deploy.

We have also been able to leverage, as you might imagine, you described our operator experience, a lot of experience, a lot of repetitions downrange. Our spouses have had the same experience. We have been able to leverage their experience for how we can be more thorough in our preparation to build in the resilience and to deal with their problems as they occur over time.

So, again, I am thankful that you have given us the means to get after this, and I think we are doing it much more comprehensively every day.

Senator TILLIS. Have you given any thought, as you are looking at recruiting and retention side of things, are there any things that have arisen, other things that we should consider to help you retain our best and brightest?

If you cannot answer that in specifics now, we would like it for the purposes of the subcommittee so they can instruct our recommendations for the NDAA.

But if you have any off the top of your head, Ms. Whelan, or you, General Thomas?

General THOMAS. Senator, I do not have any specific requirements right now. We are always looking to see, if and when retention challenges come up, how we can mitigate those. But at the moment, I do not have any specific requests.

Ms. WHELAN. Sir, we do not either. However, one of the issues that we will be looking at within SOLIC, and as part of the clarified responsibilities for SOLIC oversight, is this issue of retention and how we might be able to work with SOCOM to ensure that we have the resources we need.

Senator TILLIS. We just want to make sure that we get you the tools that you need, because it costs a lot of money to get these people to the level that they can be deployed, and we want to make sure that we focus on retention and valuing our men and women and their families.

In my remaining time, I would like to talk a little bit about—I know the demand is outstripping supply in terms of your ability to fulfill all the demands. One question that I have is whether you believe, in some instances, because of the nature of funding and the nature of the conflicts we are in, if there is some amount of what your command focuses on that the need would be better satisfied by the service lines or others.

In other words, if we have a legitimate demand for additional special operations, is there a component of the demand that you are fulfilling now that could arguably be fulfilled through some other vehicle outside of SOF?

General THOMAS. Senator, I field a similar line of questions from our Secretary of Defense consistently. We are looking at that very aggressively.

Most recently, we completed our annual process to align forces 2 years out, so where we think special operations forces are required in priority relative to that of geographic combatant commanders. So it literally produced a one through end list of what we are doing in priority and a plan to discuss that in detail with the Secretary in terms of here is where we could offramp, and here is the risk or the price to be paid in terms of either cessation of missions or things of that like.

But we are looking at that very closely, on how we can mitigate the pressure on the force in terms of number of missions we are doing.

Senator TILLIS. Thank you.

Chairman MCCAIN. Senator Blumenthal has arrived.

Senator BLUMENTHAL. Thank you, Mr. Chairman.

General Thomas, your command now has responsibility for countering weapons of mass destruction across all of the combatant commands, correct?

General THOMAS. Senator, we are the coordinator for the Department of Defense. That is correct.

Senator BLUMENTHAL. Including use of chemical agents.

General THOMAS. That is correct, all elements of weapons of mass destruction.

Senator BLUMENTHAL. You may be familiar with a new Human Rights Watch report this week that cites a number of recent incidents, including the one April 4th that triggered our missile attack, but others in December 2016 when there were two and another in March 2017. All involved with the use of nerve agent weaponry in Syria. Apparently, they killed at least 159 people, they reported in the New York Times.

The New York Times reported, in addition, use of other chemical agents, principally chlorine, since the April 4th attack that led to our missile strike.

Are you aware of that report? Do you have information to corroborate those reports?

General THOMAS. Senator, I have not seen that specific report. I am aware of all or most of those incidents. I am surprised you did not mention use of VX at the Malaysia International Airport as another egregious use of an incredibly nefarious weapons system in an open area.

Senator BLUMENTHAL. I am sure you have information about the support or complicity of the Russians in these attacks, do you not?

General THOMAS. Senator, I am aware of the nature of all those attacks and the actors involved. Again, probably in an open session, I would probably be circumspect to discuss the specifics of some of the intelligence that pertains.

Senator BLUMENTHAL. Would you be prepared to talk about Russian involvement in these attacks in a different setting?

General THOMAS. Senator, I would be glad to talk about any actors' involvement in any of these episodes.

Senator BLUMENTHAL. I am not sure exactly how to ask this question, General, and I hope you will bear with me.

But is there a reason why the American people should not know about Russian complicity and involvement in these war crimes? They are war crimes. If the Russians are aiding and abetting them, why should the American people be denied that information?

General THOMAS. Senator, I think the American public should know the extent to whoever is employing weapons of mass destruction and chemical weapons. As much as we understand who and how, that could and should be divulged to the American public.

Senator BLUMENTHAL. So the rules about your providing us information in this setting are made by others, not by yourself, obviously, so I am not meaning any disrespect to you.

But I am absolutely perplexed as to why we should not make more widely known the involvement of Russians in war crimes, only one of them so far widely reported, that led us to launch a missile strike at the base where Russians currently are stationed. They had to know about the use of sarin in that attack on Assad's own people.

So I hope that we are able to disseminate that information more widely to the American people. I respect your position and the rules that apply to you. But you do have information about, let's

call them other actors who are aiding and abetting Bashar al-Assad in these criminal attacks, murderous acts on his own people, is that correct?

General THOMAS. Senator, we are focused on everyone who is inclined to use these kinds of weapons.

Senator BLUMENTHAL. Is there any sort of defense that can be provided to the people of Syria by the United States against these types of weapons?

General THOMAS. Senator, as you might imagine, the equipment required for the array of weapons that may or may not still be in the Syrian arsenal would be extensive, so I am sure it is a daunting logistics challenge to try to provide that kind of equipment.

Again, I think your first point, disrupting the use or the employment of the weapons systems is probably the most effective thing you could do.

Senator BLUMENTHAL. General, my time has expired. I really appreciate both you and Ms. Whelan being here today and your service to our Nation and the service of every single man and woman under your command. Thank you very much.

Chairman MCCAIN. I thank the witnesses. This hearing is adjourned.

[Whereupon, at 11:25 a.m., the committee adjourned.]

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR JIM INHOFE

INTERAGENCY INTEGRATION

1. Senator INHOFE. Ms. Whelan, in response to questioning from Rep. Stefanik in your May 2nd hearing before the HASC [House Armed Services Committee] Subcommittee on Emerging Threats and Capabilities, you said “the challenge we are facing right now is how to achieve that level of exquisite integration across multiple components of—not only the Defense Department, but also the U.S. Government.” Please amplify what concrete steps you are taking to achieve that level of integration across the whole-of-government?

Ms. WHELAN. Our adversaries have specifically calibrated their model of unconventional warfare to exploit the seams in our interagency process. We must bridge seams among U.S. Government departments and agencies in ways that go beyond mere procedural coordination, and we must operate with a shared purpose. For classification reasons, I cannot fully describe the range of these cross-functional teams in this document. That said, we have convened experts from across the DOD and other U.S. Government departments and agencies to understand our adversaries’ strategy and operations. As we gain insight into one layer of the problem, we discover additional layers. After identifying the problem and understanding the environment, U.S. Government departments and agencies move to develop a solution. We have established new working groups to apply novel analytical capabilities, especially in the fields of information operations and indications and warning. We develop and test response options while drawing on history for operable models. Furthermore, many of the principles and structures developed during the long war against terror are applicable against other unconventional adversaries.

FORCE STRUCTURE

2. Senator INHOFE. General Thomas, in response to my questioning regarding the adequacy of SOCOM force structure, you assured the Committee that SOCOM’s force structure is adequate to maintain current commitments at your present operational tempo. Even still, you acknowledge that “most Special Operations Forces units are employed to their sustainable limit.” If an emergent situation causes demands for SOCOM forces to surge unexpectedly, what will be the impacts to existing critical SOCOM assigned missions/obligations?

General THOMAS. We believe that if called upon to surge unexpectedly in support of emergent situations we will sustain our assigned critical missions/obligations. After meeting the initial crisis requirement, if the contingency turns into a protracted engagement, SOCOM would have to re-level the battlefield in an effort to prevent creation of vacuums in critical Areas of Operations.

3. Senator INHOFE. General Thomas, do you feel that you have sufficient Special Operations Forces available at any given time to respond to emerging crises?

General THOMAS. Yes, based upon our models and review of our required support to the most demanding current OPLAN [Operation Plans], we have determined that we will be able to support and meet most requirements under an emerging crisis. Our contingency response surge forces come from a combination of forces at the top end of the Train/Ready Pool and dynamic reallocation.

QUESTIONS SUBMITTED BY SENATOR JONI ERNST

NAVY ROTARY WING SUPPORT TO SOF

4. Senator ERNST. Ms. Whelan and General Thomas, previously, the Navy had two dedicated special operations helicopter squadrons, HSC-84 and HSC-85, both units part of Naval Air Forces Reserve. The Navy retrograded each of these squadrons from deployed positions in CENTCOM and PACOM respectively in order to disestablish them. After Congressional intervention, HSC-85 was not disestablished, and has returned, after more than a year recovering from diminished resources, to the PACOM area of operations in support of Special Operations Command Pacific.

With HSC-84 disestablished, support for special operations forces training has drastically diminished, especially for Naval Special Warfare Command. Additionally, several combatant commander requests for forces (RFF) in support of component SOF have gone unfilled. Despite this reduction in rotary wing support from the Navy to SOCOM, the Navy has not published a plan for recapitalization of HSC-85's aging HH-60H helicopters. Ms. Whelan and General Thomas, are you concerned about the lack of attention the Navy is paying to these helicopter squadrons, on whom SOF forces have heavily depended for training and operational support since September 11, 2001?

Ms. WHELAN. USSOCOM is very dependent on Military Department support to enable Special Operations Forces (SOF) missions. During the fiscal year 2015 and 2016 budget cycles, the DOD carefully considered HSC-84/85 support to SOF in the program budget review. After discussions and deliberations between the U.S. Navy and USSOCOM during the fiscal year 2016 program budget review, USSOCOM decided to establish an internal capability to provide rotary-wing support for Naval Special Warfare Command training requirements. I am unable to speak for the U.S. Navy on its specific plans for recapitalizing aging HH-60H helicopters, but I support the Navy's plan to maintain the capability and capacity provided by its HSC 85 helicopters.

General THOMAS. Navy Rotary Wing Support to SOF is an important example of the necessity of support from the services to SOF. We are very appreciative of the tireless efforts in Congress to ensure this and many other critical support capabilities from the services continue without interruption. At this time, we are unable to speak for the Navy on their plan to recapitalize HSC-85's aging HH-60H helicopters. We have a keen interest in maintaining the capability and capacity provided by the Navy in the form of HSC-85 well into the future.

QUESTIONS SUBMITTED BY SENATOR DAN SULLIVAN

SOCOM COLD WEATHER TRAINING IN THE ARCTIC

5. Senator SULLIVAN. General Thomas, Russia has significantly expanded their presence in the Arctic, including two new Arctic brigades that regularly train and operate in the High North. Can you talk about the importance of cold weather training for Special Operators given current and emerging requirements? Given Russia's posture, do you see this need increasing or decreasing?

General THOMAS. Environmental training has always been and remains integral to USSOCOM and our Special Operations Forces. Our Special Operators consistently maintain and exploit movement in conventionally restricted operational terrain, including extreme cold weather environments to conduct specified Special Operations core activities. Arctic terrain is one of the most difficult to sustain, navigate and dominate but our Special Operators, at the team level (12-16 personnel), are

well trained and acclimated with the proper skills and equipment to infiltrate and attack line of communications, logistic bases, air defense sites, and command and control facilities. Given Russia's posture as you described it, I see this need as only increasing.

6. Senator SULLIVAN. General Thomas, the diverse and expansive environment in Alaska, as well as opportunities for joint training with the Air Force, Army, and our National Guard—who have developed procedures to operate in extremely harsh Arctic conditions—makes training in Alaska ideal for preparing operators for cold-weather missions. Currently, the Naval Special Warfare Cold Weather Detachment on Kodiak, Alaska trains the next generation of Navy SEALs to operate in cold-weather, but not Arctic, conditions. Given emerging threats in the Arctic, are you exploring the possibility of increased Arctic training in Alaska to meet potential mission requirements in the High North?

General THOMAS. The training available to our Special Operations Forces at Naval Special Warfare Cold Weather Detachment Kodiak, Alaska is invaluable as it exposes every SEAL to the cold weather maritime environment during SEAL Qualification Training (SQT). The focus, historically, during the course was primarily cold water operations and was lacking in Arctic terrain training, specifically the mountainous environment. USSOCOM has taken steps to incorporate basic mountaineering into the course at NSW Cold Weather Detachment Kodiak and NSW is presently realigning the placement of the curriculum during SQT to facilitate execution of SOF core activities with fully trained SEALs in a cold weather maritime environment.

QUESTIONS SUBMITTED BY SENATOR BILL NELSON

U.S. MARINE CORP RESERVE COMPONENT OF SOCOM

7. Senator NELSON. Ms. Whelan and General Thomas, the U.S. Marine Corps is the only service without a Reserve unit within SOCOM. Currently, Marine Special Operators are being assigned to Reserve Force Reconnaissance units if they want to continue uniformed service by transition to the Reserve after their Active Duty service. Ms. Whelan and General Thomas, when will it be time to establish a Reserve Marine Special Operations component of SOCOM?

Ms. WHELAN. Neither SO/LIC nor USSOCOM is pursuing the establishment of a MARSOC [Marine Corps Forces Special Operations Command]-like unit in the Marine Corps Reserve Component at this time.

General THOMAS. MARSOC commissioned CNA, a nonprofit research and analysis organization, to study this issue. Specifically, CNA was asked to study the feasibility of the formation of a Marine SOF Reserve unit—that study was completed and delivered in January 2013. The study concluded that such a unit was not feasible or supportable for several reasons: MARSOC's small size and the current/projected low density of 0372s (MARSOC's Active Duty structure includes just 859 Active Duty 0372s). A concern across all services of maintain SOF Training and skill levels among guardsmen and reservists. The study instead recommended that MARSOC utilize the Individual Mobilization Augmentee Detachment (IMA Det) as a method to tap into those few 0372s within the Reserves. MARSOC has done this, and the IMA Det continues to provide Reserve 0372 Marines an opportunity to stay connected to special operations and to contribute to MARSOC's operational efforts. MARSOC and SOCOM can certainly re-evaluate this option if the Marine Corps increases the size and structure of MARSOC beyond its current size.

8. Senator NELSON. Ms. Whelan and General Thomas, has SOCOM examined utilizing these blended Force Recon and MARSOC units to alleviate the demand on Active Duty SOCOM units?

Ms. WHELAN. Neither SO/LIC nor USSOCOM is pursuing the establishment of a MARSOC-like unit in the Marine Corps Reserve Component at this time. To date, there has not been a demand signal from USSOCOM to the Marine Corp for the creation of a MARSOC-like unit under the auspices of the U.S. Marine Forces Reserve.

General THOMAS. No, this is not currently an initiative that either MARSOC or SOCOM are exploring. MARSOC and SOCOM have instead focused on advancing integration and interoperability between conventional and SOF capabilities in the joint operating environment. The complexities of 'blending' conventional units and SOF units are significant, even when considering conventional units as capable and well-trained as Marine Force Reconnaissance. There are major differences between the individual skills of Force Reconnaissance Marines and the individual skills of

the Critical Skills Operators of MARSOC. Each community trains its Marines very aggressively so they can accomplish their prescribed missions. The missions, however, are quite different in many respects and have few points of overlap. Additionally, operational employment at the unit level requires months of unit training prior to deployment; such a unified training plan and subsequent deployment can only be accomplished with unified command and control. The Force Reconnaissance unit would need to be “chopped” to MARSOC and then operate under the existing MARSOC C2 structure. This also assumes that the Marine Force Reconnaissance community are available and not in demand for conventional operational employment; instead, Force Reconnaissance capabilities are operating at high tempo. This is not to say that conventional augmentation of SOF is infeasible. MARSOC has been augmented with specific individuals from the larger Marine Corps for operational employment multiple times. These individual augmentations have been very successful for several reasons: The augmentation was for staff and command and control at the Battalion level or higher. The augmentees possessed MOS skills that are not readily available within MARSOC. The individual Marines reported to MARSOC far enough in advance of the deployment to receive the training necessary to integrate into the SOF C2 node.

QUESTIONS SUBMITTED BY SENATOR CLAIRE McCASKILL

GAO REPORT—COUNTERING ISIS AND ITS EFFECTS, KEY OVERSIGHT ISSUES

9. Senator McCASKILL. General Thomas, what steps has the DOD been taking to address challenges to our train and equip program regarding the underlying factors that have caused Iraqi Security Forces personnel shortages?

Public reporting, in the recent past, discussed how our train and equip program with Syrian opposition forces has been less than successful. The DOD recently revised this train and equip program in 2016.

General THOMAS. Senator McCaskill, thank you very much for this question. However, I respectfully defer to the CENTCOM Commander for the specifics on the Syria Train and Equip revision.

10. Senator McCASKILL. General Thomas, what have been the results of the 2016 train and equip program revisions?

General THOMAS. We continue to work closely with our CENTCOM partners in both Afghanistan and Syria. Specifically, in Afghanistan, we continue to take the fight to the Taliban and retain control of both major population centers as well as key lines of communication. Additionally, the Afghan National Defense and Security Forces have demonstrated the ability to rapidly respond to and reverse gains made by the Taliban during limited engagements. In Syria, over the past three years our partners have taken significant strides against ISIS. By successfully pushing ISIS out of numerous towns and cities while cutting key lines of communication, we have seriously damaged ISIS through significant losses in people and equipment which has led to a decreased capability to engineer offensives in Syria as well as orchestrating attacks against the United States directly. I defer to the CENTCOM Commander for more specific operational details in both Afghanistan and Syria.

11. Senator McCASKILL. General Thomas, what assurances do you have that individuals associated with terrorist organizations or the governments of Syria or Iran are not receiving the benefits of this train and equip program?

General THOMAS. [Deleted.]

COUNTER-RUSSIA EFFORTS

12. Senator McCASKILL. General Thomas, to the degree that you can do so at an unclassified level, what specific actions have Special Operations Forces taken over the last two to three years aimed at countering Russian aggression?

General THOMAS. USSOCOM remains committed to continuing to enhance situational understanding of the environment as it relates to Russia and our Allies / Partners. As an integral part of USEUCOM's Global Campaign Plan—Russia (GCP-R), Special Operations Command Europe (SOCEUR) has developed a supporting plan to meet the objectives and tasks laid out in USEUCOM's OPLAN in countering Russian aggression. Broadly, SOCEUR is currently: Building Partner Capacity with NATO Allies and Partners to increase capacity and capability. Increasing interoperability between NATO Allies / Partner SOF and conventional forces to increase capacity and capability. Increasing interoperability between NATO Allies / Partner

SOF and both USSOF and U.S. conventional forces to increase capacity and capability.

QUESTIONS SUBMITTED BY SENATOR RICHARD BLUMENTHAL

NAVY ROTARY WING SUPPORT TO SOF

13. Senator BLUMENTHAL. Ms. Whelan and General Thomas, previously, the Navy had two dedicated special operations helicopter squadrons, HSC-84 and HSC-85, both units part of Naval Air Forces Reserve. The Navy retrograded these squadrons from deployed positions in CENTCOM and PACOM respectively in order to disestablish them. After Congressional intervention, HSC-85 was not disestablished, and has returned, after more than a year recovering from diminished resources, to the PACOM area of operations in support of Special Operations Command Pacific. With HSC-84 disestablished, rotary wing support for special operations forces training has drastically diminished, especially for Naval Special Warfare Command. Additionally, several combatant commander requests for forces (RFF) for rotary wing support of component SOF have gone unfilled. Despite this reduction in rotary wing support from the Navy to SOCOM, the Navy has not published a plan for recapitalization of HSC-85's aging HH-60H helicopters. Ms. Whelan and General Thomas, are you concerned about the Navy's lack of a sustainment plan for their single helicopter squadron dedicated to SOF support, on whom SOF forces have heavily depended for training and operational support since September 11, 2001?

Ms. WHELAN. USSOCOM is very dependent on Military Department support to enable Special Operations Forces (SOF) missions. During the fiscal year 2015 and 2016 budget cycles, the DOD carefully considered HSC-84 and HSC-85 support to SOF in the program budget review. USSOCOM decided to establish an internal capability to provide rotary-wing support for Naval Special Warfare Command training requirements after discussions and deliberations between the U.S. Navy and USSOCOM during the fiscal year 2016 program budget review. I am unable to speak for the U.S. Navy on its specific plans for recapitalizing aging HH-60H helicopters, but I support the Navy's plan to maintain the capability and capacity provided by its HSC 85 helicopters.

General THOMAS. Navy Rotary Wing Support to SOF is an important example of the necessity of support from the services to SOF. We are very appreciative of the tireless efforts in Congress to ensure this and many other critical support capabilities from the services continue without interruption. At this time, we are unable to speak for the Navy on their plan to recapitalize HSC-85's aging HH-60H helicopters. We have a keen interest in maintaining the capability and capacity provided by the Navy in the form of HSC-85 well into the future.

QUESTIONS SUBMITTED BY SENATOR MARTIN HEINRICH

COUNTERING WEAPONS OF MASS DESTRUCTION

14. Senator HEINRICH. General Thomas and Ms. Whelan, SOCOM has recently been entrusted with leading the important counter-Weapons of Mass Destruction mission for the Department. Do you anticipate any additional resource or personnel requirements to adequately support the Counter WMD mission?

General THOMAS. Yes, USSOCOM will have additional requirements to support the CWMD mission. However, before addressing requirements, I want to ensure the committee understands USSOCOM's new role with regard to DOD's CWMD mission. USSOCOM is not responsible for "all things CWMD" within DOD. This mission transfer from USSTRATCOM to USSOCOM is about advocacy and synchronization of DOD's CWMD planning efforts. Specifically, my charge, from the draft UCP, is to advocate for and synchronize DOD's CWMD efforts in support of other combatant commanders, Departmental priorities, and as directed, other U.S. Government agencies in support of the DOD CWMD Strategy. While this new role broadens USSOCOM's scope of responsibility, it remains separate and distinct from its current SOF specific CWMD roles; which it will maintain without change. USSOCOM anticipated additional requirements would be necessary to accomplish the recently assigned DOD CWMD Mission and is working through the Department's processes to realign resources to the Command. All funding and manpower currently maintained by USSTRATCOM will transfer to USSOCOM in fiscal year 2018. The transfer will be submitted to congress as part of the President's Budget submission. In the interim, USSOCOM has realigned operations and maintenance to initiate the transition. We have also executed interim bridge contracts to provide

us manpower to facilitate the integration of the new mission into USSOCOM and develop the processes to execute the mission. It may take up to 2 years before all the necessary resources and validated headquarters manpower positions are in place or realigned (46 personnel at MacDill AFB and 58 personnel at Fort Belvoir). Next summer, I plan on conducting a review of our organizational construct, manpower, and resourcing to determine if we got it right. I believe we do, but I want to validate our construct and processes after completing several evolutions.

Ms. WHELAN. This change has been resource neutral for DOD as a whole. DOD continually analyzes resource and funding requirements as part of the normal staffing process for any planning effort. Most recently, during the fiscal year 2018 Program Review, some funds and human resources were reallocated from USSTRATCOM to USSOCOM for the Counter-Weapons of Mass Destruction mission in accordance with a jointly approved implementation plan. This has been reflected in the President's Budget. If General Thomas determines that there are additional resource requirements, he can bring those forward to DOD for consideration during the fiscal year 2019 Program Review.

15. Senator HEINRICH. General Thomas and Ms. Whelan, New Mexico is home to two national security laboratories which have a primary mission in nuclear weapons but also make significant contributions to chemical, biological, radiological and nuclear defense. I encourage you to partner with those laboratories when you need additional expertise and support. What plans, if any, do you have to partner with our national laboratories?

General THOMAS. USSOCOM has a long standing collaboration and partnership across the Department of Energy (DOE) as well as with the United States National Laboratories. These relationships span all aspects of Weapons of Mass Destruction (WMD). Our relationship and coordination with DOE is essential to the SOF CWMD mission; thus having a permanent DOE Liaison Officer on my staff. Their collective technical support and open collaboration is critical to our success as the nation addresses difficult challenges countering WMD. Specific to the DOE laboratory complex, USSOCOM historically executes projects with both Sandia and Los Alamos National Laboratories across multiple WMD disciplines. Additionally we have ongoing activities with Kansas City National Security Campus, and the Lawrence Livermore, Pacific Northwest, Nevada National Security Site, Savannah River, Idaho, and Oak Ridge National Laboratories. A recent visit to Sandia National Laboratory by the USSOCOM Deputy Commander further reinforced our partnership and showcased Sandia's ability to anticipate and resolve national security challenges. All that said, I see that we have a real opportunity in our new role to achieve two objectives with respect our lab partnerships: 1) achieve greater efficiency in the collaborations we encourage between DOD entities and our interagency (and in particular DOE) partners; and 2) enhance the output of knowledge, initial basic research, and potential new technologies to further strengthen our "whole-of-government" means to mitigate the threats from state and non-state actor interest and intent in development and acquiring WMD capabilities.

Ms. WHELAN. The DOD routinely relies on the national laboratories for their technical expertise in a wide range of scientific fields, including this area of national security concern. I defer to General Thomas for any specific plans that USSOCOM has for partnering with the national labs.

DISTRIBUTED COMMON GROUND SYSTEM (DCGS)

16. Senator HEINRICH. General Thomas, since fiscal year 2010, SOCOM has spent \$367 million to develop, procure, operate, and maintain its DCGS-SOF program. From fiscal year 2018 through fiscal year 2020, SOCOM is expected to spend another \$168 million on the program. It is my understanding that this program is still not fully fielded and is said to have performed poorly during its most recent user testing event. It is also my understanding that after repeated requests from deployed operators, SOCOM acquired a working commercial "bridging" alternative in 2016 which is already fully fielded and meeting the needs of users in combat. When will all elements of the DCGS-SOF program reach fully operating capability (FOC)?

General THOMAS. There are four components of Distributed Common Ground System-Special Operations Forces (DCGS-SOF); Silent Dagger, providing signals intelligence Processing, Exploitation and Dissemination (PED), and Full Motion-Video (FMV) PED, are fielded and operational now. DCGS-SOF Enterprise data search and discovery has been accessible on operational networks since 2012, however the value of Enterprise will not be fully realized until integration of analysis capabilities provided through the All Source Information Fusion (ASIF) component. ASIF is planned to begin fielding initial capabilities in the second quarter of fiscal year 2018 and be fully fielded in the third quarter of fiscal year 2020.

17. Senator HEINRICH. General Thomas, have there been any changes to cost and schedule estimates for full fielding?

General THOMAS. The initial goal of fielding All Source Information Fusion (ASIF) capabilities during the first quarter of Fiscal Year 2017 was delayed for further refinement and integration into the Enterprise. Integration is ongoing with an evaluation planned in June 2017, followed by final testing in December 2017. Current cost estimates remain within budgeted amounts.

18. Senator HEINRICH. General Thomas, how many users are currently leveraging the commercial “bridging” solution? How many users are currently using the equivalent components of DCGS-SOF?

General THOMAS. The information below aggregates data for Secure Internet Protocol Router Network (SIPRNet) users. The user base ranges from HQ USSOCOM, to Components, to Theater Special Operation Commands, and down to subordinate units. The commercial “bridging” solution data reflects fixed and tactical nodes, while the DCGS-SOF Enterprise has fixed nodes. Based on the most recent statistics from April 2017, commercial “bridging” solution users exceed 2,600 per month, and DCGS-SOF Enterprise are less than 100 per month. The DCGS-SOF user base will increase with integration and fielding of the ASIF capability.

19. Senator HEINRICH. General Thomas, if the commercial “bridging” solution is already providing working capabilities in combat, how much consideration has SOCOM given to moving away from DCGS-SOF toward a commercial solution?

General THOMAS. DCGS-SOF is an integration of Commercial-Off-The-Shelf and existing Government-Off-The-Shelf capabilities acquired through free and open competition and under a strategy of Government As Integrator (GAI). As part of the GAI strategy, SOCOM staff have assessed alternatives and determined the best value for the government at the time. Since December 2016, DCGS-SOF has had the direct attention of my senior level staff with bi-weekly updates to my Chief of Staff. SOCOM is planning an evaluation of DCGS-SOF Enterprise and ASIF capabilities in June 2017 with a program review at my level in July 2017. I assure you DCGS-SOF is receiving considerable attention with all alternatives being considered.

20. Senator HEINRICH. General Thomas, what decision was made based on that consideration, and what were the rationale and justification behind that decision?

General THOMAS. The current DCGS-SOF strategy is Government As Integrator (GAI) to integrate best of breed commercial and existing government technologies through an open architecture. This allows the government to maintain control and flexibility of the solution and direct the evolution of capability through insertions of new and next generation technology. By managing the integration of multiple commercial capabilities, the government is not beholden to a single commercial entity. The bridging solution provides significant capabilities to SOF, however it does not meet all of our requirements and it is expensive. The GAI strategy can provide capabilities that exceed the current bridging solution while managing costs over the long term. I assure you we are taking a hard look at the current strategy and the program review in July 2017 will assess progress to determine if a change in strategy is warranted.

QUESTIONS SUBMITTED BY SENATOR MAZIE K. HIRONO

ACQUISITION PROCESSES

21. Senator HIRONO. Ms. Whelan and General Thomas, the congressional armed services committees have brought about many acquisition improvements to the DOD acquisition process, including the Rapid Innovation Fund, which awards of \$250 million in follow-on Phase III funding. Has SOCOM been able to benefit from some of these streamlined acquisition processes? Do you have recommendations for other segments of the acquisition process that should be reviewed or could be improved?

Ms. WHELAN. ASD Special Operations/Low-Intensity Conflict (SO/LIC) and USSOCOM have indeed benefitted from the many acquisition process improvements, and we appreciate congressional efforts to streamline our ability to develop and deliver capability to Special Operations Forces rapidly. In fiscal year 2017, USSOCOM received \$3 million in Rapid Innovation Funds (RIF) and plans to use these funds to bridge the gap from concept/idea development resulting from its numerous innovation activities, such as SOFWERX, into either science and technology activities or, when ready, directly into a program of record. These funds will help ensure our special operators have the opportunity to take part in the development

and assessment of promising technologies. SO/LIC also has used RIF Phase III in the Combating Terrorism Technical Support Office (CTTSO), which develops cutting-edge technologies for and with special operations forces (SOF) and all of DOD, law enforcement, other U.S. Government departments and agencies, and international partners. CTTSO will use \$2.5 million of fiscal year 2016 RIF Phase III for projects such as “Speech Technologies in Tracking, Targeting, and Locating in Noisy Environments” and “Portable Petroleum Identification Device” (fuel authentication). The speech technologies project will support USSOCOM, the High-Value Detainee Interrogation Group (HIG), and others, and we expect it to provide a real-time, high-performance capability to collect and process audio signals in noisy environments. The fuel authentication project also supports USSOCOM and seeks to develop a capability to identify whether or not petroleum products originate from a legitimate source. We are currently in the process of evaluating projects for fiscal year 2017 RIF Phase III and expect to execute \$3.0 million in such projects. In addition to the RIF, Phase III, SOF has benefitted from other acquisition process improvements such as the Secretary’s Rapid Acquisition Authority (RAA). In 2012, USSOCOM used \$91 million in RAA to upgrade much of the PC-12 light mobility aircraft fleet to highly capable U-28A models for intelligence, surveillance, and reconnaissance. We work diligently to ensure that acquisition authorities are as available to USSOCOM as they are to the Military Departments. Relevant statutes often vest acquisition-related authority in the Secretary of Defense and the Secretaries of the Military Departments without specific mention of ASD(SO/LIC) or Commander, USSOCOM. We then have to make a case requesting that the Department provide USSOCOM with those additional authorities. The DOD continually looks for ways to improve its requirements and acquisition processes. To improve its rapid acquisition capability, DOD has established the Quick Reaction/Rapid Acquisition Community of Interest to expedite the acquisition of warfighter capabilities. ASD(SO/LIC) and USSOCOM are active participants in this group of 20 organizations led by the Director, Joint Rapid Acquisition Cell, in OUSD(AT&L).

General THOMAS. Yes, USSOCOM has benefited from and is very appreciative of the efforts to streamline our ability to rapidly develop and deliver capability to Special Operations Forces. Specifically, USSOCOM requested and received \$3 million Rapid Innovation Funds. Our intention is to utilize these funds to bridge the gap from concept/idea development resulting from our numerous innovation activities, such as SOFWERX, into either science and technology activities or, when ready, directly into a program of record. These funds will assist in funding projects and ensuring our military operators have the opportunity take part in the development and assessment of promising technologies. We do not seek any specific additional changes to other segments of the acquisition process but we continue to seek the same authorities as our Service acquisition counterparts. Title 10 section 167 clearly states the Commander of USSOCOM shall be responsible for “the development and acquisition of special operations-peculiar equipment” with an acquisition executive “responsible to the commander for rapidly delivering acquisition solutions” and “subordinate to the Defense Acquisition Executive in matters of acquisition, subject to the same oversight as the service acquisition executives” Relevant statutes often flow from Congress directly to the Secretary of Defense and the Secretaries of the Military Departments without specific mention of ASD(SO/LIC) or USSOCOM. Without explicit authorities, ASD(SO/LIC) and USSOCOM pursue individual requests through the Department for required authorities. Recent examples include approval to conduct Other Transaction Authority for Prototype Projects and the authority to conduct Prize Challenges. We are currently working with the Department for the authority to engage in Grants and Cooperative Agreements.

NAVY SEAL SUBMARINE EQUIPMENT

22. Senator HIRONO. Ms. Whelan and General Thomas, the SEAL Delivery Vehicle and the dry deck shelter are projects the Navy has been working to facilitate Navy SEAL access to areas of operation. This was recently demonstrated when the *Ohio*-class, guided-missile submarine Michigan deployed to the South Korean port of Busan equipped with a dry deck shelter. How important is this equipment in terms of the Navy Seal mission? Are program requirements being met? Do you have any concerns with the acquisition of these two systems?

Ms. WHELAN. SOF units require specialized underwater systems that improve their warfighting capability and survivability in harsh operating environments. The SEAL Delivery Vehicle (SDV) and Dry Deck Shelter (DDS), when coupled with fleet support, provide the Department of Defense a unique capability to access denied waters and coastlines. These assets can fulfill critical Intelligence Community collection requirements and, when needed, provide the ability to engage the enemy suc-

cessfully and conduct operations associated with SOF maritime missions. SOF's primary undersea mobility concern is the capability gap created by the scheduled decommissioning of the *Ohio*-class Guided Missile Submarines (SSGNs). SSGNs serve as SOF's Large Volume Host (LVH) and can support two DDSs for deployed SOF operators and command and control. Two DDSs enable deployed SOF to launch more frequent sorties and self-recover disabled SDVs. When unforeseen contingencies arise, launching a second SDV or quick reaction force may be the only way to preserve life and execute the mission. In addition, LVHs provide greater available capabilities and increased space for necessary berthing, planning, medical support personnel, and mission-critical materiel storage. As the four SSGNs are decommissioned between 2026 and 2028, SOF will lose its LVH capability. This will result in a severe degradation of SOF maritime capabilities. Although U.S. Special Operations Command (USSOCOM) is working with the Navy staff to mitigate the risks associated with the impending LVH loss, the Navy must balance fiscal constraints and competing strategic priorities within the submarine force against SOCOM's LVH requirement. Between fiscal year 2018 and fiscal year 2020, USSOCOM's Underwater Systems program will replace the SDV with the next-generation SEAL delivery platform, the Shallow Water Combat Submersible (SWCS). The SWCS will continue to use the DDS as ocean interface with submarines. USSOCOM and the Navy are modernizing the six DDSs in inventory and are working to outfit the DDSs with the ability to mate with multiple submarine hosts, improving the DDSs availability. These two systems are dependent on a decreasing number of suitable host submarines; and, due to cost constraints, fewer submarines will be certified to conduct Special Operations than originally envisioned. Finally, USSOCOM's Underwater Systems program is developing the Dry Combat Submersible (DCS). The DCS will better allow the insertion and extraction of SOF and other payloads at strategic distances into denied areas. As this capability becomes available, integrating it into the fleet will be critical. In order to do so, USSOCOM and the Navy must address interoperability and certification.

General THOMAS. SOF have conducted missions in the most challenging environments, including undersea clandestine insertion, using combat submersibles and SOF operators launched and controlled from specially configured host submarines. These missions, involving some of the more sensitive and important operations pursued by the U.S. military, have taken place across a spectrum of locations, conditions, and threats. The SEAL Delivery Vehicle (SDV), launched from a host submarine equipped with a Dry Deck Shelter (DDS) is the most capable means of accessing high threat and denied areas. We are concerned that the four SSGNs are being decommissioned in the 2020s with no plans to reconstitute the unique Large Volume Host Submarine (LVHS) capability. These four submarines are significantly more capable than existing *Virginia*-class submarine hosts and have payload and habitability capacity to support extended, flexible SOF operations. The dual DDS capability provides SOF undersea mobility redundancy, quick reaction forces, and personnel recovery. There is sufficient volume for special mission equipment, dedicated mission planning spaces, and berthing. The DDS has undergone a successful service life extension reaching into the 2040s and there are 11 SDVs in Sustainment.

FORCE STRUCTURE REQUIREMENTS

23. Senator HIRONO. General Thomas, do you see the current trend to rely on Special Ops forces as a long-term reality? If there is a long-term increase, do you have the force structure you need? If not, what is your best estimate of the force structure increase required to maintain sustainable dwell times, morale and effectiveness for SOCOM?

General THOMAS. There are sufficient SOF to respond to most emerging crises currently in the world today. The size of SOF is driven by the rotational base needed to meet day-to-day global operations in support of counterterrorism, counter-WMD, and Building Partnership Capacity goals. USSOCOM's force structure is deemed sufficient to meet National Crisis Response and Counter Terrorism requirements, but SOF is continually assessing the force to ensure that it will be able to support the national strategy. USSOCOM's Campaign Plan is designed to meet Steady State and Operational Plans, but all SOF operations/deployments require the Service's Combat Support/Combat Service Support to provide the necessary temporary infrastructure that does not exist in most areas of operations. With multiple contingencies to execute, a risk assessment and prioritization of the specific requirements, capability and capacity dedicated to the operations must continuously be analyzed to determine the optimum force levels. SOF continues to relook the Component force mix and specific skill sets necessary to build the force of the future. Constructing the force of the future while maintaining the current force creates an

environment of competing strategies to meet the possible emerging threats through reconstitution, training, equipping, while developing new areas of expertise. This effort continues to stretch the boundaries of SOF's creativity, flexibility, adaptability, and resiliency. Compiling all of these metrics will force SOF to remain adaptable as it expands its capability and capacity to meet any emerging threats.

24. Senator HIRONO. Ms. Whelan and General Thomas, do you think that we as a country are relying too heavily on the Special Ops forces to handle too many missions? As the Special Ops end strength grows, do we run the risk of hitting a point where the "special-ness" of the force begins to deteriorate?

Ms. WHELAN. The DOD is very sensitive to the demands that we place on USSOCOM and special operations forces to meet our national security requirements and objectives. We always strive to match requirements with the best capabilities to achieve those objectives. Our Global Force Management process helps us in allocating the right force, including special operations forces, against the highest priorities. Yes, we recognize special operations forces are in high demand and are heavily committed to multiple missions. Where and when we can, DOD transitions missions to other forces, as appropriate. But, considering the current security environment, I envision that special operations forces will continue to be asked to do quite a bit into the foreseeable future. As for end-strength growth and deterioration of the "special" in special operations forces, I defer to General Thomas to assess the effects on his Command's unique qualities.

General THOMAS. Although I do not think that we rely on SOF to perform too many missions, I recognize we are close, and have at times come dangerously close to doing so. I am therefore constantly vigilant to prevent over use of SOF. SOF is relevant against all of the threats facing us in this rapidly changing security environment, and we will remain so in the future. The seemingly ever-increasing demand for SOF causes us to prioritize the sourcing of the requirements the Global Combatant Commanders place upon us, and the Departments' National Military Strategy informs that prioritization. As our numbers grow, we do indeed risk losing that which makes Special Operations Forces truly special. For that reason, the vigilance that I mentioned above includes a special care to ensure that our standards and processes for recruiting, assessment, selection, and training of special operations personnel remain inviolate. Because our people are our most precious asset and that which make SOF truly special, I will continue to prioritize our efforts to grow, sustain, and take care of our force and their families.

NAVY ROTARY WING SUPPORT TO SOF

25. Senator HIRONO. Ms. Whelan and General Thomas, the Navy previously operated two dedicated special ops helicopter squadrons, HSC-84 and HSC-85 as part of the Reserves. Plans were made to deactivate these squadrons, which supported CENTCOM and PACOM. After Congressional intervention, HSC-85 was not deactivated, and has returned to the PACOM area of operation. SOCPAC relies heavily on this support. With HSC-84 deactivated, support for special operations forces training has been reduced, especially for Naval Special Warfare Command. What are the impacts of the reduced level of support with the deactivation of one of these squadrons? Does it negatively impact readiness and capabilities of special operations forces which we rely on heavily? Are requests for support going unfulfilled?

Ms. WHELAN. USSOCOM has internally reallocated some of its rotary wing assets to support prioritized Naval Special Warfare Command training and readiness requirements. As with any limited resource, training support requests are prioritized and some lower priority requests may not be fulfilled.

General THOMAS. Navy Rotary Wing Support to SOF is an important example of the necessity of support from the services to SOF. We are very appreciative of the tireless efforts in Congress to ensure this and many other critical support capabilities from the services continue without interruption. As mentioned, the disestablishment of HSC-84 has had significant impact on the force. Rotary wing training requests have gone unfilled approximately ten percent more since their deactivation. This deficiency is primarily felt by the Naval Special Warfare and Marine Special Operations Commands. However, we are mitigating such shortfalls by leveraging bilateral training opportunities between the Special Operations Aviation Regiment and these units to the maximum extent possible through our Joint Air Asset Allocation Program.

QUESTIONS SUBMITTED BY SENATOR GARY PETERS

SOFWERX

26. Senator PETERS. General Thomas, thank you for your testimony on SOFWERX and response to my question and questions from my colleagues. Please provide a representative sample of solutions successfully developed by SOFWERX, to include context on the problem SOFWERX attempted to solve and how SOFWERX collaborated with individuals, the private sector, and academia to develop a solution.

General THOMAS. Through efforts at SOFWERX we have been able to identify and discover many new and novel technologies, capabilities, ideas and process to facilitate accelerating the acquisition cycle. These efforts begin with building a robust network across many spectrums of innovation in the private and academic sectors, commercial markets and the DOD. A representative sample includes the following: New Products: Through rapid prototyping efforts, SOFWERX has produced new designs for consideration to enable more rapid follow-on acquisitions for: Prototype/initial design for next generation communication systems for SOF vehicles for consideration in future acquisition strategies Concept and initial design for new bow bumpers for SOF boats that are in prototype manufacturing for further testing Developed Casualty Evacuation modifications for MRZR SOF vehicles—provided to units for local build Initial design studies for weaponizing SOF surface combatant boats for consideration in future acquisition strategies SOFWERX has conducted or facilitated rapid evaluation of commercial off-the-shelf (COTS) products for potential SOF use, either for immediate needs or for future concepts: Go-Tenna: Allows use of cell phones as point to point and network radios; analyzed and prototyped alternative antennas for SOF use Open source software—enables rapid fielding of capabilities, especially with partner nations Commercial drones—both how to use them with COTS software for radically low-cost ISR, as well as how to exploit current drones for Counter-Unmanned Air System capabilities SOFWERX has proven to be a venue which attracts unique products for potential SOF use, which has reduced barriers to entry and has facilitated interaction with new and unique suppliers: Hendricks Motor Sports STEED—an electric powered cart to increase range of SOF tactical units Fly-board Air—Novel single-man flying machine invented in France Virtual Reality Demo—Enabled operators to experiment with next-generation Virtual Reality/Augmented Reality systems. New Ideas: SOFWERX has aided in inspiring and inaugurating new ideas that can transform how SOF approaches thinking and solving the most challenging problem sets: Use of biological models as a means to better understand counter-terrorism Next generation design concepts to power Light Tactical All-Terrain Vehicles (fuel cells, hybrid, etc.) Non-Radio Frequency communications for SOF (e.g. magnetic resonance) for enhanced survivability. New Business Models: SOFWERX is a springboard for using new business models to reach non-traditional business partners, technologists, hackers/makers and other individuals with novel solutions: Developing a SOF-unique workflow on Amazon to potentially enable rapid discovery/purchase/delivery of equipment for partnered operations Fostering new solutions to SOF problems through prize challenges; 10 prize SOF prize challenges have been executed to date Fostering new solutions to SOF problems (especially in the data arena) with Hackathons. Hackathons have also identified a large pool of local talent which can be leveraged to solve SOF problems. New Networks: SOFWERX has enabled us to establish and broaden our relationships with a wide spectrum of non-traditional DOD partners: SOFWERX has already established a network of over 6000 members Academia—USF is now developing advanced payload solutions for SOF cubesats Hacker/Maker network—400+ non-DOD affiliated hackers and makers are networked in with SOFWERX. SOFWERX is being dubbed as the ‘friendly feds’ space, allowing access to ideas, products, and innovations Far Ridgeline Reviews—enables us to assemble world-leading talent on specific challenges to include most recently a session on Machine Learning. More information on many other events and activities to include Hackathons, Science, Technology, Engineering and Math (STEM) events in the local community can be found on the SOFWERX website at sofwerx.org.

HOMELAND SECURITY AND WMD

27. Senator PETERS. General Thomas and Ms. Whelan, how does SOCOM coordinate with the Department of Homeland Security (DHS) in countering weapons of mass destruction to protect the Homeland?

General THOMAS. One of my responsibilities as the DOD’s synchronizer of CWMD planning is to ensure the Department’s efforts support our U.S. Interagency partners. The coherent application of all instruments of U.S. national power is required to counter weapons of mass destruction and their enablers successfully. To enhance

these linkages, I have integrated our interagency partners, to include the Department of Homeland Security, into DOD's CWMD Transregional Synchronization Process and as active participants in our community of action. I am establishing a User Defined Operational/Intelligence Picture that will allow not only all of DOD to share critical information but will also allow USG IA to participate. As we further develop CWMD User Defined Operational/Intelligence Picture, I see a real opportunity to use this vehicle and newly invigorated coordination and collaboration mechanisms to drive more cooperation, prioritization, and urgency of addressing as far left of event as possible the potential for sensitive materials or actual WMD to cross into the United States. Additionally, I am going to capitalize on our already widespread SOF network to help foster a routine battle rhythm that builds common understanding with the Interagency in an effort to further enhance effectiveness and unity of effort across the USG CWMD efforts. This network includes Special Operations Support Teams (SOSTs) located throughout the interagency, to include DHS. I plan to leverage these resources as the DOD Synchronizer. I am committed to placing the right people within and around the USG interagency and with our Partner Nations to ensure close relationships—relationships that enable us to coordinate our efforts, collaborate to solve problems, and understand each other's roles and responsibilities.

Ms. WHELAN. As DOD synchronizer of countering weapons of mass destruction (CWMD) planning, USSOCOM ensures that DOD efforts support partners throughout the U.S. Government. In order to counter WMD effectively, all instruments of U.S. national power must be synchronized. To achieve that objective, USSOCOM is facilitating the integration of the Department of Homeland Security, along with other interagency partners, into DOD's CWMD Transregional Synchronization Process. Moreover, USSOCOM is building a User-Defined Operational/Intelligence Picture that will allow U.S. Government departments and agencies to share critical information. Finally, the well-established special operations forces (SOF) network of Special Operations Support Teams (SOSTs) creates a liaison network throughout these departments and agencies that enables coordination, collaboration, and mutual understanding.

28. Senator PETERS. General Thomas and Ms. Whelan, does SOCOM notify Customs and Border Protection (CBP) and DHS of threats of WMD or sensitive materials that could be headed to the United States' borders or ports of entry?

General THOMAS. USSOCOM's new role and responsibilities as synchronizer of DOD CWMD planning efforts will not change how CBP or DHS are notified of potential threats to the United States. Those processes are well established through the Intelligence Community, USNORTHCOM, and other USG Departments and Agencies.

Ms. WHELAN. The processes for notifying CBP or DHS are well-established through the Intelligence Community, USNORTHCOM, and other U.S. Government departments and agencies. USSOCOM's new role and responsibilities as DOD CWMD planning synchronizer will not change how CBP or DHS are notified of potential threats to the United States.

29. Senator PETERS. General Thomas and Ms. Whelan, what role does SOCOM have in informing or participating in the development of technology to detect proliferation threats?

General THOMAS. WARCOM maintains a 1.0 Riverine detachment capability. Each detachment consists of 2 x SOC-R Boats and 15 Personnel. The SOC-R detachment is deployed under Force Tracking Number 6170CTS3411 in support of the SOUTHCOM Theater Campaign Plan conducting theater security co-operation missions as well as prepared to conduct contingency operations and directly support the Counter-Drug/Counter Narco-Terrorism lines of effort in the SOUTHCOM AOR. The SOC-R detachment is deployed to Columbia.

Ms. WHELAN. USSOCOM enables technology development toward detecting proliferation threats by investing in emerging technology and informing technological trends. For instance, USSOCOM has played a long-standing role in developing SOF capabilities to detect, track, and defeat proliferation threats. With the participation of the Geographic Combatant Commands, USSOCOM will assess DOD's CWMD efforts as part of an overall DOD CWMD Campaign Plan. This allows USSOCOM to identify and prioritize gaps and seams, which in turn allows USSOCOM to synchronize mission demand with capabilities requirements and to advocate for studies and resource development.

**DEPARTMENT OF DEFENSE AUTHORIZATION
FOR APPROPRIATIONS FOR FISCAL YEAR
2018 AND THE FUTURE YEARS DEFENSE
PROGRAM**

TUESDAY, MAY 9, 2017

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

UNITED STATES CYBER COMMAND

The committee met, pursuant to notice, at 9:35 a.m. in Room SD-G50, Dirksen Senate Office Building, Senator John McCain (chairman) presiding.

Committee members present: Senators McCain, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Perdue, Graham, Sasse, Strange, Reed, Nelson, McCaskill, Shaheen, Gillibrand, Blumenthal, Donnelly, Hirono, Kaine, King, Heinrich, Warren, and Peters.

OPENING STATEMENT OF SENATOR JOHN MCCAIN, CHAIRMAN

Chairman MCCAIN. Good morning.

The committee meets today for a hearing on the posture of the United States Cyber Command.

We are pleased to welcome back Admiral Mike Rogers, the Commander of U.S. Cyber Command, Director of the National Security Agency, Chief of the Central Security Service, and several other titles I believe. We are grateful for your many years of distinguished service and for your appearance before the committee today.

Threats to the United States in cyberspace continue to grow in scope and severity. But our Nation remains woefully unprepared to address these threats, which will be a defining feature of 21st Century warfare.

As a result, this committee has focused its attention on cybersecurity. We have expressed our concern at the lack of a strategy and policy for addressing our cyber threats. We were hopeful that after years without any serious effort to develop a cyber deterrence policy and strategy from the last administration, the new administration promised one within 90 days of the inauguration. But 90 days have come and gone and no such policy and strategy have been provided.

While inaction from the executive branch has been disheartening, this committee has not stood still. In fact, this committee has adopted more than 50 provisions over the past 4 years focused

on organizing, empowering, and enabling the Department of Defense to deter and defend against threats in cyberspace.

But cyber is an issue that requires an integrated, whole-of-government approach. We simply do not have that now. The very fact that each agency of government believes it is responsible for defending the Homeland is emblematic of our dysfunction. We have developed seams that we know our adversaries will use against us. Yet, we have failed to summon the will to address these seams through reform.

Our allies, most notably, the United Kingdom, have recognized the need for a unified approach. I look forward to hearing from Admiral Rogers his assessment of the recently established National Cyber Security Centre in the UK [United Kingdom] and whether a unified model would help address some of our deficiencies here in the United States.

The Coast Guard also presents an interesting model that should be evaluated for addressing some of our cyber deficiencies. The Coast Guard has an interesting mix of authorities that may be just as applicable in cyberspace as they are in territorial waters. They are both an agency within the Department of Homeland Security, as well as a branch of the Armed Services. They can operate both within the United States and internationally and can seamlessly transition from law enforcement to military authorities. A cyber analogue to the Coast Guard could be a powerful tool for addressing gaps that impede our existing organizational structure. It could also serve as a much-needed cyber first response team responsible for immediate triage and hand-offs to the appropriate federal entity for further response, remediation, or law enforcement action.

As for the efforts at the Department of Defense, I understand that Cyber Command is still on track to reaching full operational capability for the training of the Cyber Mission Force in the fall of 2018. But unless we see dramatic changes in future budgets, I am concerned these forces will lack the tools required to protect, deter, and respond to malicious cyber behavior. In short, unless the services begin to prioritize and deliver the cyber weapons systems necessary to fight in cyberspace, we are headed down the path to a hollow cyber force.

I also am concerned with the apparent lack of trained people ready to replace individuals at the conclusion of their first assignments on the Cyber Mission Force. Unfortunately, we have already heard about some puzzling issues. Specifically, out of the 127 Air Force cyber officers that completed their first tour on the Cyber Mission Force, none went back to a cyber-related job. That is unacceptable and suggests a troubling lack of focus. It should be obvious the development of a steady pipeline of new talent and the retention of the ones we have trained already is essential to the success of the Cyber Mission Force.

Admiral Rogers, we look to you to help us better understand if we should take a closer look at if the existing man, train, and equip models of the services are sufficient or if we should consider a different model. Later this week, we plan to have another cyber hearing with outside experts of which we plan to ask if we should be considering the creation of a cyber service.

Admiral Rogers, welcome back. This is, I am sure, one of numerous pleasures you have of coming before this committee. Welcome. Senator Reed?

STATEMENT OF SENATOR JACK REED

Senator REED. Well, thank you very much, Mr. Chairman. Let me join you in welcoming Admiral Rogers. As you point out, Mr. Chairman, the frequency with which the Admiral is called up to testify to the committee is a testament of not just his importance, but the importance of cyber in the severe challenges we face in this domain. So, again, thank you Admiral, for your service and your dedication.

We have faced serious and growing threats in cyberspace, from espionage, theft of intellectual property, and destructive attacks on the networks and systems that support our military and our economy, including critical infrastructure. Now we and our allies in Europe are experiencing firsthand that we are also vulnerable to the manipulation and distortion of information through cyberspace, which Russia is exploiting to threaten the bedrock of our democracy and our shared international institutions.

The Armed Services Committee has for years emphasized the importance of developing the means and the strategy to deter cyber attacks. Now the scope of what we must defend against and deter has expanded, and the task takes on even greater urgency.

In just a year's time, we begin an election season once more, and the intelligence community has warned that Russia's election interference is likely to be a new normal.

While our decentralized election system has been designated as critical infrastructure, we lack an effective integrated and coordinated capability to detect and counter the kind of influence operation that Russia now routinely and continuously conducts. We do not yet have a strategy or capability to deter such actions through the demonstrated ability to conduct our own operations of this type.

Secretary Carter commissioned a Defense Science Board task force on cyber deterrence. Prominent former officials, such as former Under Secretary of Defense for Policy Dr. James Miller, served on this task force and have testified to this committee twice this year. They advocate rapidly developing the ability conduct operations for cyberspace to threaten, quote, what key leaders on the other side value the most, which in the case of Russia could included their own financial wellbeing and status in order to deter influence operations and cyber attacks against us.

Achieving a credible deterrent requires integration of capabilities and focused policy development across the Department of Defense, as well as through the whole-of-government involving DOD [Department of Defense], the State Department, the intelligence community, DHS [Department of Homeland Security], and the Justice Department. We have not seen evidence yet that the new administration appreciates these urgent problems and intends to address them.

For Cyber Command, specifically the committee has heard concerns that our military cyber forces are almost exclusively focused on the technical aspects of cyberspace operations, such as detecting

network intrusions, expelling intruders, and figuring out how to penetrate the networks of adversaries. The concern is that this focus misses the crucial cognitive element of information operations conducted through cyberspace. Those actions are designed to manipulate perceptions and influence decision-making.

Admiral Rogers, these are critical issues, and there is much work to do, and I look forward to your testimony and your views on these urgent matters. Thank you, sir.

Thank you, Mr. Chairman.

Chairman MCCAIN. Welcome back, Admiral.

STATEMENT OF ADMIRAL MICHAEL S. ROGERS, USN, COMMANDER, UNITED STATES CYBER COMMAND; DIRECTOR, NATIONAL SECURITY AGENCY; CHIEF, CENTRAL SECURITY SERVICES

Admiral ROGERS. Thank you, sir.

Chairman McCain, Ranking Member Reed, and members of the committee, thank you for your enduring support and the opportunity today to talk about the hardworking men and women of United States Cyber Command. I welcome the opportunity to describe how Cyber Command conducts efforts in the cyberspace domain and supports the Nation's defense against sophisticated and powerful adversaries.

The Department of Defense recognized 7 years ago that the Nation needed a military command focused on cyberspace. U.S. Cyber Command and its subordinate elements have been given the responsibility to direct, operate, secure, and defend the Department's systems and networks which are fundamental to the execution of all DOD missions.

The Department and the Nation also rely on Cyber Command to build ready cyber forces and to be prepared to employ them when significant cyber attacks against the Nation's critical infrastructure require DOD support.

The pace of international conflict and cyberspace threats has intensified over the last few years. Hardly a day has gone by during my tenure at Cyber Command that we have not seen at least one significant cybersecurity event occurring somewhere in the world. This has consequences for our military and our Nation at large. We face a growing variety of advanced threats from actors who are operating with evermore sophistication, speed, and precision. At U.S. Cyber Command, we track state and non-state adversaries as they continue to expand their capabilities to advance their interests in and through cyberspace and try to undermine the United States national interests and those of our allies.

Conflict in the cyber domain is not simply a continuation of kinetic operations by digital means. It is unfolding according to its own logic, which we are continuing to better understand. We are using this understanding to enhance the Department and the Nation's situational awareness and management of risk.

I want to update you on our initiatives and plans to address that issue of situational awareness and risk management.

Our three lines of operations are to provide mission assurance for DOD operations and defend the Department of Defense information environment; to support joint force commander objectives globally;

and to deter and defeat strategic threats to U.S. interests and critical infrastructure.

We conduct full spectrum military cyberspace operations to enable actions in all domains, ensure the U.S. and allied freedom of action in cyberspace, and deny the same to any adversaries.

Defense of DOD information networks remains our top priority, of course, and that includes weapon systems, platforms and data. We are completing the build-out of the Cyber Mission Force, as you heard the chairman indicate, with all teams scheduled to be fully operational by the end of fiscal year 2018. With the help from the services, we are continually increasing the Cyber Mission Force's readiness to hold targets at risk.

Your strong and continuing support is critical to the success of the Department in defending our national security interest, especially as we comply with the recent National Defense Authorization Act directive to elevate Cyber Command to unified combatant command status. As you well know, I serve as both Commander of U.S. Cyber Command and Director of the National Security Agency. This dual-hat appointment underpins the close partnership between Cyber Command and NSA [National Security Agency], a significant benefit in cyberspace operations. The institutional arrangement for providing that support, however, may evolve as Cyber Command grows to full proficiency in the future. The National Defense Authorization Act in a separate provision also described conditions for splitting the dual-hat arrangement once that can happen without impairing either organization's effectiveness. This is another provision I have publicly stated that I support pending the attainment of certain critical conditions.

Cyber Command will also engage with this committee on several other matters relating to the enhancement of the Command's responsibilities and authorities over the coming year. This would include increasing our cyber manpower, increasing the professionalization of the cyber workforce, building capacity, and developing and streamlining acquisition processes. These are critical enablers for cyberspace operations in a dynamically changing global environment.

Most or all of these particulars have been directed in recent National Defense Authorization Acts, and along with the Office of the Secretary of Defense for Policy and the Joint Staff, we will work with you and your staffs to iron out the implementation details.

Cyber Command personnel are proud of the roles they play in our Nation's cyber efforts and are motivated to accomplish their assigned missions overseen by the Congress and particularly this committee. They work to secure and defend DOD's systems and networks, counter adversaries, and support national and joint warfighter objectives in and through cyberspace. The Command's operational successes have validated concepts for creating cyber effects on the battlefield and beyond. Innovations are constantly emerging out of operational necessity, and the real world experiences we are having in meeting the requirements of national decision-makers and joint force commanders continue to mature our operational approaches and effectiveness over time.

This, combined with agile policies, faster decision-making processes, increased capabilities, broader concepts of operations and

smarter command and control structures, will ensure that Cyber Command attains its full potential to counter adversary cyber strategies.

The men and women of Cyber Command thank you for your support and appreciate your continued support as we confront and overcome the challenges that lie ahead of us. We understand that a frank and comprehensive engagement with Congress not only facilitates the support that allows us to accomplish our mission, but it also ensures that our fellow citizens understand and endorse our efforts executed on their behalf. I have seen the growth in the Command's size, budget, and mission. That investment of resources, time, and effort is paying off, and more importantly, it is helping to keep Americans safer not only in cyberspace but in other domains as well.

I look forward to continuing the dialogue of the Command and its progress with you in this hearing today and in the months to come. I look forward to answering your questions.

[The prepared statement of Admiral Rogers follows:]

PREPARED STATEMENT BY ADMIRAL MICHAEL S. ROGERS

Chairman McCain, Ranking Member Reed, and Members of the Committee, thank you for your enduring support and the opportunity today to represent the hard-working men and women of United States Cyber Command (USCYBERCOM). I welcome the opportunity to describe how USCYBERCOM leads Department of Defense (DOD) efforts in the cyberspace domain and supports the nation's defense against sophisticated and powerful adversaries.

The Department of Defense recognized seven years ago that the nation needed a military command focused on cyberspace. USCYBERCOM and its subordinate elements have been given the responsibility to direct, operate, and secure the Department's systems and networks, which are fundamental to the execution of all DOD missions. The Department and the nation also rely on us to build ready cyber forces and to be prepared to employ them when significant cyber-attacks against the nation require DOD support.

USCYBERCOM has been a sub-unified command under U.S. Strategic Command (USSTRATCOM) since its creation in 2010. The command includes six operational-level headquarter elements, assisted by U.S. Coast Guard Cyber, a component of the Department of Homeland Security (DHS). USCYBERCOM's action arm is the Cyber Mission Force (CMF), which comprises 133 teams and is continuing to build to a total of approximately 6,200 military and civilian personnel. All of those CMF teams reached at least initial operational capability in 2016. Many have attained full operational capability (FOC), and I expect all of them will attain FOC status by 1 October 2018, just 15 months from now.

I want to update you on our initiatives and plans for that time to come. Our three lines of operations are to provide mission assurance for DOD operations and defend the Department of Defense information environment; to support joint force commander objectives globally; and to deter or defeat strategic threats to U.S. interests and critical infrastructure. We conduct full spectrum military cyberspace operations to enable actions in all domains, ensure U.S. and Allied freedom of action in cyberspace, and deny the same to our adversaries. I have asked that our Command and its components focus their efforts in several areas to ensure we can accomplish missions, both now and in the future. Defense of DOD information networks remains our top priority, of course, and will move this beyond a network focus to one that includes weapon systems/platforms and data. We will also continue progress on the CMF build and attainment of FOC for all teams, while increasing the CMF's readiness and its ability to hold targets at risk. We will posture the CMF to deliver effects across all phases of operations; to improve operational outcomes by increasing resilience, speed, agility, and precision; to generate operational outcomes that support DOD strategy and priorities; to create a model for successful Reserve and National Guard integration in cyberspace operations; and finally to strengthen partnerships across the government, with our allies, and with the private sector.

Your strong and continuing support is critical to the success of the Department in defending our national security interests, especially as we comply with the recent

National Defense Authorization Act directive to elevate USCYBERCOM to unified combatant command status. As you well know, I serve as both Commander of USCYBERCOM and Director of the National Security Agency and Chief, Central Security Service (NSA/CSS). This “dual-hat” appointment underpins the close partnership between USCYBERCOM and NSA/CSS—a significant benefit in cyberspace operations. The institutional arrangement for providing that support, however, may evolve as USCYBERCOM grows to full proficiency in the future, as I shall explain below.

THE CYBER THREAT ENVIRONMENT

The pace of international conflict and cyberspace threats has intensified over the past few years. We face a growing variety of advanced threats from actors who are operating with ever more sophistication and precision. At USCYBERCOM we track state and non-state adversaries as they continue to expand their capabilities to advance their interests in and through cyberspace and try to undermine the United States’ national interests and those of our allies.

America faces multiple challenges from non-state cyberspace actors who impact our citizens and our economy, which now depends on trusted data. For instance, over the last year we have seen increased use of ransomware against individuals and businesses who find their data locked and are forced to pay in order to regain control of their files and intellectual property. Such threats primarily fall under the jurisdiction of law enforcement authorities, particularly the Federal Bureau of Investigation and the Secret Service. Nevertheless, criminal actors become a military concern when malicious state cyber actors pose as cyber criminals, or when cyber criminals support state efforts in cyberspace. This means that we take notice when cybercriminals employ tactics, techniques and procedures used by state adversaries.

My main concern relates to state-based cyber actors, whose malicious activities have only intensified since I spoke to this Committee last year. As we have seen, cyber-enabled destructive and disruptive attacks now have the potential to affect the property, rights, and daily lives of Americans. We are particularly concerned as adversaries probe and even exploit systems used by government, law enforcement, military, intelligence, and critical infrastructure in the United States and abroad. We have seen states seeking to shape the policies and attitudes of democratic peoples, and we are convinced such behavior will continue for as long as autocratic regimes believe they have more to gain than to lose by challenging their opponents in cyberspace.

At the operational level of conflict, states are incorporating cyber effects to support their military operations. As early as 2008, for instance, the Russian incursion in Georgia was accompanied by a denial-of-service attack against Georgia’s government Internet services as well as the defacement of content on official web pages. We are not yet seeing true, combined-arms operations between cyber units and “kinetic” missions, although we have spotted hints of this occurring in Syria and Ukraine as the Russians attempt to boost the capabilities and successes of their clients and proxies. In general, these and other conflicts feature cyber operations by all sides; Russian government sites, for example, have sporadically been attacked by sympathizers from Ukraine. Advanced states continue to demonstrate the ability to combine cyber effects, intelligence, and asymmetric warfare to maintain the initiative just short of war, challenging our ability to react and respond. Further, states clearly continue to leverage cyberspace to conduct significant, widespread, intelligence operations. Access to large volumes of data enable Insider threats; defending against these is a critical requirement of the current and future landscape.

U.S. Cyber Command has seen indications that several states are investing military resources in mining the networks of the Department of Defense and its contractors. On a daily basis, state cyber actors coordinate and execute exploits and scans of the DOD Information Networks (what we now call the DODIN) as well as related governmental and private systems. These activities are often automated, and they can include well-crafted spear-phishing expeditions. We assess that the motivation behind these efforts is predominantly espionage, but the mere possibility that an adversary might establish a persistent presence in DOD networks is always a grave concern; such intrusions, when they occur, are quite disruptive and expensive to remediate.

A still-greater concern is the persistence of adversary attempts to penetrate critical infrastructure and the systems that control these services. We assess that several countries, including Iran, have conducted disruptions or remote intrusions into critical infrastructure systems in the United States. Last year, for example, the Justice Department announced indictments of seven Iranians for cyber disruptions of U.S. financial institutions. The Attorney General reported that 46 U.S. companies

together suffered tens of millions of dollars in losses as a result of the attacks. In addition, in late 2015 a malware tool (Black Energy) identified in energy-sector systems worldwide was implicated in a malicious cyber attack against Ukrainian power systems. The Department of Homeland Security has been warning systems administrators at critical infrastructure sites in the United States and abroad about sophisticated cyber threats from malicious actors employing Black Energy. In December 2015, the cyber actors who had deployed Black Energy in Ukraine briefly cut off electricity to hundreds of thousands of Ukrainians, possibly in support of Moscow's aims in Crimea and Eastern Ukraine. Infiltrations in United States critical infrastructure—when viewed in the light of incidents like these—can look like preparations for future attacks that could be intended to harm Americans, or at least to deter the United States and other countries from protecting and defending our vital interests.

Violent extremist organizations constitute another focus for USCYBERCOM. For over a decade, they have used the Internet to publicize their malicious actions to intimidate opponents and win sympathizers. As we know from the reporting and analysis of respected journalists and think tanks, groups like ISIS conduct sophisticated multi-media campaigns that spread its messages swiftly and globally. While ISIS uses the Internet to recruit followers and solicit contributions in the West, its media campaign also effects viewers closer to home in the Middle East, boosting morale among ISIS fighters, frightening opponents, and promoting the false narrative that the Arab future inevitably belongs to a radical Salafist brand of Sunni fundamentalism. This information campaign through cyberspace has directly and indirectly impacted Americans, inciting attacks on Americans and the citizens of our European allies, who have suffered even worse assaults than we have seen here. Legitimate Internet media outlets obviously have no interest in lending social spotlights to terrorists by hosting violence or propaganda material, and regularly remove these messages and advertisements when they spot them (or the content is brought to the companies' attention). Yet ISIS is resilient and persistent, and continues to spread its message. In addition, ISIS and other violent extremists communicate over encrypted channels to maintain command and control of their operatives and forces.

Examples like these foretell an uncertain future. Several trends could complicate it still further, like the growing "Internet of Things" providing millions of new Internet-connected devices for adversaries to exploit. Today, consumers who can hardly keep up with patching their laptops and updating their cellphone operating systems are wondering how to upgrade the firmware on their home security cameras or Wi-Fi extenders to keep their families and homes from being victimized by malicious cyber actors. Technological developments are outpacing laws and policies, and indeed will have long-term implications that we have only begun to grasp.

U.S. CYBER COMMAND IN OPERATION

Hardly a day has gone by during my tenure at USCYBERCOM that we have not seen at least one significant cyber security event occurring somewhere in the world. This has consequences for our military and our nation at large. I want to reiterate what I told this Committee last year: every conflict around the world now has a cyber dimension. "Cyber war" is not some future concept or cinematic spectacle, it is real and here to stay. The fact that it is not killing people yet, or causing widespread destruction, should be no comfort to us as we survey the threat landscape. Conflict in the cyber domain is not simply a continuation of kinetic operations by digital means, nor is it some Science Fiction clash of robot armies. It is unfolding according to its own logic, which we are continuing to better understand. We are using this understanding to enhance the Department's situational awareness and manage risk. In light of this trend, I am convinced that we as a nation created our own military capability in cyberspace not a moment too early. Our government and military have gone from wondering whether we have a systemic computer security problem to recognizing that the problem can spread in seconds.

Let me explain how our Department of Defense cyberspace capability has progressed at USCYBERCOM over the last year. The Cyber Mission Force attained initial operational capability, with the last team reaching this milestone in October 2016. Our component commanders are moving out to ensure our people get training and certifications required to reach full operational capability for each CMF team. Achieving FOC, however, is not the ultimate goal. We must ensure the CMF also achieves and sustains a high level of readiness, just like any other military force.

My first mission priority as Commander of USCYBERCOM remains the defense of the DOD information network, which encompass millions of network devices, hundreds of thousands of users, well over ten thousand network enclaves, the data

they carry, and the networked technology embedded in weapon systems and other operational platforms. Real-world defensive cyberspace operations have sharpened USCYBERCOM's ability to detect, confine, and eradicate threats from DOD networks and systems. At the same time, adversary cyberspace operations have grown more sophisticated and assertive, resulting in intrusions that have strained the abilities and capacity of DOD cyber forces. With broad authorities to operate within DOD networks, USCYBERCOM has been able to experiment with operational models and tradecraft, improving the effectiveness and efficiency of defensive missions. Our techniques are being adopted and refined across the force, making intrusion response more predictable and effective. USCYBERCOM has improved DOD network defenses through the implementation of new authorities, innovative command and control structures, and operations informed by offensive planning and intelligence (particularly signals intelligence).

USCYBERCOM executes its DODIN defense mission in part through Cyber Protection Teams (CPTs)—the defense-focused forces within the CMF. These teams have real-world experience dealing with sophisticated intruders in DOD systems. The CPTs conduct internal defensive measures to protect key DOD terrain in cyberspace, coordinating with local defenders in the cybersecurity service providers, including those aligned to USCYBERCOM under Global Force Management guidance. The CPTs work with system owners, administrators, and local network defenders to find vulnerabilities and hunt for intruders inside DOD networks. This approach embodies the Department's shift to an operational mindset. Should adversary activity be detected, CPTs track, confine, and expel malicious actors using time-tested doctrinal principles consistent with those employed in the other domains. CPTs share what they learn with other network defenders, offensive operations planners, and the Intelligence Community. USCYBERCOM's continual efforts to adapt to the shifting threat environment have resulted in considerable gains to DODIN security and resiliency.

In addition, as the operational sponsor of the Joint Information Environment (JIE), USCYBERCOM is working with partners to improve the security of the DODIN. These efforts include implementation of Joint Regional Security Stack (JRSS) enterprise cybersecurity capabilities, integration of IT systems management into the cyberspace operations framework, and development of technical and operational frameworks that will enable establishment of comprehensive cybersecurity practices within DOD and mission partners.

The Defense Information Systems Agency serves as DOD's "Internet service provider" and thus plays a vital role in securing and defending the DODIN. Its director is dual-hatted as the commander of one of USCYBERCOM's operational components, Joint Force Headquarters (JFHQ)-DODIN, which is tasked with directing and executing global DODIN operations and defensive cyberspace operations. This component oversees the Command Cyber Readiness Inspection (CCRI) process in collaboration with local network administrators. CCRI's help JFHQ-DODIN assess DODIN systems for compliance with cybersecurity directives and USCYBERCOM orders; inspections thus support USCYBERCOM and DOD Chief Information Officer-led efforts to improve the Department's cybersecurity accountability.

USCYBERCOM works with the Services, NSA and the Defense Cyber Crime Center (DC3) to ensure the CPTs are optimally manned, trained, and equipped. This includes development and acquisition of new capabilities as technology advances; the building of realistic training environments; and resourcing and refining of new models for CPT deployment and operations. USCYBERCOM also seeks to enhance the Department's situational awareness of the status of the DODIN and adversary activities, to extend protection from the network level down to weapons systems, and to develop capabilities and common approaches for linking cybersecurity risk (beyond compliance) to mission assurance in order to inform warfighting decisions and mitigation efforts.

USCYBERCOM's missions extend far beyond the defense of the DODIN. In particular, the Command supports the geographical and functional combatant commands in their operations and missions. This is the business of the USCYBERCOM's Cyber Combat Mission Force. The Cyber Combat Mission Force is the operational-level offensive forces of the CMF, comprising Combat Mission Teams (CMTs) and Combat Support Teams (CSTs), aligned to the combatant commands to support their execution of military operations. The CMTs and CSTs are manned, trained, and equipped by their parent services, which exercise oversight of the combat forces they generated through the Joint Force Headquarters (JFHQ) associated with each Service cyber component.

USCYBERCOM is working to synchronize cyber planning and operations across the entire joint force. Since gaining the Secretary of Defense's approval for this proposal in early 2016, USCYBERCOM has implemented a process to allocate limited

CMF resources among the commands as “high-demand, low-density” military assets. Currently in implementation, this process will enable USCYBERCOM to balance national and operational-level priorities, enabling the Chairman of the Joint Chiefs of Staff to guide the former through the Command in a crisis while providing tailored capacity forward to support the combatant commands when a situation moves towards actual conflict. USCYBERCOM is also helping the combatant commands build cyber effects into their planning processes so that cyberspace missions are synchronized with operations in the other domains. Indeed, in some situations, USCYBERCOM is the supported command.

Achieving Full Operational Capability in the Cyber Mission Force is our goal, but we acknowledge that reaching that milestone is only a capability metric and not a measure of overall readiness. CMF readiness is a shared responsibility between USCYBERCOM and the Services, and over the last 15 years of conflict we have recognized the costs of continuous operations and seen those costs grow the most in “high-demand, low-density” units—like our CMF teams. We employ teams before they are FOC, which is comparable to employing fighter squadrons before they are fully manned or equipped. Achieving and sustaining readiness is going to require a comprehensive set of solutions, ranging from an agreed upon readiness model between USCYBERCOM and the Services, to ensuring the manpower depth necessary to accommodate professional development, technical proficiency, and career predictability. I am confident we will achieve Full Operational Capability by our 30 September 2018 deadline, but I acknowledge that the true challenge will be sustaining the readiness of the CMF and the remarkable men and women who serve within the teams. We have a duty to them, and we must ensure that they are well trained, prepared, and mission-ready.

USCYBERCOM is executing its missions to support operations against violent extremists, especially across the U.S. Central Command’s area of responsibility (and is helping U.S. Special Operations Command’s efforts as well). About a year ago, Secretary Carter facilitated this support by issuing an execute order that, among other things, helped USCYBERCOM by authorizing us to “task organize” for specific missions expected to last weeks, months, or longer. The result of this change was a new organization, Joint Task Force (JTF)-Ares, established by me as the Commander of USCYBERCOM in the spring of 2016 to coordinate cyberspace operations against ISIS. JTF-Ares’ mission is to provide unity of command and effort for USCYBERCOM and coalition forces working to counter ISIS in cyberspace. The JTF model has helped USCYBERCOM to direct operations in support of USCENTCOM operations, and marks an evolution in the command-and-control structure in response to urgent operational needs.

JTF-Ares has helped strengthen unity of efforts against ISIS across international coalition and domestic partners, reinforcing USCYBERCOM’s informal role as a hub for whole-of-government cyber planning and execution against terrorist organizations and targets. Cyber effects can be achieved at-scale and with remarkable synchronization when mission partners share plans, accesses, capabilities, and tactics in support of common objectives. USCYBERCOM, working with the National Counterterrorism Center (NCTC) and the various departments and agencies engaged in this campaign, is using opportunities such as the defeat-ISIS campaign to build trust among operational partners.

USCYBERCOM expects to make progress through 2018 in several key areas. The Command will complete the CMF build, work with DOD partners to equip the CMF, resource and refine command-and-control structures and processes, and develop policies, plans, and operational concepts that support national-level and joint warfighting needs. USCYBERCOM seeks with DOD and Intelligence Community partners to overcome organizational and technological challenges associated with supporting offensive operations at the strategic, operational, and tactical levels. Finally, USCYBERCOM will collaborate with allies and partners to enable collective defense and develop cyber “response actions” that provide options to decision makers from pre-crisis through kinetic operations across all phases of conflict.

Defending the nation in cyberspace is complex in both technical and policy terms. Like all combatant commands, USCYBERCOM is authorized only on order from the President (or the Secretary of Defense if the President is unavailable) to defend against a threat to the nation that would qualify as a “use of force” under international law. The Cyber National Mission Force (CNMF) focuses on countering adversaries’ malicious cyber activities against the United States and prepares to conduct full-spectrum cyber operations against adversaries when directed. The CNMF is building a force of National Mission Teams (NMTs), National Support Teams (NSTs), and National Cyber Protection Teams (N-CPTs). Partnering with NSA, the CNMF tracks adversary cyber actors to gain advantages that will enable the United States to preclude cyber-attacks against U.S. national interests. The CNMF is work-

ing with operational partners to develop and exercise the capabilities and operational concepts needed to enable combined and coalition operations (when authorized) in partnership with other government and appropriate private-sector partners.

USCYBERCOM manages only a portion of the “whole-of-Nation” effort required to defend America’s critical infrastructure. The Command works with civilian agencies under their authorities to help protect national critical infrastructure and to prepare for scenarios in which U.S. military action to defend the nation may be required.¹ The Command is expanding its ties with the Reserves and the National Guard. Indeed, cyber response teams operating under Guard authorities can perform a variety of missions in support of state, local, and private entities (which operate independently under their own authorities). Recent legislation to incentivize information sharing will also help the Command and DOD to work more closely with the private sector in mitigating threats outside of government and military systems. The federal government has created a framework for implementing official channels to share information, and clarifying the lanes in the road for U.S. Government assistance to the private sector. Whatever USCYBERCOM’s ultimate role in that process is determined to be, I continue to tell all audiences that we adhere strictly to the Constitution and law in guarding civil liberties and privacy.

The Command is increasing its efforts in the areas above in alignment with the 2015 *DOD Cyber Strategy*. The Department, as you know, is engaged in a broad effort to improve the security of its information enterprise and to build a culture of cybersecurity. Doing so requires measures well beyond hardening the network architecture, and it cannot be accomplished in just a year or two, even with unlimited resources. The strategy is to replace the old infrastructure, to harden what we are maintaining while increasing its capability, and to grow a workforce possessing outstanding cybersecurity awareness and practices. Beyond that, we must understand that determined adversaries can sometimes bypass even the best security, and thus we must build our skills, as well as an operational mindset, for defeating them in our own networks.

These efforts, of course, depend on skilled, focused, and motivated people in a trained and ready force. USCYBERCOM tapped the expertise of NSA to deliver intensive training for cyber personnel, initially taking the lead in training operators from the Service cyber components who graduate to join the CMF teams. This hybrid arrangement will come to an end, with the Services resuming responsibility and authority for training CMF personnel at the end of 2018. In keeping with DOD’s Total Force concept, the Reserve component and the National Guard will also help to build the force. This requires flexibility with organizational requirements and manning standards, but it is already helping to increase the manpower and expertise we can put against some of our most difficult challenges.

USCYBERCOM is maturing its methods for identifying requirements and developing capabilities. The Command last year established a capabilities development team for performing this task, and that group has already done much good. It is doing so not only by working with industry, academia, and other agencies to identify promising ideas, but also in learning how to utilize the data we already generate from our own operations (particularly on DOD systems) to spot useful and/or anomalous patterns. The Command generally lacks NSA’s authorities in acquiring the tools for such initiatives, but Congress recently authorized USCYBERCOM acquisition authority for up to \$75 million each year through the end of fiscal year 2021 to rapidly deliver acquisition solutions for “cyber operations-peculiar” capabilities. We look forward to reporting to the Committee soon on how we are executing this authority.

USCYBERCOM has now matured to the point where it brings vital capabilities to the defense of American interests on a daily basis. In light of the increasing severity of cyber threats, Congress in the National Defense Authorization Act for fiscal year 2017 directed the President to elevate USCYBERCOM to the status of a full unified combatant command. Elevation implicitly recognizes the importance of cyberspace to our national security. I support this step, although the timing and process for elevation are being worked out within the Department, and we expect to have more details to report to the Committee as they emerge. We will pay particular attention to the implementation of the Act’s provisions regarding authority for the acquisition of “cyber operations-peculiar” capabilities. As you know, the language in this section parallels that granted to U.S. Special Operations Command. USSOCOM’s requirements, however, are not always congruent with those to support operations in the cyberspace domain, and thus authorities in the one field might not always be di-

¹ The Department of Justice (particularly the Federal Bureau of Investigation) is the lead for cyber-related investigations and law enforcement, while the Department of Homeland Security takes the lead for national protection and recovery from cyber incidents.

rectly analogous to those in other. We are working with Committee staff to ensure that our implementation comports with Congress's intent.

The recent National Defense Authorization Act in a separate provision also described some conditions for splitting the "dual-hat" arrangement, once that can happen without impairing either organization's effectiveness. This is another provision I have publicly stated I support pending the attainment of certain crucial conditions. I have offered this caveat because the challenges in cyberspace are some of the greatest facing America. Meeting tomorrow's threats requires leaders who can devote their time and energy to building the capabilities of USCYBERCOM and NSA while guarding the rights and liberties of U.S. persons protected by our Constitution. We have not yet matured the Command to a point where splitting the two hats would not functionally impair mission effectiveness. If that point is reached on my watch, I intend to keep the Committee fully informed of the conditions set for the split and how they are met.

USCYBERCOM will also engage with this Committee on several other matters relating to the enhancement of the Command's responsibilities and authorities over the coming year. These would include enhancing the professionalization of the cyber workforce, building capacity and developing capabilities, and streamlining acquisition processes. Most or all of these particulars have been directed in recent National Defense Authorization Acts; and along with the Office of the Secretary of Defense for Policy and the Joint Staff, we will be talking with you and your staffs to iron out the implementation details.

CONCLUSION

Thank you for inviting me to talk with you today about U.S. Cyber Command and its work. The Cyber Mission Force approaching full operational capability, and USCYBERCOM is poised to become a mature unified combatant command. USCYBERCOM personnel are proud of the roles they play in this endeavor, and are motivated to accomplish the many missions assigned to them and overseen by the Congress, particularly this Committee. They work to counter adversaries and support national and joint warfighter objectives in and through cyberspace on a previously unattainable scale and in a sustainable manner. Innovations are constantly emerging out of operational necessity. These, if supported with agile policies, decision-making processes, capabilities, concepts of operation, and command and control structures, will help USCYBERCOM realize its potential to counter adversary cyber strategies in and through cyberspace. The Command's full-spectrum successes have validated concepts for creating cyber effects on the battlefield and beyond. Real-world experiences in meeting the requirements of national decision-makers and joint force commanders have driven operational advances that need time to mature. With the Cyber Mission Force now at initial operational capability, USCYBERCOM is demonstrating its contribution to comprehensive U.S. Government approaches to countering adversary strategies in and through cyberspace.

The men and women of U.S. Cyber Command thank you for your support, both in the past and in the big tasks ahead of us. We understand that a frank and comprehensive engagement with Congress not only facilitates the support that allows us to accomplish their missions, but also helps ensure that our fellow citizens understand and endorse our efforts on their behalf. I have seen the growth in the command's size, budget, and mission. That investment of resources, time, and effort is paying off, and more importantly, is helping to keep Americans safer, not only in cyberspace but in the other domains as well. I look forward to continuing the dialogue over the Command and its progress with you in this hearing today and over the months to come. Now I would be happy to address your specific questions and concerns.

Chairman MCCAIN. Thank you, Admiral.

We have seen another Russian attempt to affect the outcome of the election in France. Do you see any slackening, a reduction in Russian/Chinese efforts to commit cyber attacks and even affect elections?

Admiral ROGERS. No, I do not.

Chairman MCCAIN. Have you seen any reduction in Russian behavior?

Admiral ROGERS. No, I have not.

Chairman MCCAIN. The Defense Science Board told this committee, at least for the next decade, the offensive cyber capabilities

of our most capable adversaries are likely to far exceed the United States' ability to defend key critical infrastructures. Do you agree with that assessment of the Defense Science Board?

Admiral ROGERS. I agree that the offensive side in general has the advantage over the defense, which is why the ideas of deterrence are so important here. How do we shape and change opponents' behavior?

Chairman MCCAIN. In order to do that, we would have to have a policy followed by a strategy. Right?

Admiral ROGERS. Yes, sir.

Chairman MCCAIN. Do we have that now?

Admiral ROGERS. No, sir, but the new team is working on that. I want to make sure we all understand that.

Chairman MCCAIN. The check is in the mail?

So do you agree we should—we have got the Federal Bureau Investigation as the lead for law enforcement. The Department of Homeland Security is the lead for critical infrastructure and defending government computer networks. The Department of Defense is the lead for defending the Homeland, defending military computer networks, and developing and employing—is the status quo sustainable?

Admiral ROGERS. It is sustainable, but my question is: is it the most effective way to generate outcomes?

Chairman MCCAIN. Is it the most effective? That is a better question. Thank you.

Admiral ROGERS. Yes, sir. My recommendation, my input to this process has met our challenges. So we built a foundation with a series of very specialized and distinct responsibilities, and yet I think what experience has taught us over the last few years is our ability to respond in a much more integrated, focused way is really the key to success here. I think that is the challenge. How do we more formally integrate these capabilities across the Government?

Chairman MCCAIN. Do we need a cyber corps?

Admiral ROGERS. I am not a proponent. Within the DOD, I am not a proponent of the idea of a separate cyber force or service, and that is for the following reasons. In my experience, to be successful in cyber, you not only need to understand the technical aspects of this, but you need to understand the broader context in which cyber evolutions occur. Somewhere in the world, there is a man or woman sitting on a keyboard directing an operation. My concern is if we went with a very unique service approach to this, we would generate a force that was incredibly technically proficient but not necessarily deep in understand of the broader context. I think using a service-based model is a stronger way to go about doing this.

Chairman MCCAIN. Well, as I mentioned in my opening remarks, 127, whatever it is, in the Air Force. Not a single one stayed in cyber. Are you getting the kind of cooperation that you need to have trained people at work in your command?

Admiral ROGERS. I have talked to all the Service Chiefs personally over the course of the last year on this topic. I have one service that I am particularly highlighting to them saying, look, we need to change the policies here. What I have suggested to the services is the Cyber Mission Force, that part which I am responsible for,

I acknowledge is only one part of the Department's broader cyber needs.

Chairman MCCAIN. Was that message received by the United States Air Force?

Admiral ROGERS. They are clearly still working their way through this. They have a broader set of challenges with respect to manpower at large. I personally had a chief of staff of the Air Force come out to Fort Meade. I sat him down and said here is what I am seeing. Do I have the right picture? Is this accurate? He has come back to me and said, no, Mike, you have an accurate sense that we are not where we need to be, and here is what I am trying to do to get there. My job is to help him and also to keep the pressure on to make sure we sustain this.

Chairman MCCAIN. In your job, you have to look at scenarios. Give us the best scenario and the worst scenario.

Admiral ROGERS. For?

Chairman MCCAIN. For cyber attacks on the United States.

Admiral ROGERS. The worst worst case scenario in my mind has a couple dimensions to it: outright destructive activity focused on some aspects of critical infrastructure—

Chairman MCCAIN. Including space?

Admiral ROGERS. It could be space, and then in addition to outright destruction, the other thing that concerns me—there are two other things. The second thing would be, in terms of worst consequence, do we see data manipulation on a massive scale. Most cyber activity data has been penetration and extraction.

Chairman MCCAIN. Like changing voting rolls.

Admiral ROGERS. Yes. So what happens if we go in and we change data? That is a very different kind of challenge for us.

Then thirdly to me the other element of a worst case scenario, what happens when non-state actors decide that cyber now is an attractive weapon that enables them to destroy the status quo. That is kind of the worst end, if you will.

Chairman MCCAIN. The best.

Admiral ROGERS. The best is—

Chairman MCCAIN. We develop a policy followed by a strategy—

Admiral ROGERS. We continue to make improvements both in capacity, as well as the broader deterrence piece.

Chairman MCCAIN. Thank you, Admiral.

Senator Reed?

Senator REED. Well, thank you, Mr. Chairman.

Again, thank you, Admiral.

As you have pointed out and I think we both pointed out, in terms of technical aspects of cyber, detecting intrusions, preventing intrusions, penetrating other networks, Cyber Command has been in the forefront. But this issue, which you allude to, of cognitive operations, information warfare, changing public opinion, et cetera—have you been tasked to conduct such operations—to prepare to conduct such operations?

Admiral ROGERS. No, we have not. That is not right now in our defined set of responsibilities per se.

Senator REED. Is it in anybody's federal responsibility to your knowledge?

Admiral ROGERS. I will not get into the specifics in an unclassified forum. There are some things we are doing right now, for example, in the fight against ISIS [Islamic State of Iraq and Syria] with combatant commanders in this regard. I do not want to go any deeper, if I could.

Senator REED. That is fine.

Admiral ROGERS. But I think one of our challenges is if information is now truly going to become a weapon almost in many ways, how are we going to optimize ourselves to deal with this world? We had much of this skill. If you go back to the Cold War, when I first started my journey in uniform, we had extensive infrastructure, extensive expertise. As the Soviet Union collapsed, we decided perhaps that expertise is not required. We did away with many of the institutions. Many of the individuals who had the skill sets are no longer with us. I think we need to step back and reassess that.

Senator REED. So I would assume if you have not been tasked to do that, that your expertise in cognitive warfare is rather limited in terms of what you just mentioned, the skill sets, the personnel.

Admiral ROGERS. Yes, sir. I would be the first to admit it is not what our workforce is optimized for.

Senator REED. Certainly not comparable to what we are perceiving from other actors around the globe.

Admiral ROGERS. Certainly not on a day-to-day basis.

Senator REED. Within DOD, my knowledge suggests that SOCOM [Special Operations Command] has been given the lead on information operations.

Admiral ROGERS. Broadly.

Senator REED. Broadly. Is there any integration with Cyber Command?

Admiral ROGERS. Oh, we work very—SOCOM is one of those partners that I mentioned. So we do work very closely, General Thomas and I.

Senator REED. I think the other issue too—and it has come up in the context of all of our comments this morning—is that this is a mission that goes across several different organizations. In fact, we have heard comments about how the State Department in some areas has—go back to the Cold War. They were doing the Voice of America. They were doing all the radio towers. It is a new world. They do not have either the expertise or the resources, et cetera. So no one seems to be doing this aggressively. Is that a fair estimate?

Admiral ROGERS. Certainly we are not where we need to be.

Senator REED. In terms of Russian operations, were you aware of the penetration of the election in 2016 in terms of the active involvement of Russian entities directly or indirectly?

Admiral ROGERS. Yes, sir.

Senator REED. What actions did you take? Just simply informing your superiors? Was that it?

Admiral ROGERS. So here is where I have to differentiate between my role as Commander of Cyber Command and the Director of the National Security Agency. As the Director of the National Security Agency, as I have publicly testified before other committees, when NSA first gained initial knowledge in the summer of 2015 that the Russians were engaged in an effort to access political

institutions, we informed the Federal Bureau of Investigation, which has overall responsibility to inform those organizations. As the Director of NSA, I do not deal directly with them.

In turn, I then make sure that DOD and other elements within the government have that awareness. That is where my role as Cyber Command comes in. So at Cyber Command, I become aware of efforts in terms of intrusions and hacks directed against U.S. infrastructure. I turn to myself and make sure that the DOD system is optimized to withstand—because they were coming after DOD at the same time. In addition, we coordinate with the Department of Homeland Security. Is there a requirement? Are you looking for DOD? For example, if we had defined the voting infrastructure as critical infrastructure, then under the set of duties assigned to Cyber Command, had the President or the Secretary of Defense determined that DOD needed to insert themselves in this, I would have been tasked to do that at Cyber Command.

Senator REED. If you had been tasked, you would have been prepared technically to try to disrupt these operations.

Admiral ROGERS. Yes.

Senator REED. Then again, given—I am sure we have all been looking back. The after-action reports are still being written about 2016. In your estimate, we have to be much, much better prepared for 2018 and beyond. Is that fair?

Admiral ROGERS. I apologize, Senator.

Senator REED. After looking at the experience in 2016, as you just described, knowledge of penetration, attribution to a foreign state, going after key systems in this country, some of which have now been designated as critical infrastructure, we have to be much, much better prepared for 2018, 2020, and beyond.

Admiral ROGERS. I agree. I apologize. I did not hear that.

Senator REED. No, no. That is fine, sir. Thank you very much.

Chairman MCCAIN. Senator Inhofe?

Senator INHOFE. Admiral Rogers, it would be unfair for me to ask you to evaluate the article I showed you this morning because you have not read it yet. The title pretty much says it. It says—it appeared this morning—are cyber crooks funding North Korea's nukes? How does Kim Jong-un come up the billions to pay for nuclear tests. Increasingly successful online bank heists provide a lot of the funding. Does that make sense to you?

[The information referred to follows:]

ONLINE HEISTS

Are Cyber Crooks Funding North Korea's Nukes?



PHOTO ILLUSTRATION BY ELIZABETH BROCKWAY/THE DAILY BEAST

How does Kim Jong Un come up with the billions to pay for his nuclear tests? Increasingly successful online bank heists provide at least some of the cash, experts say.

KEVIN POULSEN 05.08.17 1:15 AM ET

Like all modern geopolitical chess matches, the growing tension between the United States and North Korea has a shadowy analog playing out in cyberspace.

North Korea is primed for a sixth nuclear test, which would bring it one step closer to its admitted goal of developing a nuclear-tipped ICBM capable of reaching the United States mainland. At his current pace, Kim Jong Un could achieve that objective within three years, according to military analysts. That's within [President Donald Trump's](#) first term, and the administration has been ratcheting up the tough talk almost daily. The president recently said that nuclear war is on the table, and the *USS Carl Vinson* is steaming toward the Korean Peninsula ([for real](#) this time). Far from cowed, North Korea on Sunday [detained an American college professor](#) who'd been teaching in Pyongyang, the [second arrest of a U.S. citizen in recent months](#).

But weapons tests like [last month's failed missile launch](#) in Sinpo aren't cheap. By one estimate, North Korea spent \$1.3 billion on missile tests in 2012 alone. That may explain why the escalation in North Korea's nuclear provocations has been accompanied by a spree of attempted and actual online bank heists that trace right back to Pyongyang. The largest of them was a

nearly successful theft of almost \$1 billion from Bangladesh Bank in 2016—enough money to fund North Korea’s missile testing for almost a year.

State-run crime has been an important component of North Korea’s economy for years. Illegal arms sales to countries like Syria and Iran are reportedly North Korea’s mainstay, but it’s also been linked to everything from the wholesale production of illegal drugs to the mass sales of counterfeit Viagra and cigarettes. In 2009, the U.S. blamed North Korea for a deluge of counterfeit U.S. currency, dubbed “supernotes,” that were so high in quality that the Treasury Department was forced to redesign the \$100 bill.

“The money that North Korea makes from illicit activities is 40 percent of their real economy,” said Bruce Bechtol, professor of political science at Angelo State University and the author of four books on North Korea. Criminal proceeds prop up North Korea’s communist government, support the lavish lifestyle of party leaders, and help support the military, he said. “And some of it, no doubt, goes to support both their nuclear program and their ballistic missile program.”

When it comes to online crime, however, North Korea was mostly associated with a wave of vandalistic attacks on South Korea in 2013, followed by the infamous

2014 hack attack on Sony Pictures. “They were known for wipe attacks,” said Eric Chien, technical director of Symantec’s Security Technology and Response division. “I’d have predicted that they’d do more of those. Instead they tried to transfer about a billion dollars from the Bank of Bangladesh. No way we could have seen that coming.”

The Bangladesh caper unfolded on Feb. 4, 2016, when hackers used custom malware and stolen credentials to initiate 35 SWIFT wire transfer orders from Bangladesh Bank’s holdings at the Federal Reserve Bank of New York. The Fed began processing the orders, which totaled \$951 million, but bank officials grew suspicious after noticing a misspelling in a transfer to Sri Lanka. That transfer was quickly pulled back, and another 30 were blocked entirely. But by then \$81 million in stolen funds had gone through to Rizal Bank in the Philippines, landing in four accounts opened nearly a year earlier under fake names.

The Rizal Bank customers—purported Chinese businessmen—soon showed up at the bank branch in person, withdrew the money and deposited it into a fifth fraudulent account freshly established under the name of a legitimate customer. Then they wired the money to two Philippine casino resorts, where it disappeared.

As the first reported large-scale hack accomplished over SWIFT, a backbone of international finance, the breach received global publicity and alarmed the banking industry. Previous attacks surfaced, including a hack at Ecuador’s Banco del Austro that cost it \$12 million in early 2015.

Normally Eastern European hackers would be the clear suspects for an ambitious bank heist—if the internet had a Captain Renault, he’d round up the Russia-based Carbanak gang for questioning. But when outside computer-security experts examined the Bangladesh attack code, they made an unexpected find. A portion of the code devoted to wiping out the victim’s hard drive was nearly identical to a custom disk wiper used in the “Dark Seoul” attacks against South Korean banks and broadcasters in 2013. Those attacks shared both code and a command-and-control server with the most famous destructive computer attack in history: the November 2014 breach of Sony Pictures by the “Guardians of Peace,” carried out in retaliation for a movie depicting Kim Jong Un’s assassination. The U.S. has formally named the government of North Korea as the culprit in the Sony breach.

Even before the Sony hack, the gang known as the “Lazarus Group” in computersecurity circles had a distinctive style that Chien and his team recognized now in the Bangladesh code. Conventional cybercrooks build on the successes of their forebears, borrowing proven methods and malware known to have worked in the past. “Best practices, if you will,” said Chien.

In contrast, the Lazarus Group seemed to develop its techniques in a bubble, finding its own quirky path and defying conventional criminal wisdom. Even the hacker culture the “Guardians of Peace” parroted in the Sony attack seemed strangely out of touch. The hackers splashed Sony desktops with the image of a smiling skeleton on a dark background below 48-point crimson letters declaring “Hacked By #GOP”—an electronic calling card that would have felt at home on a 1995 website defaced by “Global Hell.”

North Korea’s technological and cultural isolation might help explain this phenomenon, said Gordon G. Chang, the author of *Nuclear Showdown: North Korea Takes on the World*, and a *Daily Beast* contributor. “North Korean hackers live in a tightly knit community and I’m sure that they’re overseen by minders,” he added. But their isolation doesn’t last forever. “They’re given a little bit of training, and after that they’re sent out to get the bulk of it. So it’s not a completely indigenous program.”

By last fall, the North Korean hackers had grown a more worldly side. In October, security experts discovered that a Polish bank had been infected with previously unseen malware. Once again there were links to prior attacks by the Lazarus Group, but this time the malware was served from an unlikely source: the website of the government agency that regulates Poland’s banks, the Financial Supervision Authority. The hackers had penetrated the agency’s hosting servers and changed the website to secretly deliver malware to visitors.

That tactic, called a “watering hole attack,” is among the more sophisticated tools in the modern hacker’s arsenal. Instead of attacking individual targets of interest, you hack a website that some portion of your target group is likely to visit, and use it to infect them. Your prey comes to you, like a hunter crouching behind a tree at a Serengeti watering hole.

By using a watering hole, the Lazarus Group demonstrated it was evolving at a near supernatural pace. “In 2012 they started out like other hackers started in the ’90s, and now they’ve caught up to 2017,” said Chien. “They took a 10- to 20-year timeline and compressed it into five years.”

Despite their rapid advancement, Kim Jong-un’s hackers made a crucial misstep in deploying their attack in Poland. The perpetrators tried to limit their exposure by programming the server to deliver malware exclusively to visitors coming from known banking institutions. Random users reading the Polish Financial Supervision Authority website—those who weren’t coming from an internet IP address range on the watering hole’s hit list—were exposed to nothing more harmful than a report on Poland’s pension system.

But the hackers failed to cull their target selection list before putting it in action, and it didn’t just contain Polish banks. The list was packed with addresses for 104 organizations in 31 countries, most of them financial institutions. In an apparent attempt to scale its attack for mass delivery, North Korea inadvertently published its entire game plan.

The target list included Bank of America, MasterCard, the European Central Bank, the Czech National Bank, Deutsche Bank in Germany, Mellon Bank in New York, the Bank of Tokyo-Mitsubishi, the Bank of Nova Scotia, ICICI Bank in Mumbai, Macquarie Group in Australia,

HSBC, and the Bank of Estonia. On a map of the world, Kim's sharpest adversaries are the U.S., South Korea, and Japan. But on the internet, he's declared war on nearly everybody.

It's an alarming development that positions North Korea as a potential cybercrime juggernaut. The country has an entire department, called Office 39, devoted to organizing and carrying out crime, and an army of professional hackers, said Bechtol. "How many people have taken 7,000 troops and said, 'OK, we're going to make you guys cyberwarriors now,'" Bechtol said. "And then decided, 'OK, now we're going to use you to steal money for our government.' Who would do that? But that's what it appears North Korea has done."

Even beyond its size, being the first state-run heist crew gives the Lazarus Group advantages over most organized criminal enterprises. Russian hackers have staged SWIFT-based heists, but they've never tried to steal \$1 billion in one day. One reason is they lack the resources and connections to metabolize that kind of cash, a problem that doesn't burden North Korea, which already controls a vast international money-laundering network to handle its criminal proceeds. "It goes in a slush fund that's scattered into banks all over the world," said Bechtol. "Then it's funneled illegally back into North Korea."

Kim's reputation for ruthlessness may also be an asset. When the money mules showed up at Rizal Bank to withdraw the \$81 million Bangladesh windfall, the bank manager chose not to make trouble, according to testimony delivered at a Philippines senate hearing last year. "I'd rather do this than me being killed or my family," she was overheard saying.

With no sign that North Korea is backing off its nuclear program or cyberattacks, we're left with this: Trump, an inexperienced and unpredictable president elected with the help of Vladimir Putin's hackers, may soon take the U.S. to war with North Korea, in response to missile tests funded in part by Kim's hackers. If we survive, future writers of fourth-grade history textbooks are going to have a devil of a time with 2017.

Admiral ROGERS. I am not going to get into specifics in an unclassified forum, but we have publicly acknowledged we have seen the North Koreans use cyber in a criminal mechanism, if you will, to generate monetary resources.

Senator INHOFE. It has to come from somewhere.

Admiral ROGERS. Yes, sir.

Senator INHOFE. When you look at it, you kind of eliminate—you come down to that conclusion that they might be right on this.

Admiral ROGERS. Although I would highlight this is only one element of the North Korean broader attempts to generate revenue and get it back to North Korea.

Senator INHOFE. Well, you know, when we look and see the growth in this thing from 2006 to 2015, the number of cyber attacks has climbed by 1300 percent. We have all visited about the policy or the lack of policy in making the decision. There is some thought that maybe there is too much authority at the top. It was General Goldfein that was quoted in December of last year. Actually before this committee, he said if we want to be more agile, then the reality is that we are going to have to push decision authority down to some lower levels in certain areas. Does that make sense?

Admiral ROGERS. Yes, sir. We have highlighted in the cyber arena to Secretary Mattis, as he has assumed his new responsibilities, I think this is an important area that we need to reassess particularly within the cyber arena.

Senator INHOFE. Just a matter of a few weeks ago, we happened to be in Israel and we met and talked to their national cyber director, Dr. Eviatar Matania. For a cyber subcommittee meeting, he actually came over and we had—it was Senator Rounds who was

with me at that time. Of course, he chairs the subcommittee, and we had a meeting that I think was pretty productive. Dr. Matania was pretty careful not to say that perhaps they might be doing something better there than we are doing. He said it is much more complex in the United States because of the size and all of that. But he also pointed out three things that were significant. I just wonder if you had any thoughts or if you studied their system and maybe some other countries too to see what they are doing.

Admiral ROGERS. With the case of Dr. Matania, there is a reason why every time I am in Tel Aviv, I see him, and every time he is in the United States, he sees us.

Senator INHOFE. I knew that was the case. He said the same thing.

Admiral ROGERS. So we can learn from each other. In fact, we are talking about some potential test cases that we could use with a new team in place. So we will see how that plays out over time. But I look to him.

One of the things that I have learned in my journey in cyber is there is no one single organization, group, or entity that has all the answers. So it is about the power of partnerships here and how do you create a system that enables you to gain insight and knowledge from a whole host of partners, some within the United States, outside the United States, within the government, the academic world, industry. He is one example of the power of that.

Senator INHOFE. I kind of got that impression too.

When General Alexander was in that position, he spent some time out at the University of Tulsa. I know there are many other schools too. The chairman asked the question, are we having access to the people that are going to become necessary to staff this new, very serious problem that we have? Is there an effort going back to some of these schools and to promote the programs as were promoted in that particular university?

Admiral ROGERS. Oh, there is. Between NSA and Cyber Command, we have relationships right now with over 200 academic institutions around the United States because that is in part the future workforce for us, although one thing I try to highlight is be leery of creating a cyber force where everyone is cookie cutters. We need to get a broad range of skills and experience here. Some people are going to be really good at this, and they will not necessarily have advanced education, but they have spent much of their personal life in this. So we have got to build a construct where we can get that full spectrum of capability.

Senator INHOFE. We look and we see what some of these countries are doing. Putin, when he came in after their parliamentary election and they did not have any communists for the first time in 86 years—he started doing things in addition to just the coming in and declaring a level of warfare. He also started working. Apparently, according to Poroshenko, they have used cyber capabilities to attack the Ukrainian Government more than 6,500 times over the last 2 months. So this is something that is happening. It is happening all over the world, and you see something like the example in Ukraine that did not take any lead time, and all of a sudden, they are already inflicting that type of harm. I am sure that you are right on top of everything that is happening with this.

Admiral ROGERS. We are trying.

Senator INHOFE. Thank you very much.

Chairman MCCAIN. Senator Nelson?

Senator NELSON. Thank you, Mr. Chairman.

Thank you, Admiral, for your public service.

In response to Senator Reed, you said that you were aware of Russian attempts to interfere in our election. Were you aware of Russian communications with members of the Trump campaign team?

Admiral ROGERS. Now you are into my role as NSA. I am here as Cyber Command. I am not going to publicly get into that, sir.

Senator NELSON. I understand your reluctance, but I also see you not just Cyber Command. I see you as the NSA Director. Okay.

The chairman mentioned and asked you is this what we see—this behavior—is this a new normal, to which you responded I think somewhat regretfully yes.

Admiral ROGERS. Yes, sir.

Senator NELSON. How should we counter these kind of cyber-enabled information operations, and who has the responsibility for these kind of operations?

Admiral ROGERS. In terms of Russian execution of the operations or our response? I apologize. I am trying to understand.

Senator NELSON. Both.

Admiral ROGERS. Both. Well, in the case of the Russians, again if you refer to the publicly available intelligence community assessment, we identified multiple Russian security elements that were involved in this campaign.

With respect to what should we do, the first is I think we need to publicly out this behavior. We need to have a public discourse on this. Those nation states, groups, or individuals that would engage in this behavior—they need to know that we are willing to publicly identify them and publicly identify the behavior.

Secondly, I think we have got to make this much more difficult for them to succeed. That means hardening our systems, taking a look at our election process, which is not Cyber Command's role, but I think broadly we need to look at this end to end and ask ourselves what changes do we need to make in this structure.

Thirdly, I think as a society, as a Nation, we need to acclimatize ourselves to the idea that we are, in many ways, back into a time frame of disinformation, false news—it goes to Senator Reed's point—manipulation of media. You got to be a much more discerning reader, so to speak, in many ways in the world that we are living in right now.

Lastly, I think we also need to make it very clear to those nation states or groups that would engage in this behavior it is unacceptable, and there is a price to pay for doing this.

Senator NELSON. At this point, it sounds, listening to the answers to the previous questions, that we are really in a position that we cannot prevent a cyber attack on things like our critical infrastructure.

Admiral ROGERS. Again, when we say prevent, it is one of the reasons why deterrence becomes so important. The goal should be we want to convince actors you do not want to do this. Regardless

of whether you could be successful or not, it is not in your best interest, and you do not want to engage in this behavior.

Senator NELSON. In a different setting that is secure, would you share with us where we have either, under the threat of an attack or an attack, deterred, the word you just used—"deterrence"—

Admiral ROGERS. Yes, sir. I can share with you in a classified setting where we have either driven them out of a network or—

Senator NELSON. That would be very helpful.

Now, would you consider a critical infrastructure voter registration rolls?

Admiral ROGERS. I think that one of the challenges—if you go back to the process we used to identify the current 16 defined critical infrastructure areas in the private sector, we tended to look at that from a very industrial—is there an output associated with it? One of the things I think that we need to be thinking about now is not that an output is not important because an election generates an output, but does data and information exist in areas that is of critical consequence to us as a Nation. We really did not look at it that way in simplistic terms, and I think we need to. We need to reassess it.

Senator NELSON. We sure better because if someone shows up to vote and suddenly they find out they are not a registered voter because, indeed, it has been attacked and the data has been manipulated and taken them off the rolls, that is pretty serious.

Admiral ROGERS. Yes, sir.

Senator NELSON. That is critical infrastructure.

Admiral ROGERS. Yes, sir. We need to take a look at that definition.

Senator NELSON. Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Wicker?

Senator WICKER. Thank you.

Let me follow up on the chairman's statement with regard to the Air Force cyber officers not remaining in that field of work. Would one of the reasons be because they do not view it as a good career path?

Admiral ROGERS. No. If I could say when we say not in that field, the experience we are seeing is they are taking officers that are rolling out of the Cyber Mission Force, that structure that I am responsible for, and employing them in other areas in cyber in the Department. That is why I say part of the challenge, if you are a service, you have a wide spectrum of cyber requirements beyond just what Cyber Command is responsible for. It is why I am trying to make the argument with the Services what we need to do is—and I have talked to them and said, look, I think something on the order of a third should stay with us, the rest we should then look how do we put them elsewhere with this within this broader cyber enterprise to build the cyber level of expertise across the Department.

I do not want to make it sound like what the Air Force is doing is just ripping people, once they finish their 3 years with us, so to speak, and then making them airplane mechanics, for example. That is not what we are seeing at all.

Senator WICKER. Okay. For the third you would like to keep, do you think that is a good way to get to be a four-star?

Admiral ROGERS. Oh. Do you mean could you build a career over time?

Senator WICKER. Right.

Admiral ROGERS. Clearly in the military we are moving into, I am not the last person who is going to be doing this as a four-star I do not think.

Senator WICKER. With regard to the cyber service, which you are doubtful about, do I understand Britain does have such a cyber force?

Admiral ROGERS. No. Their structure is less a cyber service and more a combination of active as well as significant reserves.

Senator WICKER. Is anybody trying this? Are any of our allies trying this?

Admiral ROGERS. There is nobody right now who has really gone to a single cyber service. Most are trying to take—within the existing service structure, can you create a dedicated work specialty, so to speak, where that is what you do for your career. That is what is being done by most nations around the world.

Senator WICKER. Well, keep us posted on that.

Now, on page 2 of your written testimony, you say advanced states continue to maintain the initiative just short of war, challenging our ability to react and respond.

So what constitutes an act of war in your opinion or in terms of the policy of the agency?

Admiral ROGERS. So, first, I am not a lawyer and I am not a policy individual. That question at its heart is about legality and policy.

It is clear that we do not—and not just the United States. I would argue broadly internationally we have not yet reached a broad consensus on how you would define in clear, actionable terms what an act of war within the cyber arena looks like. To date—

Senator WICKER. How are we going to do that?

Admiral ROGERS. We are going to get our policy people together. We are trying to discuss this broadly. Again, it is outside my lane, but I know we are involved in broad discussions both internally within the U.S. Government, as well as with foreign partners, about how we develop a broader consensus on that.

Senator WICKER. Well, help us out, though, because it may not be in your lane. You are not a lawyer you say. But you would certainly be one of the first people I would ask in terms of what sort of act in your judgment would go beyond this threshold of war.

Admiral ROGERS. Personally for me, what I look to do is could we define a set of criteria, intent, impact, the tactics or techniques that were used, for example—could we develop a set of very specific criteria that would help us define this rather than this broad—“nebulous” is the wrong word because it implies people are not really focused on it, but this rather general kind of conversation we often tend to find ourselves in. I am trying to mentally work myself through how could we get this down to a more specific set of attributes that would then help us. I see those attributes that, therefore, would be defined as an act of war as an example.

Senator WICKER. One other thing. You say technical developments are outpacing laws and policies. We certainly find that in the commerce area also.

But do you need anything new in this next NDAA [National Defense Authorization Act] that you do not have now?

Admiral ROGERS. Specific to the NDAA in broad terms, my input to the process has been we need to reassess authorities and delegation. We need to take a look at do we have the right investments in manpower. Are we investing in the right capabilities? I am very honored that the Department has focused on this mission. There should not be any doubt in anybody's mind. There is focus on this mission set. I am the first to acknowledge cyber competes with a broader range of priorities and needs. But the argument I am trying to make is within those priorities, I think cyber is pretty high and we need to focus the investment and prioritize it and we cannot be willing to accept 5 to 10 years for development cycles, whether it is getting the right people, whether it is training them. That is just not going to get us where we need to be.

Senator WICKER. To the extent that laws and policies are being outpaced, tell us what you need. Let us know what you need.

Admiral ROGERS. Yes, sir.

Chairman MCCAIN. Senator Gillibrand?

Senator GILLIBRAND. Thank you, Mr. Chairman.

Following the line of questioning by Senators Nelson and Reed, one of the issues raised by Russian intervention in our election is how our government as a whole responds to cyber attacks and how it escalates its response. Do you believe that there is a coherent plan in place to allow the Federal Government, in coordination with state and local governments, to respond to major cyber attacks on the country and to escalate the response as appropriate?

Admiral ROGERS. To be honest, Senator, I do not know enough to accurately answer the question because some parts of that strategy would be outside my purview, and I am just not smart about all the—I am not trying to be a smart ass, but part of this is just outside my knowledge. I am just not in a position to say categorically yes or no.

Senator GILLIBRAND. I was concerned by your earlier responses that your strategy is deterrence because I do not see how deterrence is going to work with regard to Russia since we have seen a continuation of an interest on their part to hack our systems and hack other countries' systems and their elections. I guess what I am looking for from you is leadership in coordination with other government agencies throughout the U.S. Government to be prepared for our next election.

Admiral ROGERS. Oh, yes, ma'am. I am part of this.

If I could, I do not think you heard me say that I thought our strategy was deterrence. What I thought at least I communicated was deterrence should be a part of a broader strategy. It should not be the only thing. I am the first to acknowledge that.

Senator GILLIBRAND. Do you think particularly the transition between private companies and a government response—are there the authorities in place to accomplish these transitions effectively? If not, what kind of authorities might you need?

Admiral ROGERS. I do not know if it is—there is certainly an authorities aspect to it, but part of this, I am wondering, is cultural. So the government comes to a private entity. You saw this in the Russian hack scenario, and the Government informs this private

entity the Russians have penetrated your system. Here is where they are. In some cases, the responses are, hey, we want to work with you. That is great. Thanks. Can we come back? In some cases, it is thanks very much, and we never hear anything. In some cases, it is I do not believe you. In some cases, it is that is not the role of the federal—you saw this play out in, for example, some states' response to the election—

Senator GILLIBRAND. Correct.

Admiral ROGERS.—where some states came back and said, hey, look, that is your guys' role.

Senator GILLIBRAND. That is the testimony we have heard in a few hearings now. So I am highly concerned that if you do not have the authority or some aspect of the Federal Government does not have authority to say to a secretary of state, we recognize it is a state's right to run elections. We recognize that you chose the technology that you want to pursue. We recognize this is a states rights issue. But if you do not have a level of sophistication that has been certified as cyber-protected, it is not adequate.

So what I really hope you can come to this committee with is a list of authorities you might need to put in place before the next election because it is not adequate to defer this to any secretary of state in any given state that they think they are covered. We need assurances that they are covered by the most highly sophisticated cyber experts in our Government. I think a lot of that cyber expertise is being developed by the Department of Defense.

Admiral ROGERS. Yes, ma'am.

Senator GILLIBRAND. But I think your leadership and coordination is so necessary.

Admiral ROGERS. Yes, ma'am. Please, I do not dispute that at all. Much of what you are asking me, though, really falls under the Department of Homeland Security, and I do not want to speak for DHS because Secretary Kelly should be able to speak for himself.

I do acknowledge, particularly if we were to define this as critical infrastructure, clearly DOD has a role here.

Senator GILLIBRAND. Agreed.

Admiral ROGERS. There is no doubt about that. Yes, ma'am.

Senator GILLIBRAND. With regard to the most recent French election, we saw that in that election emails of the successful French candidate, Emanuel Macron, were dumped online after a previous hacking. There was also a rumor of campaigns launched against him on the Internet, and the head of the German domestic intelligence agency accused Russia of hacking the Bundestag in preparation for Germany's upcoming presidential elections.

How can the United States leverage our cyber and other capabilities to prevent Russian interference in not only our elections but those of allies and partners? Should we have a role? What capabilities does CYBERCOM bring to the table to help deal with these type of threats?

Admiral ROGERS. So this is much more in my role as the Director of NSA than Cyber Command.

But if you take a look at the French elections, for example—again in an unclassified hearing, I am not going to get into specifics. But we had become aware of Russian activity. We had talked to our French counterparts prior to the public announcements of

the events that were publicly attributed this past weekend and gave them a heads-up, look, we are watching the Russians. We are seeing them penetrate some of your infrastructure. Here is what we have we seen. What can we try to do to try to assist?

We are doing similar things with our German counterparts, with our British counterparts. They have an upcoming election sequence. We are all trying to figure out how can we try to learn from each other, and that is much more my NSA role than in my Cyber Command role.

Senator GILLIBRAND. Thank you, Admiral.

Admiral ROGERS. Yes, ma'am.

Chairman MCCAIN. Senator Fischer?

Senator FISCHER. Thank you, Mr. Chairman.

Thank you, Admiral, for being here today.

As you know, there has been some debate about our use of a geographically based counterterrorism strategy where legal authorities to conduct operations depend considerably on where they take place. To what extent are your operations in cyberspace similarly dependent upon the declared areas of active hostilities?

Admiral ROGERS. So that is an issue for us. Authority is often granted by a defined geographic space. The point I try to make to policymakers is the challenge in the cyber arena, the infrastructure—let us take ISIS, for example—that ISIS might be using is not necessarily physically in Syria and Iraq, but is in other areas. We need to be able to have an impact on that. I apologize. I do not want to go into this broadly in an unclassified forum. But we have that challenge. Yes, ma'am.

Senator FISCHER. Are you bound then by the limitations that are set forward in the presidential policy guidance?

Admiral ROGERS. Oh, yes, ma'am. I have to meet PPD-20, for example.

Senator FISCHER. So when you are looking at that and we look at the interconnectedness of the nature of cyberspace, so what impact does that have on your operations? Do you have the necessary ability to meet the requirements of the combatant commanders, the geographic combatant commanders?

Admiral ROGERS. Not as fast as I would like. Again, I am not going to get into the specifics in an open forum.

But some of the things we are doing against ISIS, this very issue came to a bit of a head. We were able to work it out through the interagency process, and we were granted the authorities to execute some of the ongoing activity that we are doing against ISIS that extends beyond the immediate physical environment of Syria and Iraq. But I am the first to acknowledge it was not the fastest process in the world. It was a very complete process I am the first to acknowledge that.

Senator FISCHER. Do you have suggestions for any changes that Congress needs to make in order for you to respond—

Admiral ROGERS. Before I go to Congress, I am trying to have a dialogue with my own immediate bosses about so what might such a framework look like, and I think I owe them time to come to their own conclusions first.

Senator FISCHER. I understand that that presidential policy from 2013 is being reviewed by the Department. Is that correct?

Admiral ROGERS. Again, it is not a Department document. It is a presidential document.

Senator FISCHER. Is the Department reviewing it?

Admiral ROGERS. We are broadly looking at cyber authorities right now at large. Again, I provided an input to the Secretary with, hey, sir, here are my views on what are some of the things that we might want to look at.

Senator FISCHER. So CYBERCOM is involved in that review. Based on your experience, where do you think improvements should be made?

Admiral ROGERS. Well, the positive side for me is everything I am hearing from the current team is they acknowledge that the structures that are in place are not fast enough. That is a good step for me because I am not spending a lot of time in a debate. Now it is, okay, so what do we do. If you accept that premise, what should we do?

Again, because that is an ongoing topic of discussion, I would just rather not publicly get into this. I think I owe them the time for them to come to their conclusions, although they are reaching out to us. I have no complaints in that regard.

Senator FISCHER. Do you anticipate that the Secretary will be bringing forward to this committee any conclusions that are made then?

Admiral ROGERS. I do not know, ma'am. I do not want to speak for the Secretary.

Senator FISCHER. Okay.

Admiral, in testimony before the House Armed Services Committee in 2015, you mentioned an unresolved question about applying, quote, DOD-generated capacity in the cyber arena outside the government in the private sector. Can you elaborate on this? Specifically, what type of capacities do you believe would be beneficial, and what kind of gaps are you trying to fill?

Admiral ROGERS. So it goes to some of the points that many of you made already this morning about, for example, if we are going to defend critical infrastructure, DOD is going to execute a mission and defend critical infrastructure. One of the points I am trying to make is I do not want to show up in the middle of a crisis for the first time I have interacted with some of these sectors. Just my experience as a military individual teaches me discovery, learning while you are moving in contact with an opponent is a painful way to learn. Increased loss. It takes so much more time, and you are not effective and efficient.

The argument I am trying to make is building on the sector approach with critical infrastructure, which I think is very sound, can we not create standing mechanisms where I, the DOD, DHS, the private sector can operate 24/7 and operate with, hey, so what are we all seeing out there.

Senator FISCHER. Do you support the deployment of government sensing capabilities on the private sector?

Admiral ROGERS. In a perfect world, what I would probably prefer would be could we create a structure where the private sector could share the—because they are putting sensors, putting telemetry on their networks. Could you not share that with us rather than us go in and do it? My first recommendation would be could

we not create a mechanism where we can take advantage of the investments and the capabilities the private sector is already making.

Senator FISCHER. Can we do that now?

Admiral ROGERS. In some areas, we do that now. But I want to make it much more institutionalized and much more real time for me anyway.

Senator FISCHER. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator King?

Senator KING. Thank you, Mr. Chairman.

The first question, Admiral, for the record. We have been having these hearings now for 4 years, and we talk about the problem and everybody is absolutely convinced that this is a very serious problem. I would appreciate it, given the fact of the depth of your knowledge and the work that you do, if you could supply for the record the five things you think we should do. Talking about it is important, but action. What are the five actions? If you would think about it, have some of your smart people think about it, whether it is legislation or regulation or new relationships, communication, I think all of us would find that helpful. This is an echo of Senator Wicker's question earlier.

[The information referred to follows:]

[Deleted.]

Senator KING. Second, we talk about this. We talk about this, we have got to approach this with a whole-of-government approach. I really think the term should be "whole-of-society."

Admiral ROGERS. Yes, sir.

Senator KING. Because this is an odd situation where you have got government for sure, but the vulnerable elements are in the private sector, the electric grid, the financial system, the gas pipeline system. We had a situation—I think it was in 2011—where there was a cyber bill. It was regulatory. It would have applied to the private sector. It failed. There was great resistance in the private sector to a regulatory approach.

We do not ask the private sector to defend themselves against Russian bombs or missile attacks from North Korea. We do that. What about a system whereby we work with the private sector to assist them financially in installing the kind of defensive measures that might be important, and in exchange, they would get perhaps some limitation of liability. Of course, they would get free stuff. The question is how do we do that without them just taking their foot off the gas and not protecting themselves.

Admiral ROGERS. I mean, certainly incentivizing behavior generally tends to produce better outcomes in our society than the penalization piece. It is a much broader issue than me.

But I think the core point you raise is the point I was trying to make with Senator Fischer. Traditionally in our society, we often have very strong walls between what is a private function and what is a government function. I think cyber shows that much of what we are seeing is a national security issue, and therefore, it requires a whole-of-Nation approach to how we are going to handle this.

Senator KING. Which involves new levels in creative thinking about how to interface between the government and the private sector because we could have a perfect government system, but if Wall Street goes down, it is going to be chaos.

Admiral ROGERS. I agree.

Senator KING. On the issue of policy, Senator Rounds and I supported an amendment that got into the National Defense Act last year that essentially said to the administration 180 days a report is due on military/non-military options available for deterring and responding to imminent threats. That date is coming, just to remind you. It is June 23rd by my calculation.

Admiral ROGERS. It is in June. Yes, sir.

Senator KING. This is a way of trying to force what Senator McCain has talked about about the development of a cyber policy, and then the President has 180 days after that to describe the actions carried out in cyberspace that may warrant a military response. We have got to get through this.

Admiral ROGERS. I know OSD [Office of Secretary of Defense] is working on it. They have the lead here. They will respond formally. We have been part of that process.

Senator KING. Well, I am just delighted that that is being worked on because I think one of our big gaps when we talk about what do we need to do, a policy and a strategy, as the chairman has mentioned, is absolutely critical because right now deterrence does not work unless there is a strategy and unless we know about it.

Admiral ROGERS. Yes, sir.

Senator KING. Finally, I think as we talk about this, if you think about what the Russians did in 2016, there were really three components. One was hacking and leaking. The other was attempted hacking in terms of the voting system, which we have talked about, which I think is a very serious issue. But the other is information and the manipulation of information. That is very hard to get at, especially in a place that has the First Amendment.

I would suggest that one of the things we need to be thinking about—and this is not necessarily in your jurisdiction—is a heightened level of digital literacy in this country. People have to understand when they are being misled and manipulated, and perhaps they need to be given tips on how to do that. My wife has a sign in our kitchen that says, “The most difficult thing on the Internet is to determine the authenticity of quotes,”—Abraham Lincoln.

[Laughter.]

Senator KING. But we have got to be educated. Our public has to understand that this is a whole new level of—way of manipulating. There were all kinds of reports in the French elections that Macron had bank accounts in the Cayman Islands. It is not illegal to say he had them. But how do you defend themselves against that? I just would urge you to be thinking about this. How do we educate our people to be more discerning when they read something incredible on the Internet?

Admiral ROGERS. It is a brave new world out there in the information dynamic for all of us.

Senator KING. It is particularly challenging in a country that values free expression.

Admiral ROGERS. Right.

Senator KING. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Rounds?

Senator ROUNDS. Thank you, Mr. Chairman.

Admiral Rogers, first of all, thank you for your service to our country.

Wearing two hats, what is the earliest date that you think CYBERCOM should be elevated to a combatant command? If there are criteria, would you share the criteria?

Admiral ROGERS. This is an ongoing policy issue, so I am not going to get into the specifics. I think that is not fair to my bosses. My input has been this is something I think we can do in a reasonably short period of time, make the initial steps.

Senator ROUNDS. Is there a set of criteria that you would expect to be completed before such a move was made?

Admiral ROGERS. We have identified the steps within the Department. We have identified the steps that we would need to take to elevate to a combatant command. So again, that is why I say I am confident we could do this in a very short period of time.

Senator ROUNDS. Could you share with the committee in terms of what some of those activities have to be?

Admiral ROGERS. We have identified we need to shift current responsibilities from STRATCOM [Strategic Command] down to us. We need to make changes to the unified command plan, which is a document signed by the President of the United States. It is the formal document that actually outlines what combatant commanders exist, what their defined responsibilities are, if there is a geographic aspect to those responsibilities. We have got to make those changes, and then we have identified investments in manpower as well.

Senator ROUNDS. There would be an advantage in some ways to having two separate organizations. While the information that would be shared perhaps would be shared in a different manner, the sharing of that information could continue on, but the activities of the two would be different.

Could you share a little bit about the positive side of making a move like that?

Admiral ROGERS. I am on record as saying that my recommendation to this process has been that—and I did not believe this when I came into the job, but after about 6 to 9 months, I came to the conclusion, being in the two jobs, the right answer in the long term is to separate the two. They will still remain closely aligned because Cyber Command and NSA will still continue to work in the same battlespace in many ways, so to speak. It will still be a unique relationship, but in the long run, I think it is the right thing to do.

I have also said, look, there is a series of steps we need to take to make sure that each organization, as it shifts from the structure we originally created, is optimized to continue to achieve successful outcomes. There are some things we need to do particularly on the Cyber Command side, but it is all within reason to me. It can be done within a reasonable period of time and a reasonable level of investment.

Senator ROUNDS. How do you classify the private sector critical infrastructure that is vital to the DOD mission? What efforts is CYBERCOM undertaking to protect private sector critical infrastructure that is vital to the DOD mission? I am not talking about trying to classify all the other stuff.

Admiral ROGERS. No, no. I understand.

Senator ROUNDS. But just the items that are critical to DOD activity.

Admiral ROGERS. So we try to partner closely with the Defense Security Service and the Defense Cyber Crimes Center to make sure that those critical businesses and infrastructure that we, the DOD, count on have access to information. The TRANSCOM [Transportation Command] commander and I spent a lot of time focused on this. How do we make sure that the—because he, in particular, his organization, not that it is unique to TRANSCOM. It is probably at a greater level where their mission execution day to day is so dependent on capabilities resident in the private sector. He has probably got a greater challenge here than most. We are talking about how can we speed up processes.

I would like to see over time can we create a different relationship. It is hard right now to deal direct because of the law and the framework we have created over time. I would like to see if we could potentially look at how we might amend that so we could deal more directly with a specific set of companies that have a direct relationship or provide a unique set of capabilities or infrastructure for DOD. I am working that with TRANSCOM.

We have also picked, in a couple places, Hawaii and Guam, for example, that are a little more isolated where it is a little easier, a couple test cases on how we can partner between the DOD and critical infrastructure on the islands, power and a few other things to highlight how do we work together very closely because there is no alternative generator capability, for example, off island that we are going to pipe in power. If we have problems with the power on the island distribution system, we got major problems for DOD.

Senator ROUNDS. I think sometimes we forget just how critical these cyber aspects are, and when we talk about the different domains that we fight in, air, land, sea, space, and cyber.

Can you think of any of the other areas that we require dominance of that we would maintain dominance in if we do not have dominance in cyber?

Admiral ROGERS. Well, it is one of the comments I made in my verbal opening statement. We not only are our own mission set, so to speak, but our success helps to underpin the ability of the rest of the Department. I am not saying it is the only determinant, but it is a foundational element of the Department's broader ability to execute its mission sets across the breadth of DOD missions.

Senator ROUNDS. Thank you, sir.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Heinrich?

Senator HEINRICH. Thank you, Chairman.

Welcome back, Admiral Rogers.

It has become really evident to me as a member of both the Intel Committee and this committee—it has become crystal clear that Russia has really mastered this domain of digital disinformation

and that they have effectively set up a situation where they are coordinating paid trolls, fake automated social media accounts, bots, as they call them, and state-backed news outlets to really amplify stories very effectively that serve their interest. That is true of what we would call fake news. It is also true of any real news that simply serves their interests or undermines U.S. policy.

So these capabilities are proving to be just as politically disruptive both in our elections and day-to-day business, as well as what we have seen in Europe, as to the Russian hacking that we have seen.

So does Cyber Command have a role to play in meeting this new what I would describe as a threat, not just a reality? Or do you see it as wholly outside your lane?

Admiral ROGERS. I would not say it is wholly outside. There is a broader issue to me, and information is one aspect of it. If you look at, for example, the way the spectrum and the network world are converging, if you look at the way the information dynamic is playing out, one of the questions that we are trying to come to grips with broadly within the Department, although I will be the first to admit I am so focused right now on trying to execute the missions I have been assigned—part of my input to this process has been let me get the structures set before we start throwing more stuff on the life raft.

But I am trying to conceptualize in my own mind, so how are we going to bring together electronic warfare, cyber, and the information dynamic because it is all blurring in this digital world that we are living in. How do we do this in an integrated way? Right now, we are not there yet. We are still trying to figure out what is the right way forward.

Senator HEINRICH. Do you have people assigned to look at, for example, just the issue of when you have thousands and thousands of bots out there and they serve as a forcing mechanism, they look like social media accounts in Wisconsin or Michigan or somewhere else in the United States, but they are really just automated accounts that take a story that has interested 10 people and makes it look like it is of interest to 10,000. Suddenly it is on my social media feed or my news feed on my iPhone.

Have we looked at capabilities for simply making it clear, even to the companies whose platforms those are on, that those accounts are not genuine accounts? Because it seems to me if you take that amplification piece out, even if it is on a constant rolling basis, you would have a dramatically diminished impact from this.

Admiral ROGERS. Yes, although there are couple points, if I could.

First, remember much of the scenario you just went through is about domestic and both as NSA and Cyber Command, we are focused largely—NSA—we are focused externally. Cyber Command we are largely focused externally. So I will monitor bots infrastructure external to the United States. When it comes to—

Senator HEINRICH. Well, bot farms typically are overseas. However, they are appearing to be domestic accounts but they are not attached to actual people in the United States.

Admiral ROGERS. But one of the phenomena we are starting to see is you are certain to see a migration of capability from the ex-

ternal infrastructure that we have been aware of and observing for some period of time. The way this is going to go next in my opinion, you are going to start to see this in domestic manipulation. That is a part that for us right now, no, I am not really directly involved in.

We do, as part of the broader government effort participate in generating insight that we share with major social media providers to say, hey, this is activity that we are seeing that we believe to be false or that we believe to be criminal or we believe to be supporting of particular groups that are a threat to the Nation.

Senator HEINRICH. So you are actually able in relatively real time to share information with big social media providers.

Admiral ROGERS. In some cases, and I would not argue that it is necessarily immediate real time because one of the things that I try to do is kind of get a critical center—get enough that I can try to show them a comprehensive effort here as opposed to coming to them with, hey, here is the count today, here is 10 the next hour because we are in the early stage of this. I am trying to engender a broader dialogue about, look, there is systematic here that both of us have got to be looking at. We got to stop looking at this one individual—

Senator HEINRICH. Exactly. I think it speaks to the relationship you were talking about. Whether you are talking about the financial services sector, the utility sector, or in this case, social media and media, we need to have those relationships in place to be much more responsive than we currently are.

Admiral ROGERS. Yes, sir.

Senator HEINRICH. Thank you.

Chairman MCCAIN. Senator Ernst?

Senator ERNST. Thank you.

Admiral Rogers, it is good to see you again.

During Senator Fischer's line of questioning, you had answered that you do not want to show up in the middle of a conflict, you do not want to have to learn about the enemy on the move. I agree. I would also say that conversely we also want to know about our friendlies, and we do not want to learn about them on the move either.

Going back to the National Guard, we have corresponded back and forth a number of times. We want to make sure that you know about those friendlies and the capabilities that they bring into your organization, should they ever be needed. So I did drop a bill earlier this year to ensure that DOD will start tracking these capabilities.

But from your perspective, what more can we be doing to help CYBERCOM connect with our National Guard and their capabilities? What else can we do?

Admiral ROGERS. So I feel pretty good about knowledge and awareness. I never thought as a commander—but I can walk you through what Kansas is doing, Pennsylvania is doing, Delaware, Virginia, Washington, California. Again, it is kind of interesting to me. I think to myself, wow, Rogers, you are in a very different world here.

The biggest challenge that I am still trying to work—and it is one I have outlined about six different priorities for Cyber Com-

mand for calendar 2017. I said, hey, these are six things we are going to focus on. One of the six is about creating a model for Reserve and Guard integration. So I am trying to partner with Northern Command, as well as the National Guard Bureau, General Lengyel and his team, about, okay, so we are seeing the investments that the Guard and the Reserve is making, which I am very supportive of and appreciative of. Now, how do we create the mechanisms so we can actually apply that in real time?

We are doing some things now, for example, where Air Force is activating—and in fact, I have reviewed the activation sequence in the Guard out to fiscal year 2020 for the Guard units we are going to bring on in active status to meet the requirements that the Air Force has for the Cyber Mission Force that I command, I lead.

But what I am trying to get to is if we have a major cyber event, I feel very comfortable about we understand who is going to do what. What I am curious about is what happens if it is not something catastrophic, if it is not something that necessarily trips a threshold where the DOD active force is viewed as the primary responsibility. But how do we use those Guard and Reserve capabilities in instances where the active side is not necessarily going to be the lead? How do we make sure the capabilities are there? How do we apply them? What is the command and control structure that is in place?

We do that now in terms of defense support to civil authorities. That is very mature in terms of how we respond to natural disasters. We have got a great process there. Support to FEMA [Federal Emergency Management Agency], the Northern Command's role. I am trying to argue we got to spend a little more time on the cyber piece of this.

Senator ERNST. Absolutely. I would agree wholeheartedly. Maybe it runs parallel to our civil support teams where they provide backup in case of any sort of incident, the Super Bowl, and things like that. We always have them on standby. As we look at major events and progression, whether it is elections or other significant events, throughout the year, we have those Guard capabilities.

Admiral ROGERS. Can I make one other point? I apologize. I did not mean to interrupt.

One of the other challenges in the Guard construct, the Guard's construct is a geographic construct based on the state.

Senator ERNST. Yes.

Admiral ROGERS. One of the challenges, again, I am trying to work my mind through—and I had this discussion with the Council of Governors and the TAGs [The Adjutant General]. In many instances, the infrastructure that a state is going to be counting on from a cyber perspective in the cyber arena does not necessarily physically reside in the state. How do we take advantage of the Guard structure more broadly and not just—I am not saying that the state piece is not important, but I am trying to figure how do we overlay a largely geographic and state-defined construct on something that is not always defined by immediate geography, if that makes sense.

Senator ERNST. It does make sense. It absolutely does make sense.

I know a number of my colleagues, moving on to a different topic, have talked about personnel and how do we keep personnel there. So there have been a lot of suggestions about bringing civilians in to fill in the gaps.

But during Secretary Mattis' confirmation, he also stated that the warrior ethos is not a luxury. It is essential when you have a military. As we look at things like lateral accessions and flexible career paths, how do we make sure that warrior ethos is not being diluted?

Admiral ROGERS. I am the first to admit. It is one reason why I have argued be leery of creating a cyber force that is predominantly civilian. No disrespect to my civilian teammates. But we want that warrior ethos and culture. Secondly, in the law of armed conflict, there were things legally that a uniformed military member of a nation state can do that a civilian cannot within a legal framework.

So civilians play an important role here. Do not get me wrong. That is one of the reasons why I believe that the right construct for us is to bring the total spectrum, Active, Guard, Reserve, contractor, civilian, private sector. It is our ability to bring it all together, not one single slice. So I would be leery about swinging the pendulum too far in one direction away from the military piece of that.

Senator ERNST. Thank you for laying that out. I appreciate your time, Admiral Rogers.

Thank you, Mr. Chair.

Chairman MCCAIN. Senator Hirono?

Senator HIRONO. Thank you, Mr. Chairman.

The Office of the Director of National Intelligence released an intelligence community assessment on Russian activities and intentions in recent U.S. elections. General Clapper testified regarding this report yesterday in the Judiciary subcommittee.

So we all know that Russia interfered with our elections. So do you view President Putin's actions in this regard as a cyber attack?

Admiral ROGERS. Again, ma'am, that is a legal and a policy discussion. My point is it should be viewed as unacceptable. That is the bottom line to me. This is not a behavior you want to encourage. This is not a behavior we want to accept, nor is this a behavior I think we want to see repeated.

Senator HIRONO. I think we all share that. How to get there is the challenge.

What is your opinion of the role of the military and intelligence agencies in preventing these types of events in the future?

Admiral ROGERS. So, first, from an intelligence perspective, our job, speaking as the Director of NSA, is to generate insights and knowledge that help inform potential response and the ability also, if we can get ahead of the problem, to identify it in advance, intent, a nation where actors intend to do something, that then alarms policymakers and military commanders with the ability to engage in operations or choices that clearly communicate to that other party, hey, we know what you are thinking about doing. You do not want to go down this road.

On the Cyber Command side, again, if we define election infrastructure as critical infrastructure to the Nation and we are di-

rected by the President or the Secretary, I can apply our capabilities in partnership with others, because we will not be the only ones, the Department of Homeland Security, the FBI [Federal Bureau of Investigation]. I can apply those capabilities proactively with some of the owners of these systems.

Senator HIRONO. It was very clear by General Clapper yesterday that Russia will continue these efforts. In fact, we know that they have been doing this since the 1960s or 1970s, but it is just that they have many more tools in their toolbox to interfere with our elections. So you are still awaiting direction from the President for everyone to coordinate their efforts to stop this kind of behavior on Russia's part?

Admiral ROGERS. No. I am saying I do not have a defined mission here. No one has changed that yet.

Senator HIRONO. We need to do that for everybody to come together. Thank you.

The Services continue to increase cybersecurity capabilities and develop advanced tools to combat cyber attacks. PACOM [Pacific Command] has placed a focus on advanced cyber and anti-satellite capabilities. How does CYBERCOM work with the other combatant commands like PACOM to counter the cyber threats they face?

Admiral ROGERS. So I partner with—I was just in Honolulu 2 weeks ago with Admiral Harris and his team sitting down and going, hey, because I try to get out there about—for example, Hawaii, just an example. I am there generally every 6 months. I try to do this with all the combatant commanders everywhere around the world, sit down face to face with where are we, are we meeting your requirements.

Cyber Command in many ways—much of what we do functions to support others. We exist to support and enable the success of others. So I always tell our team much of our success is going to be defined by others, not by us, and that is the way it should be. We spend a good deal of time aligning capability to meet specific combatant commander requirements, working with the combatant commanders as to what should be the priority for how those capabilities are applied. In many instances, I want them to set the priority, not me. I have an opinion that we will partner together, and so, for example, that is what we are doing now in the Pacific from both a defensive and an offensive side.

Senator HIRONO. In your meetings with the other combatant commands, then is part of your function to encourage—to make sure that we do not have unnecessary duplication of effort across the services?

Admiral ROGERS. So I try to make the argument, cyber is a high-demand/low-density capability, just like ISR [Intelligence, Surveillance, Target Acquisition, and Reconnaissance], just like SOF [Special Operations Forces], just like ballistic missile defense. Therefore, the same kinds of processes that we put in place to make sure we are maximizing the finite capability we have, we have got to do the exact same thing in cyber.

Senator HIRONO. We know that we have challenges facing military recruiters in attempting to fill their cyber-related billets as other government agencies and the private sector try to fill their requirements as well. I would like to know specifically how impor-

tant is it to continue non-military federal investments in education, particularly in the STEM [Science, Technology, Engineering and Math] programs, for American youth in order to meet the growing need of Cyber Command and other—

Admiral ROGERS. Right. So as I said, our workforce is going to be a spectrum from the Active, the Guard and Reserve, civilian, and contractors. For the civilian contractor and much of that active piece, much of this education is going to be done by the private sector, not by the government. So it is one reason why, as I said, we have relationships, if my memory is right, with over 200 academic institutions. It is one reason why I spend a fair amount of time as a senior commander going to universities around the United States about so how are we going to create the human capital of the future in this. It is one reason why I spend a lot of time talking to the private sector about so tell me how you generate a workforce. How do you retain it? I acknowledge that there are some differences, but are there some things I could learn from you about what works for you? Because it cannot be all about money.

Senator HIRONO. Thank you for that proactive posture.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Tillis?

Senator TILLIS. Thank you, Mr. Chair.

Admiral Rogers, it is good to see you again. You have been on the job about 2 years. Right?

Admiral ROGERS. 3 years, sir.

Senator TILLIS. Three.

Admiral ROGERS. Yes, sir.

Senator TILLIS. If you were to go back 3 years ago and you were in the same committee hearing, would the answers have changed substantially in terms of our current—where, in other words, have we made significant progress?

Admiral ROGERS. Where we made significant progress, we have capability. We are actually using it. We have got a good way ahead. We have got a commitment to that way ahead. So that is what I would have said as we—

Senator TILLIS. But as you go through this, Admiral, if you think about looking at our near-peer competitors, they too are 3 years further along.

Admiral ROGERS. Right.

Senator TILLIS. Is the gap narrower or wider now between our capabilities to defend ourselves and to potentially respond to some attack?

Admiral ROGERS. Narrowing. The gap is narrowing.

But to continue what I think was the point you are trying to make, but I would also tell myself, Rogers, you are not moving fast enough. We got to move faster. We got to prioritize. I am the first to acknowledge that. We are not where I want to be.

Senator TILLIS. What about over the last 3 years, the sense of ownership in the private sector? I for one think we are making a huge mistake if we leave this hearing or if the private sector thinks we are coming up with a solution that they all benefit from. They are a part of an infrastructure that we cannot possibly be expected to—this is sort of like, you know, we are the police, back to Senator King's point. We have to respond when an attack occurs to try and

figure out who did it and what the consequences should be. But we all need to have some sort of security ourselves in our businesses, in our homes, and our states. How well have they really improved over the last 3 years since you have been in the position?

Admiral ROGERS. It is uneven by sector. Some sectors, boy, have really made significant improvements; others, no.

To go to your point, the analogy I try to use, look, it is hard to expect the police force to stop burglaries if you are going to leave every one of your doors not just unlocked but open. You are going to turn all the lights on, and you are going to leave the house for an extended period of time.

Senator TILLIS. A sign saying "not at home."

Admiral ROGERS. Just say—right—hey, feel free. That is not going to get us where we need to be.

Senator TILLIS. Well, how do we move the ball? We had TRANSCOM in here for a hearing just last week or week before. How do we actually get to a point where we put pressure on the private sector not to mandate, but to maybe use it as a distinguishing factor when we are choosing between one potential contractor or supplier and another one in terms of the extent to which we believe that they are fully protected or protected as much as they can be in this space?

Admiral ROGERS. I think it goes to a combination of we need to change the basic contract language about it and set minimum expectations if you want to do business with the DOD.

Senator TILLIS. Is that within your current authorities?

Admiral ROGERS. I am sorry, sir?

Senator TILLIS. Is that within current authorities?

Admiral ROGERS. Yes, and we have made some across the Department. We have made some changes in contractual language, but I think the evolution has shown us we got to be more specific.

Senator TILLIS. To what extent is your command trying to—in the discussion—I think it was with TRANSCOM—we were talking about needing some sort of third party—there needs to be something out there to make sure that our suppliers, maybe even state agencies, are adhering to some baseline standards. To what extent is your command involved in that or who owns that?

Admiral ROGERS. So we do not do that right now, but that is one of those changes I talked about, how do we change the relationship between DOD and its core private capability providers, infrastructure providers. Perhaps one of the things contractually you look at is so if you want to do business with us, you are signing up potentially to the idea that we can do an assessment, we can do an inspection. I think we need to work our way through that, but that is the kind of thing I think we need to be thinking about.

Senator TILLIS. I think it is critically important. We have to also look at the reality that they have got a supplier base, that the people that we contract with need to make sure they are holding their supplier base up to the same standard. I will just repeat what I always say in these committees. You can find a weaker link. All you can do is understand the supply chain and go after that one critical, seemingly innocuous component that shuts down your ability to repair a grid component or to repair some weapon in the supply chain.

In my remaining time, can you tell me a—after elevation and the dual-hat split, how do you envision a standalone command operating? What are the priorities?

Admiral ROGERS. Well, again, now we are into a kind of “what if” scenario. So I would rather not go down—I just do not like getting into “what if” kinds of things. That decision has not been made. That is a broader policy issue. I have had the opportunity to provide input to that process, but now we need to let the process play out and see what kind of bottom line the decision-makers come to. I just think that is fair and that is what we owe them.

Senator TILLIS. Thank you.

Senator REED [presiding]. On behalf of Chairman McCain, Senator Warren, please.

Senator WARREN. Thank you.

I want to quickly ask about the importance of our non-military agencies and programs to your mission, which includes defending the United States against cyber attacks by foreign and non-state actors. Our State Department promotes international norms of responsible behavior in cyberspace, and it helps make our partners and allies more cyber secure—I think you have already talked about that some—and counters online radicalization and recruitment by non-state actors like ISIS every day.

So, Admiral Rogers, you lead the best cyber warriors in the world. But I want to ask, would reductions in funding to the State Department’s cybersecurity and counter radicalization programs make your job easier or harder?

Admiral ROGERS. Tougher.

Senator WARREN. I agree. I am concerned about the significant reductions to non-DOD departments proposed by the administration. These agencies provide critical support for your work, and I just want to make sure that does not get overlooked.

What I also want to do is follow up on a question that Senator Hirono asked. Last year, the Russians stole private emails and splattered them all across the Internet to help their preferred American presidential candidate. Last week, the Russians did exactly the same thing in order to help their preferred French presidential candidate. The United States of America needs to step up its game here. I know that you are a key part of that.

Now, you stated in your prepared testimony, Admiral, that improving DOD’s network defenses and building a cybersecurity culture depend on skilled people. So I would like to press you on the question of how we recruit and retain cyber warriors. Admiral, let me see if I can do this the right way.

We had a hearing recently in our military personnel subcommittee, and one of the witnesses said that the military recruiting system is so focused on filling quotas that they end up recruiting only for the military of today, not targeting the best suited to execute the missions that we are going to need a decade from now.

So, Admiral, can you tell us about your recommendations to ensure that we are recruiting the right talent for the cyber jobs and threats that we will face tomorrow?

Admiral ROGERS. So my experience to date—knock on wood—has been I am very happy with the quality of individuals that we are seeing.

Senator WARREN. I understand.

Admiral ROGERS. We are exceeding retention broadly on the uniformed side. I have got a little more concern on the civilian side actually right now in terms of retention, particularly on the NSA side of my responsibilities.

The thing that is helping us at the moment is this workforce views themselves as the digital warriors of the 21st Century, and their self-image is we are on the cutting edge of something brand new and every day we are shaping the future in a way that nobody else gets to do. We are doing things that nobody else on the outside gets to do. They are empowered by the mission. I am not going to pretend their leadership is perfect. But my sense is they think we got a focus, we got a vision, and we are driving it.

So I am constantly as a leader looking for what are the indicators if that is changing, how do I get ahead of this, and then what are the skill sets that I need not today but maybe 2 years from now, maybe 5 years from now.

Data is one area I would highlight. I am sitting here saying to myself right now we are probably not optimized for the data requirements of the near term. So what kind of data skills do I need? Is that a uniformed skill? Do I look at civilians to do that? Would a contractor make more sense? Is that something that the Reserves could do because they can put people in a skill set, and then, boy, they are going to stay there and do that? That is probably an example of where I am saying to myself maybe we need to be looking at—it is still in my mind. We have not developed a formal plan, so to speak.

Senator WARREN. But I am glad to hear it. You are looking out. I love the focus on data, you know, critically important here.

In the 2017 Defense Department authorization, we gave a lot of flexibility on how to recruit talent specifically. So let me just ask, do you have all the authorities you need, or do we need more exemptions, for example, from federal hiring laws and other changes in the system to help you in your recruiting efforts not just today but 6 months from today and a year from today and a few years from today?

Admiral ROGERS. Well, right now I feel good about military recruitment. I find our ability to hire on the civilian side—we are lagging. Part of this is I tell our team is this something we are failing to understand. Do we have a lack of knowledge of our own system that we are not optimizing the system to generate the outputs we need? I am not at a stage yet where I have decided the answer is I have to go ask for more authority, but I have told the team, look, if we come to the conclusion that we have to ask for more authority, guys, that is what we are doing. We have got to take advantage of the willingness of this committee, the Department to work with us when it comes to flexibility on the human capital piece.

Senator WARREN. Good.

I know how much you have invested in our cyber military force and the mission force overall. You have made enormous progress. But I do hope you will let us know.

Admiral ROGERS. Yes, ma'am.

Senator WARREN. Let us know more in advance rather than later. It takes a little while to get things through around here. But

let us know because if you need more flexibility, you should have more flexibility. Thank you, Admiral.

Admiral ROGERS. Thanks.

Chairman MCCAIN [presiding]. Senator Perdue?

Senator PERDUE. Thank you, Mr. Chair.

Admiral, good to see you again. Thank you for everything.

In testimony we heard earlier this year, the Defense Science Board said—and I quote—for at least the next decade, offensive cyber capabilities of our most capable adversaries are likely to far exceed the United States' ability to defend key critical infrastructures. Do you agree with that from the Defense Science Board?

Admiral ROGERS. I said broadly. Clearly things favor the offensive side. Part of our challenge is much of our infrastructure represents investments and decisions and priorities made decades ago, and they are not reflective of the digital world we find ourselves in today. The cost of replacing that fixed infrastructure is huge, and so it is not likely that we are going to replace all of that infrastructure in the immediate near term. Just the scale is just beyond the ability of our society or our Nation right now.

Senator PERDUE. So we are primarily focused on defense, deterrence, and detection right now from your earlier testimony, even today in this written testimony. My question is, in an open hearing like this, is there anything you can tell us about what we are doing on the offensive side? Are we developing offensive capabilities as well?

Admiral ROGERS. So we have acknowledged that we are developing offensive capabilities. We have acknowledged that we are employing those capabilities in the fight against ISIS. I apologize. I would just rather not get into the specifics.

Senator PERDUE. I understand.

I would like to move over to the question of the day, and it is how do you stand up this force over the next few years. Training is a very major part of this, as you have said. Between 2013 and 2016, under CYBERCOM's supervision, the Office of the Secretary of Defense and the Joint Staff were supposed to come to an agreement on a joint federated training program funded by the Services for the training of the Cyber Mission Force. Can you update us on the status of that agreement and where we stand today on that?

Admiral ROGERS. So we will transition to that model in 2018. The initial outfit, if you will, of the Cyber Mission Force, using much of NSA's infrastructure—we signed up, speaking now as the Director of NSA, to use much of NSA's structure, our schoolhouses, our National Cryptologic School, for example, to do much, not all, but to do much of the training associated with the initial build-out of the mission force. That build-out, full operating capability is due to be completed, and we are on track for September 30, 2018. The agreement then was at that point responsibility for training and development, long-term sustainment of the Force would transition to a Service structure. We are on track to do that right now.

Senator PERDUE. So does that mean that each Service would be responsible for developing their own cyber warriors?

Admiral ROGERS. So what happens is we have a mandated training standard by position, each Service then oftentimes partnering. For example, right now there is Navy training in Pensacola that

all the Services use, for example, because we all then get together and say so given this single common standard, given this single, agreed-to qualification process, what is the best way across the Department to make this work. What Service has the best capacity, best capability? How do we manage throughput broadly? That is the only way to maximize this.

Senator PERDUE. You mentioned context earlier, which is why you do not favor a unified force.

Admiral ROGERS. Right. I was thinking about an integrated cyber—

Senator PERDUE. I understand. I get it.

So having some experience in large organizations, I am concerned about that tradeoff. There is a balance.

Admiral ROGERS. Right. Yes, sir.

Senator PERDUE. We are in a crisis stage right now—I think you would agree to that—with regard to our ability to detect and deter at this point. I understand long-term the ideal might be to have the Service because of the context dimension.

In the interim phase when we are in this crisis mode, though, do we have a sense that that might be counterproductive to our ability to stand up to the immediate threats?

Admiral ROGERS. It would be difficult to do it today in a short term. That would take a long-term investment, significant structural, cultural changes. It is another reason why I would argue optimize the structures and the mechanisms that are in place. Now, we also got to hold them accountable. Do not get me wrong. You just cannot turn to them and say, well, just do what you always do. There has to be accountability and oversight.

But I am comfortable that the current approach is going to generate the outcomes we need, even as I acknowledge it is not moving as fast as I would like. We got a huge mismatch between current capacity and capability, and what I know is the requirement. We are always in a tail chase.

Senator PERDUE. You mentioned earlier that the history has been the extraction of data from the system, that hacking—the primary motive from Russia and China, primarily state actors, has been the extraction of data.

In North Korea, we saw a little bit of a different attack where they went in and actually started placing what I would call a sleeper embedded code, whatever, for a bigger mega event later. Do we see a continuing growth in that type of activity? Have we seen any evidence of that in the U.S.?

Admiral ROGERS. You do. You see every nation state engaged. They will penetrate a system. They will look to not just extract but study it, understand it, see where it connects to. Can they use this as a jumping off point to get to somewhere else?

One of the things we are always looking for is so if a system has been penetrated, has the actor manipulated, changed, amended a configuration so they can gain access separately now. That is one of the key things we always look for when we are trying to do mitigation once someone has penetrated a system.

So it is the full spectrum. The simple answer is yes. It is the full spectrum.

Senator PERDUE. Have we seen any in the U.S., any evidence of that in the U.S.?

Admiral ROGERS. I have seen nation states engaged in activity in the U.S. where they clearly are interested in a long-term presence, not just extracting data.

Senator PERDUE. Thank you, Admiral.

Chairman MCCAIN. Senator Peters?

Senator PETERS. Thank you, Mr. Chairman.

Admiral Rogers, always a pleasure to see you and enjoy your testimony as always.

My question involves the U.S. semiconductor industry, which right now faces some major challenges. In addition to some fundamental technological limits that are being reached in that area, there has also been a concerted strategic push by China to reshape the market in its favor using industrial policies backed by over \$100 billion in government-directed funds. With semiconductor technology critical to the operation of critical U.S. defense systems, I am very concerned that China's industrial policies pose a real threat to U.S. national security.

Although we have a range of tools, which you are very familiar with, to deal with this, the principal mechanism to manage it is the interagency Committee on Foreign Investment in the U.S., or CFIUS. Within the DOD, as you know as well, NSA is a key contributor to the CFIUS national security assessment. DIA [Defense Intelligence Agency], the Military Services, the combat commands all have a role in this process as well.

But my question is considering CYBERCOM's leading role within the Department, how is the command postured to support the CFIUS process for potential foreign mergers and acquisitions that have perhaps significant implications for the DOD cyber mission?

Admiral ROGERS. So we predominantly interact in the CFIUS process on the NSA side. But one of the implications I think for the future—again, it is just one input I have tried to make to the new team is I think we need to step back and reassess the CFIUS process and make sure it is optimized for the world of today and tomorrow because I am watching nation states generate inside knowledge about our processes. They understand our CFIUS structure. They understand the criteria broadly that we use to make broader policy decisions about is an investment acceptable from a national security perspective. My concern is you are watching some nation states change their methodology to try to get around this process.

Senator PETERS. Do you feel that CFIUS is adequately resourced and authorized to make the kinds of changes that you think we need—

Admiral ROGERS. I am not smart enough because we are just one element in this process, and it is not something that the DOD at large or Cyber Command or NSA runs per se. But I do think we need to step back and ask that kind of question to ourselves. Just my gut just tells me that that is one of the things we need to be doing.

Senator PETERS. I would like to turn back to some of the discussions that we have had related to the involvement of the private sector, which has to be intimately involved in any kind of security operations. I know your teams have operated Cyber Guards, over

the years, exercises. The most recent on you were involved in, simulating an attack on the Northeast, attacks on Gulf oil facilities, ports across California. All of these entities, of course, are privately owned and not part of the Department of Defense.

A recent GAO [Government Accountability Office] study, looking at some of the prior exercises, cited concerns that large portions of the exercise take place in a classified forum which places some inherent limitations on public and private sector participation. Although the arrangement certainly is designed to protect sensitive plans and capabilities—and we all fully realize the importance of doing that—the approach also may fall short in preparing participants for a real world cyber emergency, which potentially could be catastrophic.

So my question is, how are you balancing the need for security with the realities of a cyber threat landscape that may ultimately necessitate very broad support from uncleared citizens and entities?

Admiral ROGERS. So it is one of the reasons we changed the structure of Cyber Guard over time and tried to bring more in the private sector. So if you look at the scenario that you talked about that we did last year in terms of we simulated activity directed against the power grid in the east, the petroleum industry in the Gulf, and port sectors on the West Coast. We went to several private companies within each of those sectors and said, hey, we would like you to participate in this. What do we need to make that happen?

We also increasingly are going to the private sector in terms of private sector companies that run the infrastructure associated with supporting those entities. We have added that to the Cyber Guard arena.

So I am trying to see can we create an exercise in addition. We do tabletop exercises, which are not quite—Cyber Guard is huge. It is like a thousand individuals.

We also do regular tabletop exercises where we talk at a high level so we can skirt some of the security aspects of the classification aspects of this and bring in the private sector. We do that out at the Fort Meade complex several times a year separately from Cyber Guard.

Senator PETERS. Thank you, Admiral.

Chairman MCCAIN. Senator Cotton?

Senator COTTON. Thank you, Admiral Rogers. Welcome back.

I want to talk about Russia today and how they hacked into those emails and released them last year. I want to touch on that.

Specifically Senator Warren a few moments ago continued to refer to the President as Russia's preferred candidate. I think she is referring there to the intelligence community assessment of January 6th, primarily written by your agency, the NSA, along with the CIA and the FBI.

This brings to mind a curiosity from the report that I wanted to raise with you and ask about. In the key judgments, the report says we also assess Putin and the Russian Government aspired to help President-elect Trump's election chances, when possible, by discrediting Secretary Clinton and publicly contrasting her unfavorably to him. All three agencies agree with this judgment. CIA

and FBI have high confidence in this judgment. NSA has moderate confidence.

Could you explain the discrepancy for us?

Admiral ROGERS. I would not call it a discrepancy. I would call it an honest difference of opinion between three different organizations. In the end, I made that call. So if anybody is unhappy, Mike Rogers is the accountable individual.

When I looked at all the data, I was struck by for every other key judgment in the report by multiple sources, multiple disciplines, and I was able to remove almost every other alternative rationale I could come up with in my mind for, well, could there be another reason to explain this. In the case of that one particular point, it did not have the same level of sourcing and the same level of multiple sources from different perspectives, you know, human intelligence, signals intelligence.

I still believe that it made sense. I still believe that it fit within the context, and I still agreed with the judgment. But I did say from a professional analytic perspective, I am not quite at the same confidence level as my two counterparts in the form of John Brennan and Jim Comey.

Senator COTTON. The one particular point being going from saying Russia wanted to hurt Secretary Clinton's chances, in addition help Donald Trump's chances.

Admiral ROGERS. Correct.

Senator COTTON. Those are hard to disentangle—right—since in our election system we have to first pass the post as long as you do not have a—

Admiral ROGERS. In this case, there was some pretty specific intelligence that seemed to differentiate that there were specific thoughts on the part of the Russians on each of the aspects of that statement, if you will.

Senator COTTON. Obviously, we cannot discuss those classified matters, but there is a lot of open source matters as well. President Trump, for instance, was the candidate who wanted to build up our defenses, expand our missile defenses, accelerate nuclear modernization, pump more North American oil and gas. None of those things seemed to be very favorable to the Kremlin. Did your agency take those things into account?

Admiral ROGERS. Yes, sir.

Senator COTTON. Also if you look back over the last 8 years, just a quick rundown of what I could recall—I am sure I am missing some—the Obama administration in 2009 reset relations with Russia 6 months after it invaded Georgia.

The year 2010, signed New START [Strategic Arms Reduction Treaty], which I would say was a better treaty for Russia than us.

The year 2012, in a hot mike moment with Dmitry Medvedev, President Obama said he would have more flexibility on ballistic missile defense after his election. He also mocked his opponent at a presidential debate saying that Russia as our number one geopolitical foe.

The year 2013 was the red line fiasco in Syria with Russia's closest Middle East ally when President Obama accepted Vladimir Putin's offer to remove chemical weapons from Syria, which we now know was a failed effort.

The year 2014, we stood largely idly by during the Crimea invasion and did not offer defensive weapons when Russian-backed separatists started fighting in the Donbass despite bipartisan support from this committee. By that point, we had long since been ignoring INF [Intermediate Nuclear Forces] Treaty violations that our military now acknowledges.

The year 2015, Russia had a massive surge into Syria and continued its effort to block U.N. [United Nations] Security Council resolutions.

The year 2016, they pummeled Aleppo into submission. In private, they objected to numerous provisions that I wrote in the Intelligence Authorization Act that would hold Russia to account in its espionage effort, and they increased the amount of times they are buzzing aircraft and warships in Europe and the Arctic.

President Trump promised to reverse those policies. Secretary Clinton largely campaigned on continuity. That does not sound to me like something that the Kremlin would be happy about.

Admiral ROGERS. I am just going by the intelligence. It was very clear in the intelligence of Russians' perceptions.

Senator COTTON. Do you think given that 8-year history of the Obama administration that Russian intelligence and leadership felt emboldened to undertake the hacks of those email systems and release them?

Admiral ROGERS. Now you are into political judgment, sir, and that is just not my area.

Senator COTTON. Thank you very much.

Chairman MCCAIN. Senator Kaine?

Senator KAINE. Thank you, Mr. Chair.

Just to follow up, Admiral Rogers, on this issue of moderate confidence, did you have a high degree of confidence that there was an effort to discredit one candidate and only a moderate degree of confidence that there was an effort to support—

Admiral ROGERS. If you read the key judgments, what it says is I concurred in the report in the sense that we had high confidence in the judgment that the Russians clearly were trying to undermine our democracy and discredit us broadly, that they wanted to specifically make sure candidate Clinton did not win and to undercut her effectiveness should she have won.

Senator KAINE. High confidence in that.

Admiral ROGERS. Right. High confidence in that and that it was just the last part about—and their judgment was they wanted candidate Trump to win. That was one of the objectives—

Senator KAINE. We had testimony in this committee probably a year and a half ago by General Dunford where he was asked the question I think by Senator Manchin which was the nation state that he would view as our most significant adversary. He testified, based on their capacity and intent, he thought that would be Russia.

Just in your domain, cyber, the cyber domain, do you view Russia as an adversary? They have taken actions that have put them in the position as an adversary of the United States in the cyber domain.

Admiral ROGERS. I am watching them engage in behaviors that I think are destabilizing and not in our best interests in cyber.

Senator KAINE. Would you also agree that France is an ally? They are a NATO [North Atlantic Treaty Organization] ally and they are also a coalition partner in Afghanistan.

Admiral ROGERS. Yes, sir.

Senator KAINE. You are aware of the reports in the last few days that there was significant evidence tying Russia to a hacking effort to destabilize the French election. That is something we should take seriously when an adversary tries to destabilize the government of an ally. Would you agree?

Admiral ROGERS. Yes, sir.

Senator KAINE. There was an article in the New York Times the day before the election, Saturday, the 6th, with a fascinating headline. "U.S. Far Right Activists Promote Hacking Attack Against Macron," and the article was about the effort by groups in the United States to immediately spread the hacked documents in many instances before even WikiLeaks was able to.

If we should take seriously an adversary's cyber attack on the democracy of an ally, should we be indifferent or concerned about efforts of Americans to work together with or in parallel with an adversary attacking the democracy of an ally?

Admiral ROGERS. I apologize. I am not sure I am understanding.

Senator KAINE. You have testified in response to my question that we ought to take seriously if an adversary tries to cyber attack and destabilize the democracy of an ally. If American organizations are working together with or in parallel with an adversary—

Admiral ROGERS. A foreign counterpart?

Senator KAINE.—as they are trying to attack the government of an ally France, should we be in different to that, or should we take that seriously as well?

Admiral ROGERS. We need to be concerned.

Senator KAINE. Okay. If we are concerned about that, if the U.S. Government should be concerned in this case—and I will introduce this article for the record.

[The information referred to follows:]

EUROPE

U.S. Far-Right Activists Promote Hacking Attack Against Macron

By MARK SCOTT MAY 6, 2017 The New York Times

After months of trying to move the political needle in favor of Marine Le Pen in the [French presidential election](#), American far-right activists on Saturday threw their weight behind a [hacking attack](#) against her rival, Emmanuel Macron, hoping to cast doubt on an election that is pivotal to [France](#) and the wider world.

The efforts were the culmination of an extended campaign against Mr. Macron after his candidacy began to gain steam this year, with digital activists in the United States and elsewhere sharing tactics, tips and tricks across the English- and French-speaking parts of the internet.

It is unclear whether the leaked documents, which some experts say [may be connected to hackers linked to Russia](#), will affect the outcome of the election on Sunday between Ms. Le Pen, the far-right candidate from the National Front, and Mr. Macron, an independent centrist. But the role of American far-right groups in promoting the breach online highlights their growing resolve to spread extremist messages beyond the United States.

“It’s the anti-globalists trying to go global,” said Ben Nimmo, a senior fellow of the digital forensics research lab at the Atlantic Council, a think tank, who [has studied](#) the far right’s recent efforts against Mr. Macron and others in France. “There’s a feeling of trying to export the revolution.”

The leak, which involved posting campaign documents like emails and accounting records to message boards, occurred late on Friday, hours before a legal prohibition on campaign communications went into effect across France. In response, Mr. Macron’s team said the hackers had included fake information alongside authentic material “to sow doubt.”

“Intervening in the final hour of the official campaign, this operation is clearly a matter of democratic destabilization, as was seen in the United States during the last presidential campaign,” Mr. Macron’s campaign said in a statement late Friday, minutes before the communications prohibition went into effect.

By Saturday, a trail of digital crumbs appeared to tie the attack on Mr. Macron’s campaign to Russian hackers. Forensics specialists found that one of the leaked Excel documents from Mr. Macron’s campaign had been modified on a Russian version of Excel, and edited on Russian-language computers.

One document had last been modified by a Russian user named Roshka Georgiy Petrovich. Mr. Petrovich, 32, an employee of the Moscow-based Eureka CJSC, a Russian technology company, did not immediately return emails requesting comment. Eureka CJSC’s clients include several Russian government agencies.

United States intelligence officials say that Russian government agencies regularly outsource political cyberattacks to Russian cybercriminals and top computer engineers. Security experts note that the digital crumbs could be the sloppy work of a Russian engineer, or studiously left as a so-called false flag used by hackers looking to mask their true identities and whereabouts.

Within hours after the hacked documents were made public, the hashtag #MacronLeaks began trending worldwide, aided by far-right activists in the United States who have been trying to sway the vote in favor of Ms. Le Pen.

Jack Posobiec, a journalist with the far-right news outlet The Rebel, was the first to use the hashtag with a link to the hacked documents online, which was then shared more widely by [WikiLeaks](#). Mr. Posobiec remains the second-most mentioned individual on Twitter in connection with the hashtag behind WikiLeaks, according to a review of the past 100,000 Twitter posts published since late Friday.

While there is no evidence that the breach against Mr. Macron's campaign was organized by this loosely connected group of far-right campaigners, the American activists have been gathering on sites like 4chan and Discord, which were previously used to coordinate support for Donald J. Trump's presidential campaign.

One popular tactic, experts say, has been so-called Twitter raids, or efforts to hijack trending hashtags and topics on the social media site and inject far-right and anti-Macron propaganda.

A week before the second round of the French election, for instance, online activists, many from the United States and other English-speaking countries, flooded Twitter with coordinated anti-Macron memes — online satirical photos with often biting captions — carrying hashtags like #elysee2017 that were linked to the campaign. That included portraying him as a 21st-century equivalent of Marie Antoinette, the out-of-touch last queen of France before the French Revolution, while other memes made allegations of an extramarital affair.

"They tried to bombard French Twitter with memes favorable to Le Pen," said Padraic Ryan, a project coordinator at Storyful, an online marketing company that tracks social media activity around news events. "The campaigns are showing an increasing level of sophistication and coordination."

Just days before the last French presidential debate, an anonymous user on 4chan, whose message boards include anti-Semitic, white supremacist and other far-right discussions, [posted](#) what were said to be copies of documents showing that Mr. Macron had supposedly set up a bank account in the Bahamas to avoid paying taxes. He denied the allegations.

Ms. Le Pen referred to such an overseas bank account [during the vicious debate](#), leading to a bitter rebuttal by Mr. Macron's team and an official investigation into the spread of the rumors.

The reports were followed with another accusation, also posted on 4chan, hours before Mr. Macron's campaign was subjected to the online leak, that he had bank accounts in the Cayman Islands. There is no evidence that he has such accounts.

Despite these increasingly coordinated digital efforts by far-right activists, analysts say, their efforts had not reached the vast majority of the French electorate — until the Friday release of the hacked documents.

It will most likely take until after the election to review all the leaked documents. Under France's strict electoral rules, any publication of the material before polling day could lead to charges.

On Saturday, Le Monde, a French newspaper that has been fact-checking online information during the campaign, [posted a message](#) below all of its articles about the election, saying that it would not disclose the contents of the breach until after the voting on Sunday. Le Monde said it did not want the leak to be used to disrupt the electoral process.

Yet as the French readied themselves for the election on Sunday, discussion on social media — both in favor and in opposition of leaking the documents — began to swirl, according to a review of Twitter data.

Since late Friday, Twitter hashtags related to the leak have topped the trending charts for France, a sign that people are talking about the leak, although most of the discussion has been limited to members of the far-right community who already support Ms. Le Pen.

Yet in a sign of how the far right outside the country is trying to foment the discussion, many of the Twitter posts about the hacking have originated in the United States, according to [Trendsmap](#), a data analytics tool. About half of the social media messages around political hashtags linked to the breach have been written in English, based on a review of Trendsmap data, as activists outside France have helped to spread news of the leak.

The top 25 Twitter posts shared with the hashtag #MacronLeaks were written in English, according to Mr. Nimmo of the Atlantic Council, with many of the online accounts reposting links set up as so-called bots, or automated accounts controlled by third-party individuals.

Researchers from the University of Mary Washington also [found](#) that just 5 percent of Twitter accounts promoting the #MacronGate hashtag accounted for almost half of all the Twitter posts. The frequency of that activity, the security experts warned, was a telltale sign of bot activity, helping expand the reach of these posts on social networks.

Such activity “has helped to push this leak entirely into the camp of the alt-right,” Mr. Nimmo said on Saturday, referring to the online far-right community in the United States.

The French news media has been ordered [by the electoral commission](#) not to publish contents of the leaks. But the growth of digital misinformation and other falsities is likely to only grow in a season of elections in Europe in which British and German voters will soon head to the polls, said Janis Sarts, director of the NATO Strategic Communications Center of Excellence, a think tank in Riga, Latvia.

“Misinformation is increasingly used to achieve political ends,” Mr. Sarts said. “Technology helps to amplify that message through fake news sites and social media.”

Correction: May 10, 2017

An article on Sunday about American far-right activists who promoted a hacking attack on Emmanuel Macron, the centrist candidate for president of France, erroneously attributed a distinction to Marie Antoinette, to whom Mr. Macron was compared in some internet memes. She was the last queen of France before the French Revolution; she was not France's last queen. (That was Maria Amalia of Naples and Sicily, wife of Louis-Philippe I.)

Benoît Morenne and Nicole Perlroth contributed reporting.

A version of this article appears in print on May 7, 2017, on Page A11 of the New York edition with the headline: Far-Right Activists in U.S. Promote Hacking Attack Against Macron.

Senator KAINE. If we should be concerned about the efforts of folks in the United States to work together with or in parallel with an adversary like Russia attacking an ally like France, where should that concern lie in the Federal Government? Is that a law enforcement matter? Is it a DHS matter? Is it an NSA matter, or is it a Cyber Command matter?

Admiral ROGERS. I would argue it depends on the specifics of the scenario. I am not trying to be dismissive, Senator. It is a very complex question.

Senator KAINE. I will put the article in for the record, and there is, I think, more to come on this.

But if individuals or organizations in the United States, for example, were taking hacked documents from an illegal Russian hack of the French system and trying to disseminate it to affect the French election, this is something we should be concerned about. Where would that concern lie within—

Admiral ROGERS. My first thought would be the FBI, but again, that is not necessarily a fully informed opinion, but it is the first thing that comes to my mind.

Senator KAINE. All right.

Let me ask you this. There has been some debate in the last couple of days about whether there is such a thing as a good shutdown of the United States Government. Can you see any circumstance under which Cyber Command's mission would be benefited by a shutdown of the Government of the United States?

Admiral ROGERS. No. If I could, I know you are asking for a yes or no. The number one issue that my workforce often raises with me is what we went through in 2013, and it is now 4 years later. I still—every time there is the merest hint in the media of this even potentiality, I get, sir, are we going to go through this again, sir? You said this was not going to happen, sir. I thought they were committed to us and our mission. Sir, I do not want to work in an environment where every couple of years I am just getting jerked around about am I going to come to work, am I going to get paid, do they value what I do. Hey, sir, we just want to do the mission. We just need the support to keep moving forward.

Senator KAINE. Thank you, Admiral.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Graham?

Senator GRAHAM. Thank you, Admiral. Thank you for your service.

Director Comey said a couple of days ago—I guess it was last week in the hearing that I was involved in in Judiciary—that Russia is still interfering in American politics. Do you concur with that?

Admiral ROGERS. Yes.

Senator GRAHAM. He also said that among nation states, he thought Russia had the most capability and the biggest intent in terms of interfering in the future. Do you agree with that?

Admiral ROGERS. Yes.

Senator GRAHAM. Do you agree that it was Democrats in 2016? It could be Republicans in the next election?

Admiral ROGERS. Yes. I would argue this is not about politics. This is not about party. This is about an effort against the strategic interests of every citizen of this Nation.

Senator GRAHAM. I agree with you 1,000 percent.

Do you they agree they could do this in congressional races, House and Senate—

Admiral ROGERS. Yes.

Senator GRAHAM. Do you agree that if somebody does not make them pay a price, they are going to keep doing this?

Admiral ROGERS. Yes.

Senator GRAHAM. All right. Unmasking. A lot of talk about it. Are you aware of any incidental collection on 2016 candidates on both sides of the aisle?

Admiral ROGERS. I am not going to get into specifics in an unclassified forum about collection at large. But I will say we certainly acknowledge that incidental collection occurs, but we also have a very strict process—

Senator GRAHAM. Can we build that out a bit?

Admiral ROGERS.—for what we do with it.

Yes, sir.

Senator GRAHAM. The only way you can actually collect on an American citizen inside the country is to have a FISA [Foreign Intelligence Surveillance Act] warrant.

Admiral ROGERS. Get a FISA warrant. Yes, sir.

Senator GRAHAM. Or if an American citizen is incidentally in a conversation with somebody you are already following.

Admiral ROGERS. Yes, sir.

Senator GRAHAM. Unmasking is a request to your organization, I want to know who American citizen one was.

Admiral ROGERS. Yes, sir.

Senator GRAHAM. How many of those requests did you get in 2016?

Admiral ROGERS. I think we have publicly acknowledged—

Senator GRAHAM. Around 2,000.

Admiral ROGERS. 2,000. I think it is—

Senator GRAHAM. How many people can request the unmasking of American citizens?

Admiral ROGERS. If you are an authorized recipient of the intelligence, we use two criteria. Number one, the requester must be asking this in the execution of their official duties. It cannot be something that would be need to know. Number one has to be in the execution of their official duties. Number two, the revealing of a U.S. person has to provide context and greater value for the intelligence. Again, it just cannot be I am just curious.

Senator GRAHAM. I got you.

So within our government, are there 10 people—10 groups that groups that can do this? Twenty?

Admiral ROGERS. In terms of authorizing the unmasking?

Senator GRAHAM. Yes. No, to make the request.

Admiral ROGERS. No, it is broader than that. If you are on the distribution—if you are on the authorized distribution for our intelligence reporting, you can ask. It does not mean it gets approved, but you can ask.

Senator GRAHAM. Does the National Security Director—one of those—I mean—

Admiral ROGERS. The National Security Advisor? Yes, sir. They are normally on the distribution for most, not all.

Senator GRAHAM. Is there a record of every request made?

Admiral ROGERS. Yes.

Senator GRAHAM. So there is a record of who made the request to unmask the conversation involving the American citizen.

Admiral ROGERS. Yes, sir.

Senator GRAHAM. There is a record whether or not you granted it.

Admiral ROGERS. Yes, sir.

Senator GRAHAM. Is there a record of what the person did with the information once they got it?

Admiral ROGERS. No. There is also a record of the basis of, so why did we say yes. Remind every individual, if I could, once we unmask, once we authorize an unmasking, we authorize the unmasking only to that individual. What do I mean by that? So if we unmask a report that went to a particular individual, we do not unmask the report for everyone who got that report. Only the individual that we——

Senator GRAHAM. They are told not to share it with——

Admiral ROGERS. They are specifically told. This does not change the classification.

Senator GRAHAM. General Flynn was caught up in a conversation with the Russian ambassador. You are familiar with that story in the press.

Admiral ROGERS. I am familiar with the story. Yes, sir.

Senator GRAHAM. Assuming he did not have a FISA warrant allowing us to collect on him, it would be a case of incidental collection following the Russian ambassador. Does that sense?

Admiral ROGERS. Yes, sir.

Senator GRAHAM. We would know how that conversation was revealed and to who it was revealed through the request of your agency.

Admiral ROGERS. If we unmasked and it was based on an NSA report. Remember, NSA will not be the only agency that potentially could have gotten the conversation.

Senator GRAHAM. Got you, but you are the primary one. Right?

Admiral ROGERS. I would argue again it depends. If you look at Title 1 warrants, the FBI——

Senator GRAHAM. I am not talking about warrants. I am talking about——

Admiral ROGERS. Incidental. So I would argue there is probably a greater potential on the FBI side than NSA just generally in terms of collection.

Senator GRAHAM. Of incidental collection?

Admiral ROGERS. Incidental with U.S. persons.

Senator GRAHAM. So we could either ask the FBI or you.

Admiral ROGERS. Yes, sir.

Senator GRAHAM. So somebody took that information that we gained through collection with Flynn and gave it to the "Washington Post."

Admiral ROGERS. Somehow it got to the media.

Senator GRAHAM. That is a crime.

Admiral ROGERS. That is a leak, and that is illegal. Yes, sir.

Senator GRAHAM. Are you concerned about people taking the law in their own hands no matter how noble they think the event would be?

Admiral ROGERS. Oh, yes, sir, which is why I have gone to my workforce in writing and said let us make sure we understand what the professional ethos of our organization is. We do not—if I could finish, sir. We do not engage in this behavior, and if I catch you engaging in this behavior, I will hold you criminally liable and you have no place——

Senator GRAHAM. Mr. Chairman, can I ask for additional 30 additional seconds?

The bottom line here, it is possible for the Congress to find out who requested unmasking of American citizens, who that information was given to, and that is possible for us to know.

Admiral ROGERS. On the NSA side, that is part of the ongoing investigation with the primary oversight committees that we are going through right now.

Senator GRAHAM. Do you know if Susan Rice ever asked for an American citizen to be unmasked?

Admiral ROGERS. I would have to pull the data, sir. I apologize.

Senator GRAHAM. Thank you.

Chairman MCCAIN. Senator Blumenthal?

Senator BLUMENTHAL. Thanks, Mr. Chairman.

Thank you, Admiral Rogers, for being here again and thank you for your service.

We have heard repeatedly in this room, as well as yesterday with Director Clapper, that the Russians will continue attacking the United States unless they are forced to pay a price. And you agree.

Admiral ROGERS. Yes, sir.

Senator BLUMENTHAL. Right now, are they being forced to pay a price?

Admiral ROGERS. Certainly nothing that is changing their behavior.

Senator BLUMENTHAL. Nothing that is changing their behavior, and clearly nothing that will change their behavior in the future because, to quote you or paraphrase you, they have more to gain than to lose by continuing this kind of attack.

Admiral ROGERS. Yes, sir.

Senator BLUMENTHAL. Can you recommend to us what kinds of measures should be taken? I know you have been asked this question before. In fact, you were asked when you last testified here. You said that tools like sanctions can be an effective option. But so far, the sanctions in my view are way less than they should be. Do you agree that sanctions can and should be increased to provide a price that the Russians——

Admiral ROGERS. So now you are into a policy judgment. I will only say sanctions I think have proven to be an effective tool in many scenarios. I am not going to argue that they are perfect and they work all the time.

Senator BLUMENTHAL. But there will be a point where a cyber response should be appropriate.

Admiral ROGERS. Potentially although I would highlight when we think about deterrence, we need to think more broadly than just cyber. Just because someone comes at us in cyber, does not mean we should automatically default to, well, it has got to be an exact response in kind. I think we need to think more broadly and play to our broader strengths as a Nation.

Senator BLUMENTHAL. There is no question that the Russians attacked this country through cyber. Would you agree that Americans who colluded or cooperated with that attack also should be held accountable?

Admiral ROGERS. Broadly yes, but again, now you are starting to get into a legal and a policy piece, and that is just not my lane in the road.

Senator BLUMENTHAL. Well, your lane includes defending this Nation from cyber attack.

Admiral ROGERS. Yes, sir. But not necessarily action against particular individuals.

Senator BLUMENTHAL. Well, let us talk about a group of Americans who may have colluded or cooperated with the Russians in enabling or encouraging this kind of attack. By the way, they violated criminal laws if they did so. Would you not agree that they should be held accountable and that an investigation of it is appropriate and necessary?

Admiral ROGERS. I agree an investigation is appropriate and necessary, and if they violated the law, then, yes, sir. I am just not an attorney. I am not a lawyer. I am not a law enforcement individual. It is not my area of expertise.

Senator BLUMENTHAL. But unless they are made to pay a price as well, the Russians will be enabled and encouraged in the future.

Admiral ROGERS. Yes, sir.

Senator BLUMENTHAL. They will be paying less of a price as well.

Admiral ROGERS. Right.

Senator BLUMENTHAL. I feel like we are in a time warp here because when you were last here, we agreed that we need a policy and a strategy, as the chairman has articulated so well, and we still do not have one. Can you tell the American people whose responsibility it is to develop that strategy and policy?

Admiral ROGERS. It is ultimately the executive branch. There are multiple components, but ultimately it boils down to the executive branch. As I have said, look, we have a new team in place. They are working their way through this. In fairness to them, this is not a—this is a complicated topic with a whole lot of complexity and nuance. I know that these discussions are ongoing. I have been a part of some of them. I am grateful that the team is willing to reach out and say, hey, Admiral Rogers, from your perspective, what do you think, what do you see, what are you thinking about. So I do not want anybody walking away thinking nothing is going on, no one is thinking, they are not attempting to proactively try to grapple with these very tough problems.

Senator BLUMENTHAL. Well, I just want to conclude by stressing again that forcing the Russians to pay a price for their attack on this country requires compelling Americans who colluded or cooperated with them to pay a price, but also a strategy and policy for knowing when there is a cyber attack on this Nation, when it is an act of war that should prompt a response in the cyber domain or in other military domains and economic sanctions that also may force them to pay a price. Right now, our policy of deterrence is in my view an abject failure.

Admiral ROGERS. Not achieving the desired result. That is clearly true. Yes, sir.

Senator BLUMENTHAL. Thank you.

Thanks, Mr. Chairman.

Chairman MCCAIN. Senator McCaskill?

Senator MCCASKILL. Thank you, Mr. Chairman.

Good to see you, Admiral. Thank you for your service.

We have heard over and over again in multiple hearings—and we have got our cyber hearing in Homeland Security tomorrow. So

this is really timely for me—about poor information sharing and understanding the challenges of classified information.

My staff has tried to chart the national cybersecurity structure for me. The one thing that sticks out to me is this cyber unified coordinated group. It appears to me to be really the only place that our structure is set up under PPD-41 where the private sector entities really seem to plug into the national structure. The interesting thing is this cyber unified coordinated group is supposed to be in response to a significant cyber event. That is the operative phrase.

In the United Kingdom, the NCSC [National Cyber Security Centre] has real-time collaboration with emphasis on exchange of classified information on an ongoing basis.

My first question for you is has the cyber unified coordinated group ever been called into a session. Has there ever been ongoing meetings? Have there been any meetings of this particular group that is laid out in PPD-41?

Admiral ROGERS. It does interact. It does operate. I would be the first to admit, ma'am, I have to take the question for the record about has it ever physically met.

We participated in it, and I am trying to remember if it is done. Some of the work we do virtually. We will take an issue and we will do it via email and video conference. If I could, if you would like, I can take that for the record.

[The information referred to follows:]

[Deleted.]

Senator MCCASKILL. Yes, because I am trying to think. It seems to me like to me the Russian thing is a significant cyber event. I guess my problem is with this, I know we have spent a lot of time today struggling about what our policy is. It looks like to me that we do not really have anywhere where there is an ongoing meeting structure that integrates the private sector into what is a pretty convoluted setup that we have right now.

Admiral ROGERS. Could I disagree slightly, if I could?

Senator MCCASKILL. Sure.

Admiral ROGERS. I think it is fair to say that at a sector level we do have constructs that enable that to occur. But one of the things the hack points out—for example, the Russian influence effort points out is we do not have a sector labeled U.S. election infrastructure like we do in power, like we do in transportation.

Senator MCCASKILL. Although DHS has named election infrastructure as part of their critical infrastructure—

Admiral ROGERS. Right, now.

Senator MCCASKILL.—responsibility.

Admiral ROGERS. Yes, ma'am. Now.

Senator MCCASKILL. That happened last year maybe in response to this. I hopefully will find out more tomorrow.

I guess it seems to me that when someone is impacting our elections, that overlooks all because if you look at this list, our national policies certainly impact chemical, commercial, communications, manufacturing, dams, I mean everything gets impacted.

Admiral ROGERS. Right.

Senator MCCASKILL. Forget about Russia for a minute. Are you familiar with the UK [United Kingdom] model?

Admiral ROGERS. Yes, ma'am, very much so.

Senator MCCASKILL. So why are we not doing that? What is wrong with it and why are we not emulating it more?

Admiral ROGERS. So, first, let us look at what the UK model is. They basically—I am going to paint a simplistic picture. They turned to their intelligence structure, in this case, GCHQ [Government Communications Headquarters], which NSA's equivalent. They turned to GCHQ and said you have the preponderance of capability, insight, expertise. We would like you to take a portion of that capability, and we are going to create this National Cyber Security Centre. In fact, the individual who runs it, a guy I have worked with for a long time, is a GCHQ employee. They decided that in their construct they were comfortable with that.

For us on the U.S. side, we have always been less comfortable with the idea of, well, do you want the intelligence world to be the primary interface, if you will, with the private sector. For our UK teammates, they are just very comfortable with that. Their view is it is about aligning the greatest expertise and capability with the private sector, and there is not quite the same baggage or at least history or tradition.

Because of that, on the U.S. side, we have taken a very fundamental different approach, I am hoping with this new team coming in, this is opportunity for us to step back and say to ourselves are we happy with the way this is working. I have not seen your diagram, but you have heard me say for a long time we have got to simplify the complexity of this structure to the outside world because if you are in the private sector and you are trying to figure out so who am I supposed to be dealing with and why this time was it you and the last time it was that organization and the next time you are telling me you want me to go there. We have got to simplify this.

Senator MCCASKILL. Well, I am down for that. I think the curse and the blessing is how protective we are of classified information. I understand that challenge. But boy, oh, boy, pulling this group together after a significant cyber event, there is going to be a lot of Monday morning quarterbacking over whether or not more information should have been shared.

Admiral ROGERS. If I could also make one point. I agree with everything you said, but I would remind people perfect information sharing in terms of classified in and of itself will not necessarily fix every problem. If you look at reactions to the Russian hack, there were plenty of organizations that were provided the specific insights who just opted, for a variety of reasons, not to react in the same way. That was not about classification. So I just want to make people—I just want us to think us to think about, hey, this is the simple cure-all.

Senator MCCASKILL. I get it.

Admiral ROGERS. I am not trying to say that you are painting that, ma'am.

Senator MCCASKILL. No. I know it is not the simple cure, but I know that that underlying disease about information sharing goes

deep and it is calcified. I want to make sure that we are aware of that.

Admiral ROGERS. Yes, Senator.

Senator McCASKILL. Thank you, Admiral.

Senator REED [presiding]. On behalf of Chairman McCain, Senator Shaheen, please.

Senator SHAHEEN. Thank you, Mr. Chairman.

Thank you, Admiral, for being here and for the job that you do.

Just to pick up a little bit on Senator McCaskill and the issue of classified versus unclassified, the challenge with, in this case, the Russian hack with so much of the information being classified is that the American public does not know what is going on. When the American public does not know what is going on on an event of this magnitude, that is a real challenge for our democracy.

I was not able to hear your testimony and the questions, obviously, because I was in another hearing. But I know that there have been a number of questions about the Russian hacking and what that means. But have you talked about what in the big picture that means? What is Russia really trying to do with the hack of our electoral system, with the hack of France, with the interference in Germany, with what they have done in many of the Balkan countries, in Eastern Europe? What is their goal?

Admiral ROGERS. Well, I am going to talk about the U.S. side and then talk about it more broadly.

So on the U.S. side, as we indicated, speaking to you now as the Director of NSA, as we said in the intelligence community assessment, three primary goals we thought.

First was to undercut the United States and its broad principles of democracy and try to send a message, hey, look, these guys are every bit as inconsistent as everybody else. They are not this high-on-the-hill, perfectly white and perfect structure. Look, they have pettiness. They work against each other. So to undercut our democracy.

Secondly, they clearly had a preference that candidate Clinton not win, and they also wanted to ensure if she did win, that she was weakened.

Then the report talks about the third objective was to try—and this is where NSA has a difference confidence level than my other teammates. But I agree with the judgment that the third objective was to help candidate Trump win. If you look at the activity they have done in the United States, if you look at the activity they have done in France, in Germany, they clearly are trying to help ensure that leaders they believe might be more inclined—it does not mean that they necessarily are, but the Russians appear to be assessing that some leaders might be more inclined to be supportive of their positions, their views, might engage in policies more favorable from a Russian perspective. You saw that just play out in the French election where there clearly was a difference between these two candidates and their views of Russia and the things they were talking in the campaign about if they won, what would some of their choices be in terms of national security policies for France and how that might impact the Russians.

Senator SHAHEEN. But is the overarching strategy not not so much who the winners and losers are, but it is to undermine the public confidence in a democracy and how it works?

Admiral ROGERS. That is why I say that is a part of it. I am sorry if I did not make that jump on the foreign side as well. It is the same thing. That is an aspect of it.

Senator SHAHEEN. Right. So just as they are engaging in a military buildup, just as they are engaging in the cyber intrusions, that the other thing they are engaging in is an effort to undermine Western democracies. That is another way they are going to undermine the West.

Admiral ROGERS. Right, to weaken them, to forestall their ability to respond because there is no political consensus because they distrust their institutions as citizens, et cetera. Yes, ma'am.

Senator SHAHEEN. So I was in Poland after the Munich Security Conference and met with a number of officials there. Some of the people that we met with suggested that they were very concerned that we had not responded to the Russian attack of our election system. One of the things that really impressed me was the person who said, you know, if you are not willing to do anything about what Russia did in the United States intervening in your electoral system, fundamental to your democracy, how should we have any confidence that you will defend us when the Russians come after us.

So what does it say to our allies that we have not been willing to take any overarching action against Russia for what they did? We have not been willing to pass stronger sanctions. We have not been willing to do other efforts to take action against them because of their interference. What does that say to our allies?

Admiral ROGERS. So I can certainly understand why our allies would be perplexed. If this conduct occurred, why are we not seeing X, Y, or Z? I certainly can understand that.

One of the things we try to assure our allies, though, is this is one aspect of a broader set of issues. You should not question—it depends on the relationship, but in broad terms, you should not call into question our long-term commitment to you, for Poland, for example. Do not let there be any doubt of that.

Senator SHAHEEN. So we are more committed to Poland than we are to addressing Russia's—

Admiral ROGERS. That is not what I said.

Senator SHAHEEN. I know it is not what you said. But it leaves open to interpretation that assumption. So thank you.

Admiral ROGERS. Yes, ma'am.

Senator REED. Thank you.

Admiral Rogers, thank you for your testimony today. As always, we appreciate your service, and would you communicate to your colleagues our appreciation for their service also?

On behalf of Chairman McCain, the hearing is adjourned.

[Whereupon, at 11:48 a.m., the committee adjourned.]

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR ROGER F. WICKER

ORGANIZATION FOR SECURITY AND COOPERATION IN EUROPE (OSCE) CYBERSECURITY
CONFIDENCE BUILDING MEASURES

1. Senator WICKER. Admiral Rogers, the Organization for Security and Cooperation in Europe's (OSCE) 57 participating states have developed two sets of confidence building measures (CBM) to reduce the risks of conflict in cyberspace. CBMs can make cyberspace more predictable and less prone to misunderstandings. The first CBM established official contact points and communications lines to better share information and prevent misunderstandings resulting from cyber activities. The second CBM focused on enhancing interstate cybersecurity cooperation including, for example, mitigating attacks on critical infrastructure.

Do you agree that such cooperative development of CBMs is helpful and in the national interest? What more can Cyber Command do to support CBM development?
Admiral ROGERS. [Deleted].

QUESTIONS SUBMITTED BY SENATOR MICHAEL ROUNDS

TACLANE TRUSTED SENSOR

2. Senator ROUNDS. Admiral Rogers, I understand that NSA has a concept to protect unclassified network systems called TACLANE Trusted Sensor (TTS), and that this system has been piloted a number of times since 2013 within the Department of Defense. Additionally, I understand this system is currently undergoing additional pilot projects both within NSA and among the defense industrial base.

Based on the pilot demonstrations completed so far, do you believe the TTS approach shows promise for broader application?

Admiral ROGERS. [Deleted].

3. Senator ROUNDS. Admiral Rogers, what are the current pilot programs intended to demonstrate?

Admiral ROGERS. [Deleted].

4. Senator ROUNDS. Admiral Rogers, what is the timeline for completing and evaluating these pilot programs?

Admiral ROGERS. [Deleted].

5. Senator ROUNDS. Admiral Rogers, if the current pilot projects demonstrate a significant increase in the ability to detect intrusions on unclassified networks and increases the ability to respond, what would be the logical next step to more broadly deploy this capability to defend Department of Defense unclassified network systems?

Admiral ROGERS. [Deleted].

6. Senator ROUNDS. Admiral Rogers, are there limitations that must be overcome before broader deployment would be possible?

Admiral ROGERS. [Deleted].

CYBER WORKFORCE

7. Senator ROUNDS. Admiral Rogers, given the importance of providing an able and diverse cyber workforce with regard to skills and geography, what initiatives are you undertaking to leverage academic institutions to train a capable cyber workforce and enable these personnel to support your mission within the geographic vicinities of these institutions?

Admiral ROGERS. [Deleted].

8. Senator ROUNDS. Admiral Rogers, further, how do we ensure that the right brick and mortar and network infrastructure is in place to provide education and training at these institutions in order to arm the workforce with the critical knowledge, skills and abilities required for a qualified and ready workforce?

Admiral ROGERS. [Deleted].

QUESTIONS SUBMITTED BY SENATOR DAVID A. PERDUE

EFFICIENCIES IN CYBER—TRAINING AND NETWORKS

9. Senator PERDUE. Admiral Rogers, during your testimony, we briefly discussed the prospect of a joint, federated training program for the training of the cyber mission force (CMF). As I stated in the hearing, I believe we're in a fiscal environment where we simply can't afford waste and a security environment where we can't afford to have our services out of sync on this critical issue. What synergies can be achieved by training our cyber warriors jointly, and would we avoid duplication and waste by doing so?

Admiral ROGERS. [Deleted].

10. Senator PERDUE. Admiral Rogers, we covered this in our exchange in the hearing, but could you more thoroughly update me on the status of the forthcoming agreement on a joint, federated training program funded by the services for the training of the cyber mission force (CMF)?

Admiral ROGERS. [Deleted].

11. Senator PERDUE. Admiral Rogers, which service is the furthest along in their training of the cyber mission force?

Admiral ROGERS. [Deleted].

12. Senator PERDUE. Admiral Rogers, in your view, would it make sense to have the service that's furthest along take the lead for a joint training program and facility?

Admiral ROGERS. [Deleted].

13. Senator PERDUE. Admiral Rogers, has any other branch invested the same level of resources into cultivating a pipeline for increasing the DOD's cyber workforce as the Army has?

Admiral ROGERS. [Deleted].

EFFICIENCIES IN CYBER—JOINT MODERNIZATION OF THE DODIN

14. Senator PERDUE. Admiral Rogers, you are responsible for defense of the DOD information network (DODIN); however, each of the Services are responsible for modernizing their networks, and every Service appears to be taking a different approach. Does it make sense to have each of the services developing their own networks?

Admiral ROGERS. [Deleted].

15. Senator PERDUE. Admiral Rogers, does it make sense not to have one uniform standard or one agency responsible for providing core network capabilities to the entire Department of Defense?

Admiral ROGERS. [Deleted].

QUESTIONS SUBMITTED BY SENATOR JACK REED

CONSTRAINTS AND ISSUES REGARDING "COGNITIVE" INFORMATION OPERATIONS THROUGH CYBERSPACE

16. Senator REED. Admiral Rogers, what are the legal and policy obstacles to DOD conducting "cognitive" information operations?

Admiral ROGERS. [Deleted].

17. Senator REED. Admiral Rogers, in terms of shielding the American people from consuming Government messaging in this age of globally interconnected networks, has the delineation become obsolete between information operations and messaging conducted overseas and not in the United States?

Admiral ROGERS. [Deleted].

QUESTIONS SUBMITTED BY SENATOR CLAIRE McCASKILL

NATIONAL CYBER SECURITY STRUCTURE

18. Senator McCASKILL. Admiral Rogers, PPD-41 was signed on July 26, 2016, creating the Cyber Response Group and makes it responsible for producing U.S.

Government policy and strategy. The CRG is comprised of federal agencies, including the DOD, and the U.S. Government's relevant cyber centers, including CYBERCOM's JOC.

Has the CRG met to discuss national strategy and policy since PPD-41 being published?

How many times and when?

Has CYBERCOM been a part of these meetings? How many times?

Admiral ROGERS. [Deleted].

19. Senator MCCASKILL. Admiral Rogers, PPD-41 also creates the Cyber Unified Coordination Group (UCG), which is tasked as the primary method for coordinating at the operational level between and among federal agencies in response to a significant cyber incident. The operative words being "in response to," meaning it is a temporary entity.

Has a UCG ever been stood up since PPD-41 being published?

If so, how many times, when, and in response to what incident(s)?

If so, and given the ad hoc nature of a UCG, which entities were involved in each UCG that was stood up?

Admiral ROGERS. [Deleted].

QUESTIONS SUBMITTED BY SENATOR MAZIE K. HIRONO

ROLE OF MILITARY IN PROTECTING INDUSTRY

20. Senator HIRONO. Admiral Rogers, actors that participate in the "cyber world" include state and non-state actors, as well as government agencies, civilians, and businesses. This leads to a confluence of interests such as national security, consumer and privacy interests, and economic interests where security and openness are in tension. What is the correct balance of government intervention to ensure that personal rights are not infringed upon, national security interests are protected and U.S. industry can operate in the worldwide economy without handcuffing it with regulations and government developed standards?

Admiral ROGERS. [Deleted].

21. Senator HIRONO. Admiral Rogers, is the military the best entity to defend the public sector/private business sector against cyber-attacks?

Admiral ROGERS. [Deleted].

22. Senator HIRONO. Admiral Rogers, is the U.S. military properly resourced to defend the U.S. Government and the public sector at the same time?

Admiral ROGERS. [Deleted].

LEGAL FRAMEWORK FOR CYBER ISSUES

23. Senator HIRONO. Admiral Rogers, the Department of Defense has been tasked with three cybersecurity missions: 1. Defend the military's network; 2. Provide offensive cyber support to military commanders; and 3. Defend the nation from a cyber-attack of significant consequence. Is the legal framework in place to authorize the use of force against cyber threats in the United States and have the appropriate rules of engagement been developed to ensure that the level of force is appropriate to the threat?

Admiral ROGERS. [Deleted].

HOW CYBER SECURITY AFFECTS THE PRIVATE SECTOR

24. Senator HIRONO. Admiral Rogers, in the 2015 FAST Act (5 year highway reauthorization act), Congress designated the Department of Energy as the lead agency for cybersecurity in the energy sector. The 2015 Cyber Information Sharing Act similarly designated the Department of Homeland Security with similar responsibility for coordinating with the private sector. What statutory or agency-level changes would you recommend to enhance the flow of information and overall cooperation between CYBERCOM, the Department of Energy, and DHS to enhance cybersecurity in the energy and broader private sectors?

Admiral ROGERS. [Deleted].

QUESTIONS SUBMITTED BY SENATOR ANGUS S. KING, JR.

SECURING THE UNITED STATES FROM CYBER ATTACK

25. Senator KING. Admiral Rogers, after several years of hearings on cyber threats and the role of U.S. Cyber Command, there is no doubt that cyber threats against the United States are real and dangerous. However, the government has taken little action to counter these threats.

Please describe and prioritize five actions that U.S. Government actors can take now to better secure U.S. networks and infrastructure from cyber attack. Your suggestions could be legislative or regulatory in nature, or they could concern relationships that should be formed, for example.

Admiral ROGERS. [Deleted].

**DEPARTMENT OF DEFENSE AUTHORIZATION
FOR APPROPRIATIONS FOR FISCAL YEAR
2018 AND THE FUTURE YEARS DEFENSE
PROGRAM**

THURSDAY, MAY 25, 2017

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

ARMY POSTURE

The committee met, pursuant to notice, at 9:36 a.m. in Room SD-G50, Dirksen Senate Office Building, Senator John McCain (chairman) presiding.

Committee members present: Senators McCain, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Perdue, Cruz, Reed, McCaskill, Gillibrand, Blumenthal, Donnelly, King, Heinrich, Warren, and Peters.

OPENING STATEMENT OF SENATOR JOHN MCCAIN, CHAIRMAN

Chairman MCCAIN. Good morning.

The Armed Services Committee meets this morning to receive testimony on the posture of the United States Army and the fiscal year 2018 defense budget request.

I am pleased to welcome Robert Speer, Acting Secretary of the Army, and General Mark Milley, Chief of Staff of the Army. This committee is grateful for both of you and your many years of distinguished service and your continued leadership of our Army.

Sixteen years of war have tested the Army, perhaps more than any other service. Time and again, our soldiers have met the test and proved their commitment, courage, and determination. It is the duty of this committee and this Congress to do their utmost to provide them with the support they need and deserve.

That starts by recognizing that our Army is still at war. At this moment, 186,000 soldiers are deployed in 140 locations around the globe. They are fighting terrorists and training our partners in Afghanistan, supporting the fight against ISIS [Islamic State] in Iraq and Syria, all the while reinforcing the defenses of our allies from the Korean DMZ to NATO's eastern flank. The burden imposed on our soldiers only grows as threats to our Nation increase and sequestration remains the law of the land.

Given current operational demands, restoring readiness must be the Army's first priority. The sad reality is that the focus on readiness issues in recent years has made little to no difference. For yet

another year, just over one-third of the Army's brigade combat teams are ready for deployment and decisive operations. Just three of the Army's 58 brigade combat teams are at the highest level of readiness. The Army still does not plan to return to full spectrum readiness until 2021 at the earliest.

The President's Budget request is supposed to be focused on restoring readiness. The buildup, the administration says, will have to wait a couple of years. That ignores what Army leaders have testified to this committee, which is that inadequate end strength is forcing the Army to consume readiness as fast as it produces it. In other words, the Army will never truly restore readiness until it begins to grow. Yet the President has submitted a fiscal year 2018 budget request that calls for zero additional soldiers.

Meanwhile, the Army is woefully behind on modernization, and our soldiers are increasingly unprepared to confront the harsh realities of 21st Century warfare. Analyses by the National Commission on the Future of the United States Army, the Office of the Secretary of Defense, and the Army itself have pointed to glaring capability gaps in mobility, lethality, and survivability. These problems will only get worse as adversaries such as Russia continue to modernize their forces. Put simply, our Army lacks both the adequate capacity and the key capabilities to win decisively.

We cannot move quickly enough to modernize our Army and give our soldiers the advanced capabilities they need to prevail against a determined peer adversary. Yet today, the Army has still not decided upon a comprehensive Army modernization plan for the future. Indeed, despite the great potential of advanced technologies, from Active protective systems to reactive armor to lethal munitions, the Army does not have a major armored fighting vehicle under design for the first time in nearly a century. It is little wonder our current National Security Adviser, General McMaster, remarked a year ago that the Army is—and I quote—outranged and outgunned by many potential adversaries.

The Army's modernization woes are undoubtedly connected to the service's disastrous acquisition record over the last two decades: too many underperforming or canceled programs, too few real capabilities fielded, and far too much taxpayer money wasted. Tens of billions of dollars were squandered on programs like the Future Combat System, the Comanche attack helicopter, the Crusader howitzer, the Joint Tactical Radio System, and the Distributed Common Ground System-Army. Most recently, the committee has learned of the failure of the Warfighter Information Network-Tactical, or WIN-T [Warfighter Information Network-Tacticle]. This program—I urge my colleagues, if they do not pay any attention to anything I say today—this program has cost the taxpayer over \$6 billion and has yet to meet the requirements of our warfighters. \$6 billion.

But even with all that said, it is also true that the Army will never recover from this troubled acquisition history if it is paralyzed by fear of repeating it. This committee has acted in the last two defense authorization bills to empower the leaders of Military Services in the acquisition process. I urge our witnesses to use these new authorities to drive bold change.

Building a modern Army that can win decisively in the harsh environs of 21st Century warfare will require visionary leadership. You will have to learn the lessons of the past, make tough decisions, take and manage real risks, and hold yourselves and those under your command accountable for results. When you do so, you will always have an ally in this committee because I believe our soldiers cannot afford the false choice between readiness and modernization. We can and must do better.

Senator Reed?

STATEMENT OF SENATOR JACK REED

Senator REED. Well, thank you very much, Mr. Chairman, for holding this very important hearing. The Army is the first service to testify before the full Senate Armed

Services Committee on their fiscal year 2018 budget request.

I would like to join you in welcoming Acting Secretary Speer and General Milley at today's hearing. We commend both of you gentlemen for your service to our country and for your steadfast leadership of the Army.

In light of the new challenges facing the Army from rebuilding readiness and modernization, it underscores how important it is that we confirm a permanent Secretary of the Army.

The President's fiscal year 2018 budget submission for the Department of the Army includes \$166 billion in total funding, of which \$137.1 billion is for base budget requirements, and \$28.9 billion is for overseas contingency operations. This represents roughly a \$5.1 billion increase over the fiscal year 2017 request.

As the committee considers the Army's funding request, we must always be mindful of our national security challenges. It is highly unlikely that the demand for Army forces will diminish in the near future. Currently more than 180,000 soldiers, Active, Reserve, and Guard, are serving in over 140 countries, and while we continue to field the most capable fighting force in the world, 16 years of sustained military operations, focused almost exclusively on counterterrorism, has taken a toll on the readiness of our soldiers. Today, less than one-quarter of our Nation's Army is ready to perform their core wartime missions, and some critical combat enabler units are in far worse shape. In addition, the evolving threats facing our Nation impacts readiness as the Army needs to train to fight a near-peer competitor in a full spectrum environment. Unfortunately, while additional funding is important, it is not the sole solution to restoring readiness levels. It will take both time to rebuild strategic depth and relief from high operational tempo.

I applaud the Army for making readiness their number one priority, and General Milley, I look forward to your thoughts on the Army's progress.

While readiness is vital, we cannot neglect investments in the modernization of military platforms and equipment. The Army's fiscal year 2018 budget request, \$27.8 billion for modernization efforts, which includes \$18.4 billion for procurement and \$9.4 billion for research, development, test, and evaluation activities, is the current request. I would like to know if our witnesses feel confident that the funding for modernization is adequate.

A recent focus of this committee has been to improve DOD acquisition processes, as the chairman mentioned, to help reduce costs and to deliver the best new technologies and systems for our operational forces more quickly. I hope we can hear more about Army's successes in improving acquisition, what role the Chief is playing in those changes, and what, if anything, this committee can do to be supportive.

In the area of personnel, the budget requests the same Active Duty end strength as enacted in the 2017 NDAA while again seeking measures to slow the growth of personnel costs. The President's budget requests a pay raise of 2.1 percent; modernization of the military health care benefit, including cost sharing fees; and further implementation of the blended retirement system, which will begin in 2018. I hope to hear from the witnesses their views on the cumulative impact these changes will have on the Army and its ability to recruit and train the best for Military Service.

I applaud the Army for its integration of women into all of its formations, without restriction, including combat and special operations units, an evolution that I believe will greatly enhance the Army's ability to fill the ranks with the very best. The Army will need to recruit from all corners to meet the higher end strengths, and it is imperative that the Army not lower standards.

I understand there may be calls by some to increase the Army's Active Duty strength in 2018 above the President's budget request. I caution that there must be a plan in place to use these additional personnel and to pay for them. Training and readiness are important, even paramount, and maintaining and enhancing the fighting ability of the force we have must take precedence over recruiting a larger force that may not be ready.

Finally, as I have stated previously, enforcing budget discipline through the Budget Control Act is ineffective and shortsighted. I believe the Senate in a bipartisan fashion should repeal the BCA [Budget Control Act] and establish a more reasonable limit on discretionary spending in an equitable manner that meets our domestic and defense needs. While sequestration is the law of the land, budget requests that exceed the spending caps are not useful because they allow the military to plan for funds that are likely not forthcoming, adding to the uncertainty DOD seeks to avoid.

There are many urgent issues to discuss this morning. I thank our witnesses for appearing before the committee. I look forward to their testimony.

Thank you, Mr. Chairman.

Chairman MCCAIN. Welcome, Secretary Speer.

**STATEMENT OF HONORABLE ROBERT M. SPEER, ACTING
SECRETARY OF THE ARMY**

Secretary SPEER. Mr. Chairman, distinguished members of the committee, I speak to you on behalf of our soldiers, civilians, families about the current state of America's Army.

Your Army continues to march towards increased readiness while gaining momentum on modernization. Over the past year, the Army has been rebuilding readiness to counter the threats to the United States and our allies. You have heard General Milley talk about readiness as our number one priority, and I have wit-

nessed firsthand the readiness needs as I visited soldiers across our Army over the past 4 months. I saw the strain a high demand for Army forces puts on our total Army, their families, our civilian workforce. Frequent deployments and aggressive training schedules needed to prepare our units are taking their toll.

The pace of operations is as high as it has been in the past 16 years. Units are as busy at home as they are when they are deployed. I have seen and heard these impacts watching training and learning from senior leaders, soldiers, families at town halls like the one I recently attended at Fort Bragg. Soldiers told me what they are going through and the impacts of constant deployments and training. I met soldiers training at Fort Stewart, and a month later, I saw these same soldiers at the National Training Center just months after returning from Europe, adding additional stress to Army families.

I thank Congress for the fiscal year 2017 budget, a critical step of easing the strains while rebuilding readiness. Just a few weeks ago, I was with both regular Army and National Guard soldiers working shoulder to shoulder with our NATO partners in Europe. These forces rely upon readiness investments you made to organize, train and equip them, and make this country safe, deterring Russian aggression and reassuring our allies in Europe.

Your funding stopped the decline of Army manning levels. It ensured deploying units like the soldiers from Fort Drum I met in Europe now have the increased flying hours to fund readiness improvements. Fiscal year 2017 funding enables us to modernize aircraft, armored vehicles, and air and missile defense systems. Your authorization has also increased investments in our ammunition stocks and upgraded infrastructure and production line capacities in the Army's organic industrial base. This is a good first step ensuring we have the munitions we need and into the future.

Our \$137.2 billion fiscal year 2018 budget request sustains 1,018,000 total Army. This Army will be capable of meeting global obligations while investing in capabilities for wartime operations and challenges. This budget builds on the fiscal year 2017 by continuing readiness improvements. It begins a long-term effort to improve long-range fires, air missile defense, continues to replenish munitions stocks and provide advance protective systems for combat vehicle and aviation. It begins to fill shortfalls in transportation capabilities, and it will sustain increased armored brigade combat teams and combat aviation brigades, both in high demand across the globe.

If we do not get the money we request, we will not be able to modernize our Army and thus continue to mortgage our future readiness. Above all, the Army needs sufficient, sustained, predictable funding to restore balance and reduce risk.

The Budget Control Act and continuing resolutions cause uncertainty. They force us to make trades and prioritize readiness over other investments, raise the defense caps. It is far more cost effective for the Army to balance current operations and future modernization when we can rely upon predictable funding that extends beyond a single year's budget.

We are the stewards of the funds you provide on behalf of our Nation. We are committed to Secretary Mattis' emphasis to rebuild and reform our processes and resources efficiently and effectively.

To this end, the Army will conduct a financial statement audit on 30 September this year and will remain audit-ready. The Chief and I are aggressively reforming acquisition processes. We must deliver capabilities to warfighters quicker and at lower cost.

I want to provide every soldiers, civilian and family members, the care and respect they deserve. The Army is making progress against stamping out sexual assault, sexual harassment, and retaliation, and other offensive behaviors. As a former Army officer married to a former Army officer and the father of four, this is a personal priority. We demand respect among our soldiers and civilians and will not tolerate destructive behavior in our formation.

In addition, our continuing Soldier 2020 initiative of standards-based assignment regardless of gender is working and saw success at Fort Benning, Georgia.

Thank you once more on behalf of the men and women of our Army. Your funding for fiscal year 2017 restored the balance to our Army. We are asking you to provide resources in the fiscal year 2018 request and provide budget predictability into the future. With your help, the Army will continue to build readiness and modernize to meet the challenge.

Thank you and I look forward to your questions.

Chairman MCCAIN. Thank you.

General Milley?

STATEMENT OF GENERAL MARK A. MILLEY, USA, CHIEF OF STAFF OF THE ARMY

General MILLEY. Thanks, Chairman McCain and Ranking Member Reed, and all the distinguished members of the committee for the opportunity to testify today.

I just want to take a moment to publicly express to our great ally, the British people, the condolences of the entire United States Army on the horrific attack against the innocent in Manchester. This should also serve as a stark and brutal reminder to all of us that our efforts against ISIS and their fellow terrorists are righteous and just. ISIS must be destroyed and ISIS will be destroyed.

For the past 16 years, the United States Army has continuously provided trained and ready forces in Afghanistan and Iraq as we simultaneously executed a wide array of missions in support of the geographic commanders around the world, as the chairman noted earlier, in Europe, Korea, Africa, South and Central America, with 180,000 troops in 140 countries. About 40 or 50 percent or so of the demand from the combatant commanders is met by Army forces, and about 70 percent of unexpected emergent demand is met by Army forces. The bottom line is the United States Army continues to meet all missions required of us and we still remain the best ground combat force in the world.

However, as the chairman earlier pointed out, the United States is increasingly being challenged and gaps in both capability and capacity have emerged. You, this Congress, recognized that, and your support in the fiscal year 2017 budget stopped the downward trend in readiness and capacity for the Army. The Army is making very,

very slow and very steady progress but slow progress in our core warfighting skills across the Total Force, and we still have much, much more work to do to achieve full spectrum readiness and modernization.

The most significant help we can get from Congress, frankly, is a steady, predictable funding line, raise the BCA top line, and stop using CRs from year to year. Adequate and predictable funding is absolutely vital to combat ISIS, fully recover our readiness, address capacity and capability shortfalls, and is a critical first step to set the conditions for improving future readiness that will be needed in an unforeseen contingency. If the BCA and the CRs continue to define our resourcing, then we risk reversing our readiness recovery that has just begun, and it will result in a hollow Army. That will show up in the blood of our soldiers on some unknown future battlefield.

While I recognize the Code Pink protesters behind me and I recognize their right to protest, everyone should be mindful that the right to protest is purchased with a soldier's blood.

Combat is unforgiving, and it is more unforgiving on armies that are not manned, trained, equipped, or well led. Advances by our adversaries are real. It is not fake news. Their advances in capability, capacity, and their increasing willingness to use that military instrument of power in foreign adventures.

The cumulative effect of persistent and destructive budget instability is increasing risk not only for the Army, but for the Nation. Readiness, capacity, and capability to deter or, if necessary, to fight and win wars is very, very expensive. We know that. The cost of preparation is always far less than the cost of sacrifice and the pain of regret. The current battlefield against terrorists is already very lethal, but a future battlefield against a near-peer or regional threat will prove far more lethal. Our adversaries study us and they are rapidly leveraging technology, improving their capabilities, and are clearly asserting themselves in many ways both seen and unseen. I am telling you time is not our ally. Witness the almost weekly provocations by North Korea, to cite just one example.

We request your support for this budget, which we recognize increases the defense caps imposed by the BCA, but we need this and we need it now before it is too late.

Specifically, the Army requests congressional support for our readiness and modernization priorities. In readiness, we want to retain the end strength increases authorized in the fiscal year 2017 bill to fill the force structure to combat levels of manning. We want to continue investment in high quality home station and combat training center OPTEMPO [Operational Tempo] and the operations and maintenance to support that. We want to increase our aviation and ground maneuver capacity, replenish critical ammunition stocks, and continue supporting our efforts to maintain aging equipment. In modernization, our future readiness by another term, we ask for your support for air and missile defense, long-range fires, preferred munitions, mobility and lethality improvements for our brigade combat teams, Active protection systems for air and ground capabilities, assured mission command electronic warfare, cyber, and vertical lift.

We recognize that the American taxpayer entrusts us with a significant amount of money to meet those requirements, and we will be diligent stewards of our resources and enforce accountability to make effective use of every dollar. Senator McCain, I commit to you that we will not make the mistakes of the past in the acquisition process.

Your support the fiscal year 2018 budget will ensure our soldiers are ready for the missions of today, as we prepare for the unforeseen conflicts of tomorrow.

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

[The prepared statement of Secretary Speer and General Milley follows:]

PREPARED STATEMENT BY THE HONORABLE ROBERT M. SPEER AND GENERAL MARK A. MILLEY

INTRODUCTION

We thank Congress for the fiscal year (FY17) budget that allows us to improve readiness. With consistent, strategy-based funding over time, the Army can increase capacity, train contingency forces, close critical modernization gaps, and rebuild installation and training infrastructure—all while maintaining excellence in the execution of current operations. To that end, an increase in the budget caps and a defense budget sized to achieve the objectives in the Defense Planning Guidance are critical to the United States Army accomplishing assigned missions to a standard expected by the American people.

Over the past 15 years of war, the Army has continuously provided trained and ready forces for combat operations in Iraq and Afghanistan to a standard of excellence equal to any in our Nation's history. Simultaneously, the United States Army has executed a wide array of combatant commander missions, providing forces to Europe, the Pacific, the Middle East, Africa, Latin America, and the Homeland. Today, the United States Army assigns or allocates over 187,000 soldiers to meet combatant commander requirements. However, the fiscal impacts of the Budget Control Act of 2011 and continuing resolutions have required the Army to take risk when meeting current operational requirements while maintaining a ready force for major combat operations.

STRATEGIC ENVIRONMENT

The United States Army forms the foundation of the integrated Joint Force facing several U.S. national security challenges. For almost two decades, the Army has provided the majority of United States forces fighting two prolonged counterinsurgencies in Iraq and Afghanistan. United States Army capabilities are key to deterring Russian, Chinese, Iranian, and North Korean challenges to United States national interests. Additionally, United States Army soldiers defend the Homeland against intercontinental ballistic missiles and provide support to civil authorities in the event of unforeseen natural and man-made disasters.

Russia is likely to continue employing a mix of conventional and unconventional military capabilities to achieve its policy objectives. Russia's conventional capabilities are formidable and, in many areas, challenge ours and those of our allies and partners. The Army contributes 34,000 soldiers in support of United States European Command's effort to deter acts of aggression and ensure America's safety and security. The forward presence of United States soldiers is the keystone of our Nation's ability to assure North Atlantic Treaty Organization (NATO) Allies and non-NATO partners, deter adversaries, and act in a timely manner if deterrence fails. We must invest in strategically prepositioned equipment stocks in addition to rotational and permanently stationed forces on the ground in Europe today. The result of prepositioned stocks in conjunction with forward deployed and rotational forces increases assurances to our allies and deters potential enemies.

The Army has about 71,000 soldiers in the Indo-Asia Pacific to counter a myriad of security challenges from regional adversaries, violent extremist organizations, and natural disasters. In South Korea, the Army serves alongside our Republic of Korea counterparts to deter, and if necessary 'Fight Tonight' against an increasingly dangerous North Korea. China's disputed territorial claims and assertive actions in

the South and East China Seas increase tensions with many friends and allies. Additionally, ISIS-inspired attacks in Bangladesh, Indonesia, the Philippines, and bombings in Thailand in 2016, demonstrate the persistent terrorist threat in South and Southeast Asia. Specific Army investments that provide the Joint Force a more comprehensive rapid response force in the Pacific include: enhanced joint integrated air and missile defense, offensive and defensive counter-electronic warfare, and cyber capabilities. Additional investments support rotational forces to South Korea and a robust training and exercise program to increase interoperability and build partner capacity with our friends and allies.

The Middle East and Central Asia are rife with threats and challenges. Iran's growing ballistic missile activities, cyber threats, and interference in Syria further threaten stability in the Middle East and the security of our allies. Russian intervention in Syria and increased influence throughout the region while ISIS continues a campaign of terror across the Middle East, adds to instability and inhibits long-term progress in the region. The Army's presence in the Middle East assures access, builds a foundation of trust, and prevents the ongoing conflicts from spilling over to other regions, including the Homeland. Nearly 42,000 soldiers throughout the area support the defeat of ISIS in Syria and Iraq, deny enemy safe havens in Afghanistan, deter Iran, support Turkey, assist with the stability of Jordan, and build partner capacity with our partners.

United States Army and African partnerships promote regional stability and provide increased awareness and flexibility. United States Africa Command employs United States Army forces in small teams and units that train with African security forces, assist in building capable defense institutions, and support counter-extremist and other contingency operations. These efforts assist our African partners in their fight against violent extremist organizations—ISIS, al-Shabab, and Boko Haram. During fiscal year 2016 over 9,000 soldiers deployed throughout Africa. These soldiers participated in over 250 security cooperation events, exercises, and missions in more than 30 countries; highlighted by Central Accord 2016 in Gabon, where over 1,000 soldiers participated with counterparts from 11 African nations as part of a peacekeeping training event.

Approximately 4,000 soldiers support military operations in Central America, South America, and the Caribbean. Transregional terrorist organizations, transnational organized crime, and violent extremist networks are the principal threat to regional security and stability. United States Army forces, including aviation, intelligence, communication, special operations, and logistics units, actively support partner nations' efforts to disrupt, degrade, and dismantle these threat networks operating in the region. In October 2016, in response to Hurricane Matthew and at the request of the U.S. Agency for International Development, the first Category 5 Atlantic hurricane since 2007, U.S. Southern Command stood up a Joint Task Force to support United States Government disaster relief operations in Haiti and Jamaica. U.S. Southern Command deployed United States Army air assets, including CH-47 Chinooks, UH-60 Black Hawk utility helicopters and HH-60 Medical Evacuation helicopters, which provided the ability to quickly move heavy loads of humanitarian aid, conduct medical evacuation missions, transport key leaders around the area, and conduct early reconnaissance flights to identify the hardest hit areas. The efforts of these soldiers assisted in the delivery of more than 349,000 pounds of relief to areas devastated by Hurricane Matthew.

At home and abroad, the United States Army secures, operates, and defends its networks and conducts cyber operations against a growing array of sophisticated cyber adversaries. The Army secures and operates its global enterprise network through four Theater Signal Commands and five Regional Cyber Centers. The Army has 41 Active Component Army Cyber Protection Teams that conduct cyber operations against near peer adversaries, ISIS, and other global cyber threats. We are building an additional 21 Reserve Component Cyber Protection Teams giving the Army 62 Total Force Teams. These teams deliver effects against our adversaries in support of ground commanders, defend military networks, secure Army weapons platforms, and protect critical U.S. infrastructure. We request congressional support of our fiscal year 2018 budget to continue to modernize our global enterprise network and advance defensive and offensive cyber capabilities to safeguard the Nation's security interests.

In sum, over 187,000 soldiers support combatant commander requirements worldwide. Our soldiers directly contribute to our Nation's efforts to defeat ISIS, support governance in Afghanistan, and deter conflict throughout Europe, Asia, and the Middle East. This steady demand for trained and ready Army units provides our Nation with the ability to defeat adversaries, assure our partners, and deter potential aggressors.

IMPACTS OF FISCAL UNCERTAINTY

For the past five years, the Army has been working to build and sustain a ready force. However, this has been a significant challenge due to the Budget Control Act of 2011, Continuing Resolutions, and unforeseen changes in the strategic environment that include an assertive Russia, an increasingly threatening North Korea, and ISIS controlling territory across Iraq and Syria. To respond to the current strategic environment, the Army has chosen to prioritize readiness.

While the Army remains focused on accomplishing the current missions of the combatant commanders, the negative impacts of the Budget Control Act of 2011 have been significant. These impacts include a smaller Army, spending less on modernization, and deferring installation maintenance. The consequences are real and will manifest themselves if the Army is required to fight in a major conflict. Congressional support for a Base Realignment and Closure authority would allow the Army to invest in readiness and modernization programs rather than excess infrastructure.

Over the last 8 years, the Army reduced end strength by over 100,000 soldiers. This reduction included removing 17 brigade combat teams from the Army. To meet the end strength reduction targets, the Army reduced forward stationed forces in Europe and Korea, replacing them with rotational forces from the United States. The impact of this reliance on rotational forces is a deployment tempo that rivals the surge periods in Iraq and Afghanistan.

Over the same 8-year period in which we reduced the Army by 100,000 soldiers, Continuing Resolutions and constrained funding under the Budget Control Act of 2011 forced us to pay short-term bills at the expense of long-term investments. A consequence of underfunding modernization for over a decade is an Army potentially outgunned, outranged, and outdated on a future battlefield with near-peer competitors. The Army's combat platforms include tanks, helicopters, infantry fighting vehicles, artillery, and short range air defense systems that are decades old. As technology continues to advance, our Army risks falling further and further behind. In short, the Army's lack of investment in modernization is eroding our competitive advantage in ground combat operations.

Additionally, the Army deferred maintenance of our installations for many years. The Army generates readiness on the installations where soldiers live, work, and train. Installations provide the platforms where the Army focuses on its fundamental task—readiness. Our military construction investment remains at historically low spending levels and focuses on replacement of failing and obsolete training, operations, maintenance facilities, and footprint consolidation. Deterioration of our installations adversely impacts soldier and family quality of life, maintenance of equipment, deployment of forces, and our ability to mobilize reserve components.

Overall, the Budget Control Act of 2011, Continuing Resolutions, and unforeseen changes in the strategic environment have forced the Army to prioritize readiness. The tradeoffs were a smaller Army, smaller investments in modernization, and deferring installation maintenance. The principal negative impacts of these tradeoffs have been stress on the force, eroded competitive advantage, and deteriorating installations. Immediately increasing the defense cap and predictably funding the Army as requested are the most important actions Congress can take to address the changing needs of the global security environment.

READINESS TO FIGHT TONIGHT

Readiness deters and wins wars. An investment in readiness is time consuming and expensive, but the only thing more costly than funding readiness is the loss of life associated with sending soldiers into battle unready. Ultimately, the United States Army must be prepared to respond to crises in sufficient numbers with sufficient training and equipment to fight and win with little-to-no notice. The National Defense Authorization Act for fiscal year 2017 end strength increase of 28,000 soldiers over the fiscal year 2017 President Budget's proposal is much appreciated to ensure the Army has fully manned formations. With a fully resourced end strength, the Army can sustain its global commitments. The fiscal year 2018 budget translates into better training, increased equipment, installation maintenance, additional munitions, and increased modernization that will improve the United States' ability to meet the requirements in the Defense Planning Guidance.

In 2014, the United States Army began the transition from training for a decade-long counterinsurgency campaign to training for major combat operations. Over the next 2 years, the Army's challenge is to balance the requirements of remaining regionally engaged, while simultaneously preparing to meet the demands of a globally responsive contingency force. As a result, the Army increased resources provided to Combat Training Centers and home station training. Throughput at Army Combat

Training Centers increased over 10 percent—an increase from 17 to 19 brigade combat team rotations annually. These rotations challenge unit commanders at the brigade and battalion-level with realistic training scenarios that integrate unmanned aerial vehicles, cyber, intelligence, electronic warfare, communication, fire support, and aviation assets.

In addition to increased training opportunities, the Army initiated the Associated Units Pilot in order to build readiness and responsiveness across the Total Force. Under this program, the Army associates Army National Guard and Army Reserve units with a gaining Regular Army unit commander and vice versa—associates Regular Army units with gaining Army Reserve and Army National Guard commands. The receiving unit commander is responsible for approving the associated unit's training program, reviewing its readiness reports, and assessing its resource requirements. Associated units also train with their gaining units to the maximum extent feasible, including leader development, field training, command post exercises, and combat training center rotations. Congressional support for these efforts will increase Army readiness by shortening the post-mobilization training time required for combat and combat enabling units of the Army National Guard and the Army Reserve.

An adequately manned and trained Army deserves the best available equipment when responding to crisis. Last year, the Army established the Rapid Capabilities Office to acquire equipment and services quickly and at less cost. Targeting the mid-term time horizon, the Rapid Capabilities Office works with select industry partners to address critical modernization gaps including assured positioning, navigation, and timing; counter-electronic warfare; automation; and cyber capabilities. The Rapid Capabilities Office is already providing electronic warfare capabilities to Army forces in Europe and, with Congressional support, will provide deployed soldiers with next-generation batteries and a supplemental positioning, navigation, and timing capability by 2020.

Additionally, the Army must provide state-of-the-art equipment in sufficient quantities to the units responding to crisis. To respond to crises in a timely manner, the Army positions sets of military equipment around the world. These sets, Army Prepositioned Stocks, decrease deployment time because they place military equipment closer to the potential point of need. Army Prepositioned Stocks, in conjunction with strategic sealift and airlift, provide Joint Force commanders with faster access to needed combat formations and enablers in order to reassure our allies and, if necessary, defeat our adversaries. The accelerated growth of Army Prepositioned Stocks in Europe positions equipment for a division headquarters, two Armored Brigade Combat Teams, one Field Artillery Brigade, and division enablers for rapid access by the Joint Force Commander. Similarly, Army configured Prepositioned Stocks in Asia shortens the timelines associated with a contingency in the Pacific Command. With congressional support, increased investment in Army Prepositioned Stocks in Europe and Asia will underwrite the ability of national leaders to provide flexible options consistent with United States national interests.

There is no greater responsibility in the Army than to lead American soldiers in peace or war. Leader development is critical now and for our future. Professional military education combined with practical experience in leadership positions is the principal way the Army builds leaders. With Congressional support, the end product of increased investment in leader programs is officers and non-commissioned officers (NCO) of competence and character, fit to lead men and women in combat.

MODERNIZATION: EQUIPPED TO FIGHT

Army modernization advances materiel solutions that enable the Army to retain our advantage against advanced adversaries and a broad range of other potential threats. The Army's fiscal year 2018 budget request prioritizes the requirements necessary to deter and, if required, defeat near-peer adversaries. The Army modernization priorities are: air and missile defense; long range fires; preferred munitions; mobility, lethality and protection of our Brigade Combat Teams; active protection; assured positioning, navigation and timing; electronic warfare; cyber; assured communications; and vertical lift. The Army also requests congressional support to improve our soldier and combat service support equipment.

The air defense and long range fires portfolios contain our most urgent and pressing capability need to respond to challenges we have not faced in decades. Our potential adversaries have substantial anti-access and area denial capability, with many weapons and munitions whose quantity, range, and lethality have significantly improved. Specifically, we need to rapidly improve and procure our Army Tactical Missile System and Guided Multiple Launch Rocket System rockets, develop a cannon delivered area effects replacement munition, and improve the indus-

trial base supporting the production of our precision and preferred munitions. To mitigate the increased risk to the maneuver force from airborne threats, such as rotary wing and fixed wing aircraft, Unmanned Aerial Systems, and cruise missiles, the Army is recapitalizing the existing Avenger systems and Stinger missiles, while developing the next generation of kinetic and non-kinetic short range air defense capabilities.

The Army has developed a Combat Vehicle Modernization Strategy for our Abrams, Stryker, Bradley, Armored Multi-Purpose Vehicle, and Howitzer fleets. These programs are ready to go into production. Our request includes increased funding to reduce the currently programed 30-year replacement timeline. It also includes funding to enhance the mobility and lethality of our light infantry units by providing them with both the ground mobility vehicle and the mobile protected fire-power vehicle. All of our vehicles need to be protected against rocket propelled grenades and anti-tank missiles. However, quantities of armor protective technology are limited. The request includes funding for additional protective technology, which is currently available only in limited quantities. These active protection systems use sensors, radar, computer processing, fire control technology and interceptors to defeat incoming anti-tank missiles. This capability will save American lives.

Similar to combat on physical battlefields, friendly and enemy forces fight for dominance in space, cyber, and the electromagnetic spectrum. The Army is developing anti-jam antennas that guard against attacks on our global position systems. Additionally, the Army is leveraging off-the-shelf hardware and software solutions to address shortfalls in offensive and defensive cyber capabilities. We are also developing the Multifunction Electronic Warfare system, to provide commanders the ability to plan, detect, defend, and attack in the electromagnetic spectrum. Vital to the success of our soldiers on the battlefield, we are adapting our tactical radio waveforms to protect our communication network. Congressional support will enable the Army to increase capabilities and reduce risk in space, cyber, and the electromagnetic spectrum.

Our communications network is critical to enable mission command of ground combat operations. We request support to accelerate fielding of mission command network systems and increase procurement of the Joint Battle Command Platform to decrease software vulnerabilities and increase interoperability. Congressional support of the request will enable the Army to increase capability and reduce risk.

The Aviation portfolio adopts the recommendation of the National Commission of the Future of the Army to retain more Apache units, but cannot support aggressive modernization under the current Budget Control Act of 2011 caps. To implement the Commission's recommendations, the Army is incrementally procuring new Apache aircraft by slowing the modernization of the UH-60 Blackhawk program. This strategy extends the modernization timeline for Apaches from fiscal year 2026 to fiscal year 2028 and Blackhawks from fiscal year 2028 to fiscal year 2030. We also need to pursue a rapid solution for aircraft survivability given the proliferation of anti-aircraft weapons on the battlefield. Additionally, we are expanding the production of the Hellfire missile to meet current demand while transitioning to the Joint Air-Ground Missile to prepare for possible future contingencies. The Army's fiscal year 2018 budget request includes funding increases in aviation munitions, survivability, and modernization.

Our soldiers remain the backbone of every Army capability, and our infantry units must be equipped with modern weapons. We request support to increase readiness by completing M4A1 Carbine pure-fleet fielding, developing Next Generation Squad Weapons, procuring anti-tank weapons, such as the Javelin and tube-launched, optically tracked, wire-guided (TOW) anti-tank guided missiles, and beginning procurement of the Lightweight Command Launch Unit for Javelin. Additionally, we seek congressional support for a variety of simulators and virtual training devices to significantly increase the repetition and experience base of our soldiers and leaders at the tactical level in individual, collective, squad, and small unit operations given intense, complex, combat scenarios.

Our ability to project and sustain combat power over long distances and for long durations is key to winning wars. We request support for shortfalls in bridging, tank transport, and tank recovery that limit the maneuverability of the Army's Main Battle Tank on the battlefield. We also seek to increase procurement of our Joint Light Tactical Vehicle and Heavy Equipment Transporter, modernize our watercraft, and upgrade our medical capabilities for combat casualty care. This includes procuring the Maneuver Support Vessel (Light), completing the Landing Craft Utility 2000 service-life extension, and completing the command, control, communications, computers, intelligence, surveillance, and reconnaissance upgrades. Congressional support is needed to enable these initiatives for Army and Joint Force mobility and sustainment.

SOLDIERS, CIVILIANS, AND FAMILIES: OUR GREATEST ASSET

People join the Army to defend our Nation and its people. In turn, we must take great care to support those who step forward and answer the call to the colors. We request continued support for competitive pay and compensation and family programs, housing, and infrastructure improvements. We will continue soldier 2020 initiatives' standards based assignments regardless of gender; Sexual Harassment Assault Response and Prevention (SHARP) initiatives to prevent and reduce harassment or assault against male or female soldiers.

Additionally, Army Civilians as part of the Army generating force, ensure the readiness and availability of our formations that support the Joint Force commander with more than 16,000 Army Civilians serving overseas supporting combatant commanders. We are committed to ensuring quality support to our soldiers, civilians, and their families that strengthens the bonds within our Army team, while simultaneously advancing our efforts to increase readiness.

THE ARMY'S BUDGET REQUEST

The Army's fiscal year 2018 base budget request is \$137.2 billion, a 5.3 percent increase from our total fiscal year 2017 base request of \$130.3 billion. The major budget goals for fiscal year 2018 are readiness to meet today's global challenges and focused modernization of our equipment. As part of these goals, the Army will upgrade aviation and ground combat platforms, while increasing investments in short range air defense, long range fires, aviation, network, combat vehicles, soldier equipment, combat service support and installations.

Additionally, we are accountable for the resources to produce the outcomes required. We are also committed to the efficient and effective use of those resources by improving and reforming our processes. As mandated by Congress in the 2010 and 2012 National Defense Authorization Acts, the Army will be audit ready by September 30, 2017. We are strengthening internal controls, developing standard business processes, retaining supporting documentation, and improving system controls. The Army will continue to implement corrective action plans to resolve deficiencies, with an overall goal of improving a culture of accountability and fiscal stewardship of our Nation's resources.

CONCLUSION

We thank Congress for the fiscal year 2017 budget and their continued support of the United States Army and the American soldier. Now is the time to substantially increase readiness, improve modernization, and increase capacity. Readiness remains unequivocally our number one priority—it underpins everything the Army does. We have an opportunity to fix readiness losses and prepare for the future. However, building a professional Army takes time. To build readiness, soldiers require specialized and sufficient training; modern, properly maintained equipment; sufficient quantities of the proper munitions; and stability. To sustain readiness, the Army requests congressional support for its modernization efforts—aviation, network, combat vehicles, long range fires and short range air defense, soldier equipment, and combat service support. We request that Congress increase the caps in the Budget Control Act of 2011, provide sufficient funding to fully man and train our current formations and allow us to close critical gaps in modernization. These actions will ensure that our soldiers are ready for the missions of today, as well as for the unforeseen conflicts of tomorrow.

Chairman MCCAIN. Well, thank you, General Milley, and thank you, Mr. Secretary.

Mr. Secretary, do you believe the return of the Budget Control Act caps for 2018 is the most critical and immediate threat that the Department of Defense is facing?

Secretary SPEER. Mr. Chairman, I absolutely do. The Budget Control Act caps for our defense puts us at tremendous risk. If they return, we would lose \$15 billion of purchasing power, which would degrade readiness, it would degrade our modernization even further.

Chairman MCCAIN. OCO [overseas contingency operations] is a gimmick.

Secretary SPEER. The funding for OCO cannot be relied upon for the long run, and we need that predictable funding.

Chairman MCCAIN. General Milley, I was struck. You mentioned the words "hollow Army." This committee has not heard that since General Shy Meyer came over and said it back in the 1970s. How far away are we from a hollow Army?

General MILLEY. I believe, Senator, that if we continue on the road and we execute the BCA and go back BCA caps in fundings and continuous CRs, it will result in a hollow Army.

How far away? I think right now what you did last year was you stopped a downward trend. You halted it, stopped the bleeding, so to speak. We turned the corner, and we are, in fact, making slow but steady progress in readiness. If that stops, we will eventually, in the not too distant future, have a hollow Army and put soldiers at risk on the battlefield.

Chairman MCCAIN. The trend as you see it right now?

General MILLEY. For the Army's trend in terms of readiness, I think we have stopped it, stopped the downward trend, and I think we started to recover last year with the monies that you gave us.

Chairman MCCAIN. But—

General MILLEY. We have a long way to go.

Chairman MCCAIN. The fact is that this budget may, at least as far as readiness is concerned, just stop the bleeding. Right? It does not address the urgent need for modernization. Is that a correct statement?

General MILLEY. There is modernization, obviously, in the budget. We put about 26 percent or so into modernization. That is relative because in 2008, we had roughly speaking three times that amount of money into modernization. If you go back 15 or 20 years, it is significantly more. So your assessment is correct. Our modernization has been sacrificed for current readiness.

Chairman MCCAIN. Can I just, again, go back to this acquisition? Future Combat System, \$20 billion; Comanche, \$5.9 billion; Crusader, \$2.2 billion; helicopter, \$500 million; Ground Combat Vehicle, \$1 billion; Distributed Common Ground System-Army, \$3 billion; Joint Tactical Radio System, \$11 billion. Of course, now we are looking at this WIN-T debacle. As you know, 2 years ago, we passed legislation that gave you a lot more control over acquisition. What has happened since then? Control and input I guess is a better description.

General MILLEY. I thank you for that, and we have made actually quite a bit of reforms in the acquisition system already. It is not 100 percent complete yet, but a key thing that we have done is reinserted the commanders into the acquisition process. For many years, it was staff-centric.

I am personally inserted into it in a big way, along with the Vice Chief of Staff of Army. We reenergized what was called an AROC [Army Requirements Overnight Council] system which had gone fallow for a while, and that is meeting weekly and it determines the requirements of the systems. We have also initiated the Rapid Capabilities Office (RCO). The bottom line is what we are trying to do is through insertion of the Chief and others in uniform into the acquisition system, is to reduce the time and speed up the pro-

curement and get the taxpayer the best bang for the buck, so to speak.

Chairman MCCAIN. Yet, it still seems to take years before—

General MILLEY. It does. It is frustrating.

Chairman MCCAIN. You know, somebody told me the other day that the aircraft that I flew, the A-4—when they put out A-4 Skyhawk, that it took 4 weeks. Four weeks and they were ready to let a contract. Now we were just discussing a new replacement for the incredibly failed LCS, and they said we may be ready for an Request for Proposal (RFP) by 2020.

What is the difference, General? If some of us feel frustrated, it is hard for us to continue to fight for more money when we see \$6 billion wasted on one program. So give me some comfort, either one of you?

Secretary SPEER. Well, Chairman, I think you heard some of it already in terms of that, and we thank you for what you have allowed already to push it down, the role of the Chief back into that pushing it back down to the services and more rapid decisions. A lot of that \$40 billion plus you just read off are a disgrace.

At the same time, we are getting after—we cannot hold the future mortgage notes. So we do need to modernize. The list the Chief gave you is a good start. We are working on a regular basis to push those down, involving costing, doing strategic portfolio analysis the Chief is heavily involved in. We have got to get costing and quicker decision-making processes and make informed rapid decisions in fielding this equipment.

Chairman MCCAIN. Is it of interest that 90 percent of defense spending is in the hands of five companies?

Senator REED?

Senator REED. Thank you very much, Mr. Chairman.

General Milley, Army readiness—the brigade combat team is, as I understand, now roughly 30 percent. Is that a fair judgment about the readiness status?

General MILLEY. Roger. That is correct. The exact readiness I would be happy to brief you or your staffs in a classified session, but as an order of magnitude, sure.

Senator REED. We are in that ballpark.

General MILLEY. Right. The goal, of course, is 66 percent.

Senator REED. Sixty-six percent. What are the two or three key steps that you have to take, you think, to get from what it is today to that 66 percent?

General MILLEY. There are several of them, but the most significant right now, the drag, if you will, is manning. Many of these units are not at the full manning level, and that drags down their readiness in terms of the reporting system we have, but also in terms of going out to training and/or deployment. We have a significant amount of non-deployables still. We have dropped that number by two-thirds over the last five years. There is still a significant amount of non-deployables. So if we fill units at 95 percent and you have 10 percent non-deployables, it takes you to 85 percent. You take away the day-to-day grind. You are down to 80 percent or less that goes out to training. That is not a good thing. You should at least be 90–95 percent when you go out to training, you

go to the Combat Training Center, JOTC [Jungle Operations Training Center]. So manning is a critical drag on the system.

We have made improvements because of the money you gave us in terms of spare parts and making the equipment better. So that is a good news story there. The manning has continued to drag.

So with the authorization in 2017 to take us to 476, what we want to do is make the existing force structure whole. There are some minor force structure increases in this budget request. We want to make the force structure that does exist complete, whole, and fully ready before we move on to the next step, which is expanding the Army.

Senator REED. In that regard, I understand 10 percent of the non-deployable personnel are non-deployed for medical reasons.

General MILLEY. About 85 to 90 percent actually are medical. The rest of them are legal and other reasons.

Senator REED. How are you trying to get at that? Is there something in terms of enhanced training or lifestyle or anything else? That seems to be a significant problem.

General MILLEY. Yes. The majority of those are orthopedic type injuries. Most are recoverable with some extended profiles. So they are non-deployable in the short term. Total Army, out of the 1 million-plus troops, about 20,000, about 2 percent or so, are hard down. They will never be able to deploy. Those we are working through the IDEF system. The number of days it takes to process them has come down from well over a year, in the 370s-390s range of days. We got it down by 100 days to 270. So we are trying to chip that away so that reduces the number of permanent, non-deployables down, and the VA then picks up their care. There are several things we have to do internal to the organization.

Senator REED. One thing I assume you have to do is improve recruitment and retention in order to just fill up the current existing force structure. Is that accurate?

General MILLEY. Our recruitment and retention right now at this point are meeting the goals. Last year, we had 100 percent across the board. To date this year, we are about 80 percent or so for recruitment and we are about 75 percent to date—of course, the year is not finished yet—on retention. With the increase in the end strength authorization to 476, we significantly increased the recruiting and retention missions. I think we will be within 1 percent, plus or minus, of achieving that by 1 October.

Senator REED. In terms of modernization, there is a tendency to make incremental improvements in equipment. As the chairman pointed out, when it takes so long to develop a new system, that incremental improvement is, in many cases, almost obsolete by the time it gets to the troops. If you are looking for a leap-ahead system, is there one out there that you think would make a huge difference?

General MILLEY. It depends on the category. In the area of shoot, there are some technologies in laser, electromagnetic guns. There are some things being done with powders, et cetera that can reduce the footprint of powder. So there are some significant enhancements in the S&T and R&D world that we are exploring aggressively, and some of those are already being employed by the Navy in quantities but they are not sufficient yet for ground combat.

In terms of move, there are a lot of things that we are looking at in terms of robotics and autonomous systems. Chairman McCain mentioned the tank. I could not agree more. The M1A1 Abrams tank was commissioned when I was a lieutenant in 1980. That would be the equivalent of someone coming in, when I was commissioned, training on the M4 Sherman from World War II. His comment about quoting H.R. McMaster about outgunned and out-ranged is accurate. We need a significant 10X level improvement in our ground combat vehicle, in our tank, in Bradley.

Is there something on the horizon? We are going to continue with incremental improvements to those two systems in the near term while we explore the possibility for 10X improvement. There are some bright lights out there. Look, for example, at what Tesla just did. They have cars now that were \$100,000 and \$40,000, and they just beat out GM and Ford, and they do not have an engine. They are running on a battery. There are some serious possibilities in there for application to military use, and we are looking at that.

There are some exploratory studies being done in materials, significant material development that can provide the same protective power at a much significantly less weight. So there are things in the area of move. You know, move should communicate sort of binning.

For communications, Chairman McCain mentioned WIN-T and the others. The communications architecture of the United States Army—and I would argue even the United States Department of Defense—is a critical capability and at the same time, a critical vulnerability, as it is for most other nation states. There is some significant—and I do not want to go into too much on it for classification purposes. There are some significant changes and improvements that must be made in the short term on our ability to have assured communications. I will just leave it at that.

Senator REED. Thank you very much.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Inhofe?

Senator INHOFE. Thank you, Mr. Chairman.

We have had hearing after hearing after hearing, and we talk about the threat level that is there. I think we all agree. I want to talk about that.

On this acquisition thing, I was 8 years in the House on the House Armed Services Committee before coming over here 20 years ago. With a business background, it drives you crazy to see these things happen. We went through this thing, and I guess the figure on that, the chairman just talked about, is \$20 billion. That was from 2001 to 2010. Then along came the Crusader. I was here during that time. That actually was terminated by Bush in his administration.

So when you make the statement, General Milley, that you do not want to make the mistakes of the past, how can you do that unless we improve the acquisition system? You were complimentary of the chairman that we have made last year some changes where you have a greater impact on making those decisions. Still they were made by the administration. In fact, in the case of the Crusader, one of the really outstanding guys on the House Armed Services Committee resigned. He quit because of the fact that we

got—you get that huge investment. Then you turned around and abandoned it.

So I guess my question to you is, is what we did in starting to give you more latitude and helping with those decisions on acquisition and terminations—do we need to go further?

General MILLEY. I believe, yes, we do. I do appreciate the reforms that were made in the last cycle, and they have made a difference. I can see that in several systems, small systems like the pistol—you saw that—up to larger systems that we are doing for like the ITEP engine for the UH-60 and several other programs that are out there, the PIM program for the Paladin and others that are out there. So there is a difference being made. In terms of big ticket items like a brand new tank or a brand new helicopter, no, not yet. Part of that is because of limitations in current and existing technologies.

I do think there has been progress made, and I do think that the enhanced authorities that were given to the chiefs has made a difference and I appreciate that.

Senator REED. You mentioned the PIM program, which of course was taking an old system and upgrading it as opposed to a brand new system. Was that the right decision at that time?

General MILLEY. I believe yes. Again, it goes back to technologies. My assessment is we are on the cusp, within 10 years, of a fundamental change in the character of warfare and the character of ground warfare.

Senator INHOFE. You also talked about in response to the question—I think it was Senator McCain—about a hollow Army. I chaired a committee of the Vices just 3 weeks ago, and at that time, it was Wilson with the Air Force, and he had said we are already there in the Air Force in terms of the hollow Air Force. A few of us up here are old enough to remember the Carter administration and how we tried to recover from that. I am sure we are trying to keep from having that happen again.

Now, before Senator Sullivan starts talking because he is going to penetrate this a lot more than I will because there is not time, but when you look at all the threats that are out there, a lot of us have come to the conclusion that really North Korea is it for two primary reasons. One, it is run by a mentally deranged guy that no one can predict. Secondly, they are rapidly getting to the point, as came out from the examination by Senator Sullivan yesterday or the day before with that capability. I think they said it is not a matter of if but when.

So just concentrate, if you would, just on North Korea for the remainder of my last 45 seconds here if you agree with us in terms of that being the greatest threat.

General MILLEY. Well, Senator, we are in a current war against ISIS and probably the greatest capability out there remains Russia. Clearly North Korea is probably the most dangerous, close, in terms of time, threat in my view that the United States faces. They are rapidly developing an intercontinental ballistic missile with a nuclear weapon attached that can range the continental United States. I do not think that we should allow that, and I do not think that is the policy of this Nation. I believe the President of the United States, when he says that if China does not solve it, the

United States will. So I think that is the right approach, but I do think it is increasingly dangerous. There is no question the path they are on. I do not want to go into things that we would do, but it is dangerous.

Senator INHOFE. I do believe in the hearings that we have had, both the civilians and uniforms alike have talked about how great the threat is. I appreciate the fact that you are doing it. We do not have the credibility out on the stump to talk about this, and particularly when you have a media who does not believe you. With the military talking about it, I think that is significant. So I do applaud you and the others for not veering away from the threat that is out there and it is very real.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Blumenthal?

Senator BLUMENTHAL. Thank you, Mr. Chairman.

Thank you both for your distinguished service to our Nation.

I want to pursue the questioning on North Korea. You said close in terms of time to developing an intercontinental ballistic missile. How close?

General MILLEY. I would rather take that into a classified session, Senator, with all due respect. There is a variety of analyses out there, and there are ranges. I would be happy to walk you through at least what I know from my perspective, and we can get some experts in to brief you as well, if you would like.

Senator BLUMENTHAL. Would the American people be well served by more information about this threat so that they do appreciate what the facts are?

General MILLEY. I think that is probably an accurate statement, sure.

Senator BLUMENTHAL. In terms of the troops that the United States Army has at potential risk from conventional artillery, how many would you estimate are in harm's way?

General MILLEY. Well, the United States has publicly 28,500 troops of all branches in Korea. Roughly speaking, about 20,000 of those are Army. North Korea tube, conventional tube, and rocket artillery has extensive range. It can range all Seoul. It can range most of the military compounds. So our troops are at risk in Korea.

Senator BLUMENTHAL. In your testimony, you mentioned the importance of vertical lift in the Army's modernization priorities. As you know better than any of us, the Blackhawk has served the United States Army for some 35 years. It continues to be the aviation backbone of the Army. Could you tell us what the state of negotiations are for the next procurement of Blackhawks?

General MILLEY. We have got—I want to say—48 that we have put into this budget. We are also working on the ITEP engine which is equally as important as the airframe in order to enhance the capability of the Blackhawk to fly at high altitude, around 6,000 feet or so, and at high temperatures around 95 degrees. So both the procurement of additional helicopters and the modernization of an improved engine are significant for the lift capability of the Army.

Senator BLUMENTHAL. Was the expectation from the future years defense program projected for fiscal year 2018 not that there would be 60 not 48 helicopters in the budget?

General MILLEY. I would have to go back and check that number, Senator.

Senator BLUMENTHAL. Do you believe that more than 48 are necessary?

General MILLEY. Yes. I mean, in order to flesh out and replace existing aircraft. Sure. When we get past 2018, we have plans to do that.

Senator BLUMENTHAL. A number of your colleagues, heads of services, have said that the greatest threat or perhaps one of the greatest threats, if not the greatest threat, to our Nation is cyber. I have noted in your testimony that relatively little analysis has been included about cyber.

General MILLEY. Cyber is a very serious threat. Others have testified openly that the opening shots of a large-scale conflict are likely to begin with cyber, and various people have testified to that and you see that in writings. I would probably concur with that. Cyber is a very serious capability out there.

What we in the Army are doing is fielding 61 what we call cyber protection teams, and 41 of those are in the regular Army and 21—or correction—20 are in the—41 and 21, 62—for the National Guard and the United States Army Reserve. Of the ones in the regular Army, they should all reach full operating capability by the end of 2018.

Senator BLUMENTHAL. The chairman and I have noted—and I apologize for interrupting you, but I am limited in terms of time—that there really is no cyber strategy. Without a cyber strategy, there can be no cyber policy. I think I am quoting almost directly what the chairman said yesterday. That has been a failing, to be very blunt, under a number of administrations. Would you agree that we need a cyber strategy to determine, for example, what is an act of cyber war? How do we respond to a cyber attack in the cyber domain?

General MILLEY. A fair question. I think that that needs to be debated. It is a question that needs to be asked and answered. It is not asked and answered right now. Well, what constitutes an act of war in cyberspace? I am certainly not in a position to answer that.

In terms of capability, the Army does have a cyber strategy for capabilities, capability development. Our emphasis is on defense for the Army. The national part does offense. The service is doing defense. What is important for us is to protect our network, protect our ability in the electromagnetic spectrum from everything from degraded operations or a complete shutdown, all the way to spoofing and mimicking and so on and so forth.

We have set up, as far as I know, in the world live cyber range at the National Training Center. So all of our tactical units now are cycling through the training center where they are being exposed to an enemy, free thinking up for out at the training center, that executes high end cyber operations against our own units. Our soldiers are learning to come to grips with that. It is a very interesting thing to go watch to see how our forces operate with the WIN-T or any of the other communications systems we have where they are under constant attack from the enemy. They are getting degraded, and we have to relearn how to operate with limited de-

graded communications and our connectivity to higher headquarters and the JC units.

So we do have a strategy for capability development, but the national strategy you are talking about—I think that is fair.

Secretary SPEER. I would like to also add to that. When it comes also to the individuals and the people we are assessing and training, of the 41 Active components, cyber teams, 33 of them are already mission capable, fully mission capable. Another eight are initial capabilities. The Cyber Center of Excellence, as well as private industry, are working out on a regular basis to incorporate additional capabilities and understanding. We are assessing individuals on training and development into the Reserve components as well.

Senator BLUMENTHAL. Thank you, Secretary Speer. Thank you, General.

Chairman MCCAIN. Senator Wicker?

Senator WICKER. Secretary Speer and General Milley, let me start off by asking about the Lakota, the Army's primary training helicopter and how the situation currently affects the industrial base. The last production contract was awarded in 2015. There is an ongoing legal dispute which is expected to remain in the courts until late this year. Absent new orders soon, the manufacturing plant may be forced to lay off workers.

The fiscal year 2017 omnibus appropriated \$198 million to purchase 28 Lakotas. There is a clear directive in the language the Army must obligate the funds to buy Lakotas, although this has not happened.

I know this is an important program because the Army requested \$100 million in fiscal year 2018 for 13 additional Lakotas.

How are we coming on the directive to obligate the funds to buy the 28 Lakotas from the fiscal year 2017 omnibus bill, and where are our prospects for moving along on the 2015 contract?

Secretary SPEER. Senator, I think you hit it initially. We need the Lakotas in terms of the training base and get them down there in terms of Rucker to go. The 2017 funding is held up in that same protest. So we need to buy against that contract to be able to deliver on a timely basis, and that current contract is under protest, and we hope that will be resolved next quarter of this year. Then we will be able to put the additional funds on contract and request an additional 28.

Senator WICKER. So that would be July, August, or September.

Secretary SPEER. We are hoping so, later this summer, yes.

Senator WICKER. General, you do agree that this is a very important program?

General MILLEY. I will be candid, Senator. It is important. It has utility. A Lakota aircraft will not survive a nanosecond in combat. It is good for administrative use. It is good for running soldiers around at home station, and it is very good for training.

Senator WICKER. It is a training——

General MILLEY. It is a training platform. So I do not want to overstate its importance. What we need to invest our aviation dollars into primarily are combat utility aircraft and attack aircraft. The Lakota has a purpose. It has a place in the system. That is why we put the money in there, but I do not want to overstate or elevate its importance within the pantheon of aviation.

Senator WICKER. Well, let me shift to one other thing in the time I have remaining. I want to ask about Mine Resistant Ambush Protected Vehicles (MRAPs). In 2013, the Army decided to divest a large portion of MRAPs. Things are different now than they were in 2013. We are ramping back up in Afghanistan. ISIS is more of a threat than it was then. Is it time to take a fresh look at the MRAP program?

Secretary SPEER. I think in terms of the MRAPs, we did retain a set of MRAPs for this kind of operation and contingency, and I believe we have sufficient MRAPs of different varieties and variants to support. Now, I can go back and look and come back to you in terms of the latest review on MRAPs, but the current threat in terms of decisive action, training, and obligation is where the biggest risk is for the longer term. We do, I believe, have sufficient variants of MRAPs to do operations against ISIS or counter-terrorism.

Senator WICKER. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator King?

Senator KING. Thank you, Mr. Chairman.

I want to talk a bit about procurement to either or both. What lessons has the Army learned from the procurement problems that we have had in the past with the Comanche, the Crusader, Future Combat System? Are there lessons learned that we can apply to future acquisitions?

Secretary SPEER. We could spend all day on the lessons learned on those. I think we got after a lot of them. First of all, we took the decision-maker—

Senator KING. I only have five minutes.

Secretary SPEER. I got it Senator. Part of the decision, if you look at the laundry list, was we removed the decision-maker from where the functional decision of the requirement was. We have built in layers and layers of decision-making processes that took too long. Cost was not an informed cost. We made decisions at the end of the requirements after we spent a lot of money when we could have made discoveries much earlier on.

So that is part of what the Chief is getting at and I am getting at in terms of this. We have got to get cost early in front. We have got a decision allowed to fail up front. We got to be able to prototype on those things. We have got to put the warfighter back into the decision process down where the execution of that program goes.

Senator KING. Was one of the problems expansion of requirements and complexity of requirements?

Secretary SPEER. I think the complexity of the requirements expanded and it had always been there technology-wise. Again, the requirement was best understood by the individuals who were building the requirement and have to provide feedback on how well they are doing with the requirement on the delivery of the capability.

Senator KING. Well, General Milley, on this point, we had a very interesting hearing in the Airland Subcommittee a couple weeks ago on a new rifle for the Army to replace the M-4. One of the things we learned was that the current M-4 caliber ammunition

will not penetrate the newly developed body armor of our adversaries, which is to me a disaster in waiting.

Your thoughts on a new weapon and how do we do the procurement in a timely and cost effective way and avoid some of these problems that we have had in the past. First, do you think this is an important area of attention? Second, can we pull it off in a reasonable amount of time at a reasonable cost?

General MILLEY. I think yes and yes. I think it is critically important. Seventy percent of American casualties are ground forces, typically infantry, special forces type units, or units performing infantry missions. The small arm and the other equipment, to include body armor, SAPI plates, and so on is critical, and we ought to be providing the very, very best for our soldiers that our Nation can provide.

The 5.56 round—we recognize that there is a type of body armor out there that it does not penetrate—we also have that body armor ourselves—and that adversarial states are actually selling that stuff on the Internet for about 250 bucks.

So, yes, there is a need and there is an operational need, and we think we can do it relatively quickly.

The key on any of these things is not so much the rifle. It is the bullet. It is the ballistics of the bullet. Down at Fort Benning, we have done some experiment and developmental work. We think we have a solution. We know we have developed a bullet that can penetrate these new plates.

Senator KING. Does this bullet require a new rifle?

General MILLEY. It might but probably not. It could. The bullet can be chambered in various calibers. I do not want to get into the technicals of ballistics, but it can be modified to 5.56, 7.62 or—

Senator KING. Is there a possibility of an off-the-shelf, an existing rifle that could be an upgrade to the M-4?

General MILLEY. Yes. There are several options out there.

Senator KING. That would be an option.

General MILLEY. There are absolutely options.

Senator KING. I commend that option to you.

The fiscal year budget request holds the Army end strength at 476,000, 343,000 National Guard, 199,000 Reserve. Are those numbers sufficient in your professional judgment to meet the challenges that we have in terms of readiness and assuming a higher level of training and readiness? Secondly, how long does it take? If we decide we need 10,000 more or 20,000 more end strength, how long does it take to get from decision to troops in the field?

General MILLEY. The first part of that question, is it enough, so to speak. That depends on what we are asked to do. Secretary Mattis is leading a very rigorous and detailed strategic review of the defense planning guide into the national military strategy. That review will be done probably sometime in the fall. When that review is done, that will give us our baseline of how big and what capabilities we will need across the board as a military, not just the Army.

In the meantime, we do already have a national military strategy and a defense planning guidance. As I testified last year, I thought that the capacity and the size of the force and the capability and the modernization of the weapons systems did not meet that. Four

hundred seventy-six improves it, but no, it still does not meet the worst case requirements that are outlined in the national military strategy and the defense planning guide.

Senator KING. Second question. How long does it take to build up?

General MILLEY. Well, to build units—to put a brigade together from scratch I would say would take about three years to get them at a reasonable level of training. Soldiers coming through basic training and Advanced Individual Training (AIT), individual replacements—they are falling in on existing force structure and existing units, and that takes considerably less time. Then one of the things we are introducing in this bill is security force assistance brigades which are essentially chains of command of an infantry chain of command, for example, an infantry brigade. They will be used for deployment overseas to do advise and assist missions, like what you see in Iraq and Afghanistan today. That will free up the brigades that are there. We will put those back together again. Then it will shorten the timeline for rapid expansion. We plan on introducing five of those. We have got two in this particular budget for the request.

So it varies by type unit, but on average I would say between one and three years, three years being the outside to put together enough of the force and the collective training assuming you had the people and the money to support that.

Senator KING. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Cotton?

Senator COTTON. Gentlemen, thank you for your appearance this morning.

I want to return to an issue that Senator McCain foot stomped in his opening statement, WIN-T, the Warfighter Information Network-Tactical. It is the way the soldiers communicate on the battlefield. In 2003, the Army planned for future combat systems that would, among other things, network together soldiers and vehicles. That program was canceled in 2009 at the cost of approximately \$18 billion. WIN-T was part of the Future Combat Systems program. After Future Combat Systems was canceled, it was another attempt by the Army to conduct secure battlefield communications and networking.

General Milley, I have seen credible reports that WIN-T has ineffective line-of-sight communications, is not survivable. It is too fragile to survive in a contested environment, and has an electromagnetic signature so loud that it particularly would call for enemy artillery on the top of its users' heads. Have you seen similar reports?

General MILLEY. Yes. What we have done is, with the authorities the chairman and the committee and the Congress gave us a couple years ago, I and the Vice Chief of the Army, along with a small group of people are driving a rigorous, thorough, and painful review of the entire communication electromagnetic capabilities of the U.S. Army, which WIN-T is one part of, because we have the same concerns.

Frankly, my concern is these systems may or may not work in the conditions of combat that I envision in the future with this

changing character of warfare because of what you just cited, line-of-sight, electromagnetic spectrum, the inability to operate on the move, the inability to operate in large, dense, complex urban areas or complex terrain. There is a whole series of other things. It is fragile and it is vulnerable.

So we are taking a very, very, very deep, hard, and wide look. We have probably got about six weeks or so because what I want to do is make sure I can get it into any changes to this cycle, the markups that we can, if we need to. There are piece parts of it that work very well. There are others that are not so good. We are taking a hard look.

As you may or may not be aware, I have received a letter from the House with 176 signatures on it and a letter from the Senate with several signatures on it asking me to accelerate that program. I am not going to accelerate it until I am convinced it will work in combat against the enemies of our country that may be coming in the future.

So that is kind of where we stand right now. I owe you and this committee and others a rigorous review within about 4 to 6 weeks or so.

Senator COTTON. Thank you, General. I am aware of those letters. My first priority is delivering functional systems to our warfighters on the front lines. My second priority is good value for our taxpayers. The political implications of these contracts in members' districts are a very low priority compared to those for me, as I am sure they are for you as well. We have spent about \$6 billion so far on WIN-T. Have we not?

General MILLEY. That is correct.

Senator COTTON. If the program is not working, it does not seem, like you say, that we should be accelerating more money into that program until we can get it to work or we can find a replacement. Is that a fair assessment?

General MILLEY. Correct. That is where we are at. I am trying to figure out exactly what parts of it could be accelerated or brought online, others that we need to not continue to put good money after bad programs, and make sure that the system as a whole—a holistic review of the system—is something that is going to be effective in what we think will be a dynamic, combined arms maneuver fight on a very, very highly contested and lethal battlefield.

Senator COTTON. Well, I appreciate that and I appreciate the effort you have put into not just these kind of communications programs. We have discussed before the Distributed Common Ground System and its problems. You were discussing earlier some of the issues with small arms that the Army has had. I want to encourage you to continue to use those authorities. Most of these problems arose long before you took office. I want to encourage you to continue to try to address them and resolve them at the speed that our warfighters need, not the speed of bureaucrats in Washington.

I want to turn briefly to the European Reassurance Initiative. I know you have taken it very seriously. I am encouraged by the heel-to-toe deployments we have seen of armored Brigade Combat Teams (BCTs) as part of the initiative. Do you think a permanent

armored BCT presence would be preferable, though, to a perpetual state of deployment?

General MILLEY. My recommendation, my preference for a lot of reasons is a rotational schedule, heel-to-toe rotational schedule, which has the effect of a permanent unit in there in terms of battlefield effect, but it does not come with the cost and overhead of a permanently stationed force. I know Chairman Thornberry in the House has asked us to take a look and cost that out. Others are interested in permanent stationing.

At this point, my recommendation is continued rotational forces vice permanent station. What that gets you is flexibility when you are over there where you can move from one country to another because these forces will not be pinned down to a single installation. You will not have to resurrect all the commissaries, the PXs, and the schools, et cetera. Families will not be put into a potential conflict zone, and you will get battle focused training and increased unit cohesion for the unit training. I think the way to go is rotational for the brigade combat team, but I am willing to take a good look at it.

Senator COTTON. Thank you.

Secretary SPEER. Senator, could I add to that? When I visited the European Reassurance Initiative (ERI) operations currently in Europe, I would add that the brigade commander said the same thing in terms of units. It is the best training he has had, how well he was spread across the theater of operations. If he were stationed in one location, he would have to go across and spread his organization anyhow on a recurring basis.

The combat aviation brigade may be a different situation. There were challenges there, but I think we are working through this. There were tremendous lessons learned coming out of that kind of rotation for readiness.

Senator COTTON. Well, thank you. I have heard similar things on my trips to the Baltics, an important reminder for the American people that we are not just deploying troops there for the benefit of those nations but for the very good training that our troops receive there as well. Thank you, gentlemen.

Chairman MCCAIN. General, the WIN-T program has been in existence for over a decade. Is that correct?

General MILLEY. That is correct. Yes, Senator.

Chairman MCCAIN. So should we expect a decision on WIN-T on the part of the administration at some point after we have spent \$6 billion?

General MILLEY. Yes.

Chairman MCCAIN. Do the taxpayers of America not deserve something better than that?

General MILLEY. Absolutely. That is why we began 4 months ago—the Vice and I and others—

Chairman MCCAIN. So it took nine and a half years before we undertake an extensive review.

Senator Heinrich?

Senator HEINRICH. Thank you, Chairman.

Secretary Speer, yesterday the Army's budget was released, and again there were no military construction projects to support the testing and evaluation missions at White Sands Missile Range.

That actually makes 18 years in a row now, and certainly White Sands is not alone. So I am concerned that the Army is not currently prioritizing testing infrastructure, nor are the other services. I know that others share my concern that the Pentagon is not doing enough to upgrade our testing capabilities, which would ultimately allow us to keep our competitive edge over our adversaries.

So, Secretary, do you believe that the Department is effectively managing and allocating resources for military construction projects at our test ranges?

Secretary SPEER. I think broadly as part of the overall situation within military construction, we still continue to take a little bit of risk in the military construction. What we do find—and I believe—and I can go back and confirm this—within is we put additional restoration and modernization to upgrade facilities within the budget, which included the test range. We doubled that amount this year for restoration and modernization. We have a \$10.8 billion backlog in such restoration and modernization requirements.

Senator HEINRICH. I would just urge you to look really closely at test ranges generally. I think you are taking a lot more risk there than you are in other places, and it is just absolutely critical in terms of developing the technologies that are going to pay off for our warfighters in the future.

In a related issue, as you are aware, White Sands is managed by the Army, but it is a test range that the Air Force and Navy use as well. Does it make sense for the Army to be the only service responsible for funding major military construction projects on what is a tri-service testing range?

Secretary SPEER. Well, Senator, much like other installations, we are the executive agent or we are the owner of it. That is the way we prioritize. We work together with our sister services to identify requirements across the joint community, and I think we will continue to do so. I think it has been in the past predictable funding and level of funding to get at the stability to take care of things on a recurring basis, and we took risk over time on those things. You have my commitment. I will go back and review those things because I would agree, as part of what we talked about earlier in the acquisition process, earlier testing and the ability to look at things earlier in the testing cycle is very important.

Senator HEINRICH. I appreciate your commitment on that.

I want to just highlight one military construction project at White Sands in particular because it sort of tells the story of what is being passed up over the course of the last two decades. The network communications center for the range was built in 1962. It actually caught fire a couple years ago, but it has not been a priority in recent years. I think in the era of big data and technology, a modern information facility is pretty critical for transmitting the vast amounts of data that pass through White Sands at this point for the data that is being generated during those tests. So that is just one particular example.

General Milley, I really appreciated your comments earlier about some of the things that are on the horizon in terms of emerging technologies and some of the things that are really right in front of us. In April, Admiral Harris testified before this committee and stated several times that we have no defense against North Korean

rockets, North Korea artillery, North Korean mortar rounds. From a defensive standpoint, does the Army have an effective indirect fire protection capability at this time?

General MILLEY. Against what type of indirect fire? Rockets, missiles?

Senator HEINRICH. Rockets, artillery, mortar rounds.

General MILLEY. We have capabilities that can shoot down incoming missiles, such as THAAD [Terminal High Altitude Area Defense] and Patriot.

In terms of bullets, tube artillery, or close-range rockets, we are experimenting right now with hyper velocity capabilities. We think we can field those pretty shortly. I think you have seen some of that both in the media and have been briefed on it by Will Roper at DOD. That is an Army program he is working on and we are funding that. That will be important if we can make that happen, and that will increase significantly our capability to shoot down incoming rounds.

Senator HEINRICH. In addition to kinetics, which tend to be incredibly expensive on a per round basis, I was very pleased to see that the Army budgeted for next generation weapons systems by funding the 50 kilowatt high energy laser on a Stryker vehicle. I think that shows enormous potential, not just potential. I think we are at a place now where we have shown that we can shoot down mortars with realistically funded lasers and do it on a very low cost per shot capability. So I would urge you to continue to focus on that.

General MILLEY. I do not want to mislead you. These programs are not ready for prime time yet in the fielded force. So you are talking several years there of consistent, predictable funding to make those real, developed, and distributed to the force—several years. If an event happens prior to then, there is significant risk to those enemy weapons systems that you talked about.

Senator HEINRICH. I think we may differ on just how far out that timeline is.

General MILLEY. Okay.

Chairman MCCAIN. The fact is the situation today is that they literally have the capability to set Seoul on fire. Is that correct?

General MILLEY. I think that North Korean capability that is arrayed north of the DMZ [Demilitarized Zone] is very significant, and it would do unbelievable damage. It would be a tragedy of immense proportions on the city of Seoul with 27 million people and a population density of four times that of New York City. It would be huge. Their tube and rocket artillery alone can pump in a quarter of a million rounds a day into that city. It would be huge. It would be enormous.

Chairman MCCAIN. Thank you.

Senator Sullivan?

Senator SULLIVAN. Thank you, Mr. Chairman.

General Milley, Mr. Secretary, good to see you. General and Mr. Secretary, I appreciated the opportunity to visit yesterday.

I wanted to follow up on Senator Inhofe's questions with regard to North Korea. So it has been stated a number of times in this committee by military experts that it is no longer a matter of if but when North Korea is going to have an intercontinental ballistic nu-

clear missile that can range the entire United States of America. Do you agree with that assessment? If but when.

General MILLEY. Well, I would say it depends on what we do, Senator.

Senator SULLIVAN. Well, let me actually get to that.

By the way, I actually agree with Senator Blumenthal's point about allowing the American people to have a sense of when that may or may not be approaching. Of course, there are estimates, both classified and unclassified, but I think getting it out there will prepare the U.S. public for a really challenging national security issue that I do not think a lot of people are paying attention to.

Yesterday in testimony or two days ago in testimony, Director Coats stated it was the policy of the United States to prevent that capability from ever being realized. Is that your understanding of the policy, General?

General MILLEY. Absolutely, my understanding of the current United States Government's policy is to prevent North Korea from fielding an intercontinental ballistic missile with a nuclear weapon to strike the continental United States.

Senator SULLIVAN. So that is a red line in some ways.

General MILLEY. I would not use that word. I do not use any words like that. I believe that is the United States policy, is to prevent that capability from being fielded by North Korea.

Senator SULLIVAN. So if we had to take action against North Korea to prevent that from happening, would your United States Army forces and the entire weight and power of the U.S. military dominate the battlefield to make sure we achieve that goal, if we had to?

General MILLEY. I believe yes, but I do not go much beyond that. Absolutely yes. Us and the ROK [Republic of Korea] Army would dominate the battlefield. North Korea would not succeed, and North Korea would lose. The cost would be huge, but North Korea would lose.

Senator SULLIVAN. Let me—actually two questions. Do you need anything more? What do you need from this committee or the Congress to ensure that we would dominate and prevail if that day, God forbid, ever came?

General MILLEY. I think the priorities that we laid out in our opening statements and are in the budget—that is what I think we need. Most importantly, we need predictable funding over time.

Senator SULLIVAN. Let me ask. General, you and I have both talked about the book, T.R. Fehrenbach's "This Kind of War," a number of times, the whole issue of no more Task Force Smiths. Could you describe what a war with North Korea would look like and would it be similar to what we have seen over the last 15 years in Iraq and Afghanistan?

General MILLEY. No, it would not look anything like the war in Iraq and Afghanistan.

Senator SULLIVAN. What would it look like?

General MILLEY. Well, it depends on, you know, our actions, action, reaction, counteraction. There are several different possibilities. I do not want to go into any great detail on any of them.

Senator SULLIVAN. What would it likely look like?

General MILLEY. If there was a full-blown war on the Korean Peninsula, just as Secretary of Defense Mattis said the other day, it would be tragic on an unbelievable scale, and the levels of violence would be immense and it would be the likes of which the world has not seen since the Second World War. It would be huge, and there would be huge amounts of casualties.

Senator SULLIVAN. On both sides.

General MILLEY. On both sides, yes. It would be horrific. I do not want to go into the details of what that would look like, and that would get into the realm of speculation of our contingency plans, and that would be inappropriate in an open hearing.

Senator SULLIVAN. You emphasized in a recent interview that our soldiers through their training need to be able to be miserable again to—I do not think you used the term, but it was mentioned in an article in the “War on the Rocks” magazine—embrace the suck, as they say in the Marine Corps and the Army. Are we conducting that kind of rigorous training right now, do you believe, that would prepare soldiers for that kind of war mentioned in T.R. Fehrenbach book “This Kind of War” where we do not have logistics bases? We have miserable, miserable conditions. People are suffering. Are we conducting that kind of training to prepare our forces.

General MILLEY. Yes. We have shifted back to combined arms maneuver on a dynamic battlefield against a high end, near-peer threat. We have shifted away from fixed sites, constant flows of—in our training constant flows of logistics. We have gone through 16 years of war where we conditioned as an institution COPs and FOBs, and some of those had pretty significant quality of life capabilities. Others were very austere. There were many COPs up in Afghanistan or Iraq that were not very well outfitted at all.

By my point in saying what I said about being miserable is that we have got to train ourselves and condition ourselves for a type of war in which you are unlikely to have this steady stream of continued logistics beyond perhaps water, ammunition, food, and some medical. All these other things, you know, chew huts, hot showers every day, sleeping in a bed, so on and so forth—those will probably not be available if we fight against a highly competitive dynamic regional or near-peer power. The land battle will be unbelievably violent and units will have to move every hour or two just to survive. Logistics and lines of communications will be cut off, and units are going to have to be able to be independent of thought and mind. Your communications are going to be degraded. It is going to be significant, and we need to train to that. That is exactly how we have shifted our training in the last couple of years.

Senator SULLIVAN. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Warren?

Senator WARREN. Thank you, Mr. Chairman.

Thank you for being here today.

I want to quickly ask about the importance of our non-military agencies’ programs to the Army’s mission. I have asked every combatant commander the following question, and to a person, they have almost all given the same answer. General Milley, would a significant reduction in funding to the State Department and other

non-defense security agencies and programs make the Army's job of defending America easier or harder?

General MILLEY. Well, Senator, I am not going to comment on funding levels for other agencies.

Senator WARREN. I am not asking you to.

General MILLEY. I would just say that we in the Army or we in the military—armies do not go to wars. Nations go to wars, and we need and require in combat operations and most importantly to secure the gains of combat operations, secure the peace, so to speak—we need the State Department, USAID [United States Agency for International Development], FBI [Federal Bureau of Investigation], Commerce, CIA [Central Intelligence Agency], all these other agencies because the military does not do things alone. We do it as part of an interagency and joint team and an allied team.

Senator WARREN. Thank you very much, General. You know, I agree. The administration is seeking nearly a 30 percent reduction in the Department of State and USAID. Our military is critically important to our security, but we cannot forget that non-military programs are also critical enablers of our military so that you can do your job and so America can do its job.

I want to ask you another question, and that is about the WIN-T system. I understand there has already been some conversation about it. I know that there were significant problems with the first version, delays, but that those seemed to be solved in the 2.0 version of this. More to the point, there is no obvious substitute. This is the only communications program that is available for the Army that works on the move.

The question I have relates to this. General, you said several times that on the future battlefield, it is imperative that soldiers keep moving. You told the Association of U.S. Army at their annual meeting last year that in the Army of the future, if you stay in one place longer than two or three hours, you will be dead.

As I understand it, under the current timeline, it is going to take the Army about 20 years to fully field the upgraded WIN-T system. In 20 years, that upgraded system is likely to be obsolete.

So given your comments about the importance of constant mobility, the fact that this is our communications in a circumstance where we have got to have a lot of mobility, why is the Army taking so long to field this piece of equipment?

General MILLEY. Well, I mean, you missed some previous comments. Right now, it is under a rigorous review that is being led by senior leadership of the Army, the Secretary and the Vice Chief of Staff of the Army. I have concerns about not only WIN-T, but WIN-T is a subset of a larger network of systems. I have concerns about its interoperability, line of sight to operate in complex terrain, its survivability and vulnerability to enemy systems, its ability to operate on the move.

The bottom line is I have some serious hard questions that have not yet been satisfactorily answered as to whether this is going to work. I believe I will come to that resolution within the next six weeks or so. Like I told Senator McCain, I will be happy to and I intend to report out to you on the status of that. So I am reluctant to accelerate anything unless I know this thing is going to work.

On the second part of it as to why has it taken so long, I mean, that is one of my concerns. A system that is not going to get fielded—it has already been in development for 10 years. A lot of this stuff is already out of date. So the entire acquisition approach, especially in information technologies—we need to review that. It is one thing to build rolled homogenous steel and guns and tanks and vehicle systems. The technological speed of advance in the commercial sector on information technologies is far more rapid than anything that the government's acquisition system is capable of handling. So by the time we even come up with the requirements and start doing prototyping and experiments and tests, these systems are already out of date.

So there is a fundamental issue in the IT [Information Technology] world—it is not just WIN-T—it is much broader than that causes me to be skeptical from an acquisition and procurement standpoint on WIN-T in particular but other systems involved in it as well.

Senator WARREN. Well, I appreciate that, General, and I appreciate our responsibility to try to make the procurement system work better and work better for you, particularly in an area where there is a lot of innovation and change over time.

I also assume—and I am glad you are looking at this—that if the WIN-T system is working and we do not have another substitute, that we will make a decision and then try to move quickly on it one way or the other.

General MILLEY. Right.

Senator WARREN. Thank you, General.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Ernst?

Senator ERNST. Thank you, Mr. Chairman.

Thank you, gentlemen, for being here today.

I appreciated Senator King's comments talking about small arms and the need for modernization and the fact that our 5.56 does not penetrate Russian body armor. I think that was a really important point that was brought out at my subcommittee hearing and one of the reasons I think many of us will agree on the need to prioritize small arms modernization in this year's NDAA.

So, General Milley, once the Army does settle on a caliber, then would you rather have something that could be specifically built for infantry forces and the Army at large, or would you accept something that could be purchased off the shelf?

General MILLEY. I do not know that the two of those are mutually exclusive. There are systems out there today on the shelf that, with some very minor modifications, could be adapted to munitions that we are developing at Fort Benning that could be used to penetrate these SAPI plates that our adversaries are developing. So it is not necessarily an either/or proposition on that one. I think there are weapons out there that we can get in the right caliber that can enhance the capability of the infantry soldier.

Senator ERNST. That is good and I am glad to hear you say that because I think there could be some potential savings if we are looking at systems that could be modified, taken off the shelf and used for our soldiers. I think that would be something that would be very beneficial to our forces.

Retired General Scales testified at that subcommittee hearing, and he spoke about a weapon that could fill the role of both the machine gun and the rifle, a light machine gun and the basic rifle. So is the need for the machine gun a higher priority than that of just a basic rifle, or would they be at the same level of priority?

General MILLEY. They are both very important. They complement each other. I think what he is talking about is what the marines are adopting is the M-27. We are taking a hard look at that and are probably going to go in that direction as well, but we have not made a final decision on it.

Infantry squads, infantry platoons—they got to have an automatic weapon for suppression. They got to have the individual weapon as well. So you need both. It is not one or the other. You have to have both in order to be effective in ground combat.

Senator ERNST. Absolutely. Thank you, General, very much.

Today I am introducing a bill with Senator Gillibrand that would require each branch of the military to educate servicemembers on sexual assault prevention before they actually leave for boot camp and if they choose to do the delayed entry program, which many of our young men and women do. The bill also states that those classes should be conducted in person and cover the proper use of social media. So we would actually have a live human being standing in front of those young men and women presenting that class rather than taking a computer course or just reviewing PowerPoint slides on their own.

Sexual assault really is a societal problem, and we really do need to have continuous education on that. We do do that once we have members in the service. We really do need to start as soon as possible. What more can we do to curb military sexual assault in the Army?

Secretary SPEER. Well, Senator, I think we are doing a lot and we are continuing to adapt more. We are working with private/public partnerships with folks within the national colleges. I think you may have heard already from Bob Caslen at West Point. He is doing the same thing to the TRADOC [Training and Doctrine Command] schools.

I saw something I was very excited about. I know you talk about personal people in terms of teaching, but I saw some very immersive type leader training using synthetic training environments providing very real individuals who provide input through those systems of their life story and how to combat, how they respond, and what happened to them.

So there are a lot of things that will cross either through individual training incorporating into the schoolhouses that we continually try to educate leaders on how to handle, to educate individuals that they need to come forth and provide that they have been assaulted or harassed. Anything that we find that we find useful and improves the situation is definitely welcome to look at.

Senator ERNST. Very good. I am glad to hear that. I just think there is more that we can do. The point is to prevent the problem before it ever happens. That is the intent of this bill is to get the message out before they even enter into the service. I have often thought that it should be one of their peers rather than like the old lady of the battalion standing in front of them and lecturing

them. So just having that human face-to-face contact I think will be very important in moving this forward.

So thank you, gentlemen, very much for being here today.

Thank you, Mr. Chair.

Chairman MCCAIN. Senator Peters?

Senator PETERS. Thank you, Mr. Chairman.

Gentlemen, thank you for your excellent testimony here today. It has been fascinating.

Earlier this month, Major General William Hicks, the Director of Strategy, Plans and Policy in the Office of the Deputy Chief of Staff, indicated that the Army is—and I will quote him—thickening our armor posture going forward and plans to create a 16th armored brigade team through conversion. This is on top of plans to create a 15th armored battalion next year.

So with that, I would be interested to better understand the Army's plan for additional armored brigades and to equip those brigades with some more modern versions of both the Abrams tank and the Bradley fighting vehicles.

General MILLEY. In short, over the last 15–16 years of combat, we rewickered the Army and created a highly dense infantry force, and we reduced our armored capability, as our air defense, our artillery, et cetera. As we come out of a war against terrorists and insurgents or we shift gears a little bit and start looking at near-peer regional competitors, it is clear to us that we need to rebalance the force structure with additional armored capability. So that is the logic behind it.

Our armored brigade combat teams right now are at a less than a 1-to-2 deployment-dwell ratio. So we need additional armored capabilities. So we made a decision to go ahead and convert an infantry brigade combat team at Fort Stewart and put that back into tanks and make that an armored brigade combat team. We intend to do the same thing in the coming year.

As far as equipping that, we have had to do a pretty sophisticated set of logistics moves that AMC and General Gus Perna are doing that with Forces Command and General Abrams, but I think we will be successful in making that transition and equipping those armored forces. That is a critical capability that we need to do to rebalance the force.

Senator PETERS. Well, having said that, General—and I agree that that is a critical capability particularly with the changing nature of some of the threats particularly in Europe. I appreciated your earlier comments about having a forward presence in Europe to help our allies as part of the European Reassurance Initiative. I know both of you mentioned—Secretary Speer you mentioned this as well in your written testimony about the growth of Army prepositioned stocks in Europe, which include both, at division headquarters, two armored brigade combat teams and a field artillery brigade.

So my question is how are we doing when it comes to prepositioning some of this vital heavy equipment in Europe, and is there anything else that you may need from Congress?

Secretary SPEER. You know, I got the chance to go see that, and they are doing extremely well. As a matter of fact, there is an emergency deployment readiness exercise where we used the en-

hanced systems sets out of the prepositioned stock to train and show deployment capability of those. They are loading, bringing it between the 2017 and 2018 funding that we have received and are requesting, fills those position stocks that you just laid out. In addition to that, NATO [North Atlantic Treaty Organization] is adding at Povitz a NATO-funded location to add that part of the prepositioned stock in Poland.

We are not fully up in terms of, I think if I recall right, four of the nine prepositioned stocks are fully 90 percent capable. Some of the funding—we need predictable, long-term funding to make sure we can continue to field those prepositioned stocks and then, in addition to that, make sure that we upgrade and get the most current systems being fielded traded out.

Senator PETERS. General, do we need additional armor prepositioned in Europe?

General MILLEY. We are planning to do that and that is the update that Secretary Speer just gave, was the equipment sets that are over there, armored equipment sets, as far as in addition to a rotational brigade, so you will end up with one Stryker, one airborne, one armored brigade, and then there is a division headquarters over there, along with the enablers of artillery and aviation and so on.

Is there a requirement for more? That is really a geopolitical question. What does it take to deter further aggression from the Russians? How much American ground forces are required in combination with air and naval forces in order to deter any more aggression, say, into the Baltics or anywhere else beyond the Ukraine? Those are under study and analysis. We think that is an adequate amount of force right this minute, but conditions can change. So I would have to update you later if conditions change. We think our plan right now for ERI [European Reassurance Initiative] is adequate to the need.

Senator PETERS. Thank you.

Chairman MCCAIN. Senator Rounds?

Senator ROUNDS. Thank you, Mr. Chairman.

Gentlemen, thank you for your service to our country.

When we first envisioned the cyber force nearly seven years ago, the threat was far different than what it is today. As the role of cyber in military operations has matured and as we look towards the need to develop a cyber deterrence strategy, I am curious as to whether or not we should be evaluating whether the size or composition of the force is sufficient to meet the growing demand. Is there a process underway to determine if 62 Army cyber teams is sufficient, and if not, should there be one?

General MILLEY. There is a process, it is led by Lieutenant General Nakasone. He is the commander of our cyber, and as you recall, Army cyber is a subordinate component headquarters or organization to USCYBERCOM [United States Cyber Command] led by Admiral Rogers.

There is a continuous evaluation in terms of need. I expect, frankly, in the coming years it to grow. We just made it a branch a short while ago. We have established an Army Cyber Center of Excellence down at Fort Gordon. We brought in a couple of thousand young soldiers that joined that branch. It is one of the more

popular branches coming out of the military academy and ROTC [Recruit Officer Training Course] to seek commission in. I frankly think we are in the very early stages of the growth, significant growth, of a cyber branch within the United States Army and more broadly across all of the services within DOD. So I fully expect to grow in the coming years in the cyber realm.

Senator ROUNDS. Section 1647 of the fiscal year 2016 NDAA required the cyber vulnerability assessment of all major weapons systems by the end of 2019, how is the Army supporting these assessments, and what, if anything, can you share in what I recognize as being an unclassified forum about the work that is being completed?

General MILLEY. I would actually like not to do that in an open hearing other than to say we are actively participating in the vulnerability assessment and to say that Army systems, like every other system, in both civil society and the military—most of them have cyber vulnerabilities, and we are working very, very, very hard and as fast as humanly possible to put in protective measures both organizational, training, doctrine, but also equipment, software and hardware. It is an area of big focus. I would like to stop there in terms of the specifics.

Senator ROUNDS. Let me just ask, you have had a number of questions and comments today about WIN-T. Is that system WIN-T considered a major weapons system with regard to a determination of cyber vulnerability?

General MILLEY. Yes.

Senator ROUNDS. So the WIN-T is also undergoing the same cyber vulnerability tests as the other major weapons system.

General MILLEY. Yes.

Senator ROUNDS. Thank you.

Let me ask. Section 1650 of the fiscal year 2017 NDAA required the cyber vulnerability assessment of Department of Defense critical infrastructure by the end of 2020. How is the Army supporting those assessments, and what, if anything, can you share in this, once again, in an unclassified forum, about the work?

General MILLEY. I would let the Secretary answer that, but I would give you the same answer.

Secretary SPEER. I would give you the same answer. I think you have seen some anecdotal stuff, for instance, where both the Pentagon is using Hack the Pentagon. You have seen us doing Hack the Army and some cyber assessments to see how well the software and some of the things that we have the capabilities and the infrastructure to protect. I think the rest is left unsaid.

Senator ROUNDS. Thank you.

General Milley, you indicated earlier in your conversations today that—and I am going to paraphrase somewhat—within 10 years, there will be a fundamental change in the way that we conduct warfare. Could you just elaborate on that a little bit, please, for us?

General MILLEY. Sure. I separate it into two.

One is the nature of war, which I think is immutable and is unlikely to change, and that has to do with war is a form politics by violent means. It is fog and friction and fear and confusion and so on and so forth. Those sort of human things that are out there—

that is probably not going to change. It has not changed in 10,000 years. It is probably not going to change in the future.

The character of war does change on occasion, and one of the drivers—not the only driver—is technology. Other drivers are social change, et cetera. So one of the things that led, for example, to Napoleon's success was a political change in France, a revolution, that allowed him to have a *levee en masse*, that allowed him to have an Army of the people, so to speak. He was fighting against other armies of monarchs whose soldiers were either mercenaries or draftees. They did not have a choice. The French people of Napoleon's army thought they were fighting for a country and a cause, and they bought into this thing. So that was an example of a political change that changed the character, and that enabled Napoleon to conquer Europe.

Other technological changes or things like the rifle or the barbed wire or the introduction of the airplane, tracked vehicles, mechanization, the radio—and they were very significant in between World War I and World War II.

Today what I perceive happening is the confluence of societal changes that are rapidly happening. We are moving beyond 6 billion people in the world, getting to 8 billion people in the world, and roughly speaking about 90 percent of them are going to be living in highly dense, complex urban areas. If war is about politics and politics is about people, wars and armed conflict, especially on the ground part of it—they are going to be fought in urban areas, highly complex, dense urban areas. That is a significant fundamental societal change to change how the American Army fights, where we fight, what the doctrine is, how we train the leaders, things like the communications systems and so on and so forth. We are going to have to adapt to that change, and that is coming within, for sure, 10 years.

The other technological things like the introduction of lasers, rail guns, robotics, autonomous systems, artificial intelligence—they are fast approaching very, very quickly. They will be, I believe, a significant introduction into both air, maritime, space, cyber, and ground warfare. If you combine all of those things together—and there are many, many more—I think you end up with a fundamental change in the character of war. What will be important is that country which connects those dots and applies those new technologies and those societal changes and adapts the best—those countries will prevail. Those countries that do not—they will fail. They will lose a war. There is nothing more expensive than that. So when I said time is not on our side, that is part of what I meant.

We have got to urgently move out because our adversaries are moving out. Russia and China are moving out. North Korea—we see it every week. They are moving towards the development of nuclear weapons. The United States of America needs to step up our game when it comes to these changes because we are facing a fundamental change, and we need to end up on the other end of that change in a better position than we are right now.

Senator ROUNDS. Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Perdue?

Senator PERDUE. Thank you, Chair.

Thank you both for being here and for your service.

General Milley, back in February—and first of all, I am embarrassed and I want to apologize that we are sitting here having to have this type of conversation. We are sitting here at a time when the U.S. Army is the smallest it has been since World War II. The disinvestment, particularly in the last 8 years, threatens the security of our country. General Mattis said it best, that the national debt is the greatest threat to our national security. Here we see why.

I want to talk about readiness first. I have one question quickly after that.

General Allen just in February before the Subcommittee on Readiness told us that one-third of our BCTs, one-fourth of our combat aviation brigades, and half of our division headquarters—only half—were deemed ready at that point. He also went on to say that only three of our, I think it is, 58 BCTs in total, including Guard and Reserves could be called upon to fight tonight.

How does this budget proposal allow you to address that? By the end of 2018, if you were to get the amounts in this request, how many of our BCTs would be ready to fight? How would you assess the readiness that we just described here?

General MILLEY. Our readiness objective for the regular Army is 66 percent of the formations are at the highest level of combat readiness, and our objective for the Reserve component, both National Guard and U.S. Army Reserve, is 60 percent of their enabling capabilities.

Right now, that comment about a third—that is still relatively true. I would rather give you a detailed—it has changed since General Allen has testified, and it has gotten a little bit better. As I briefed earlier, it is slow progress, not the level that I would like to see.

With this budget, with the completion of the 2017 budget, we still have part of that year to go. The enactment of the 2018 budget—I think we will see significant improvement because readiness is cumulative, and I think based on our current projections, assuming we hold constant things like OPTEMPO and we get steady, predictable funding, then I think you will see significant improvement in readiness by the end of 2018 for sure. It will not necessarily be at the objective level, but it will be a significant improvement over what it is today.

Senator PERDUE. How much would you need to get the objective level?

General MILLEY. Steady, predictable funding for several years in a row and a growth in the size of the force. We chose in this particular budget to flat line the end strength growth. If more money became available, I certainly would like to see that—

Senator PERDUE. So if you were to get a CR [Continuing Resolution] at any point in that 4- or 5-year period you are talking about that would tie your hands to redivert or to divert money from one area to another to address this readiness, how would that impact your ability to do what you are talking about doing?

General MILLEY. CRs hurt. I will let Secretary Speer—he is a finance guy, and he knows more about how they hurt than I do, but I can tell you they hurt.

Secretary SPEER. One thing about the CRs, especially the longer term they go, but any CR,—they have a cumulative effect, and that is part of what we are coming out of from 2013, 2014, 2015 on not only in terms of the ability for a commander to know and sustain predictability for training and what they are going to do, they are by nature conservative. So when they see the funding may run out, they react differently. They can be risk-averse to that. You start making bad purchasing decisions, and those types of things go on.

Senator PERDUE. You make shorter-term decisions is what you are saying.

Secretary SPEER. Correct.

Senator PERDUE. Less optimal decisions than you would make if you had a steady runway of dependable funding.

General MILLEY. They are more expensive.

Secretary SPEER. More expensive too. I mean, they hold things to the very end, and you have a whole bunch of purchases at the end of the year that you do not get the best bargain for.

General MILLEY. It is a crazy way to do it, this CR thing is—just one man's opinion I suppose, but I would say it is a crazy way to do it.

Senator PERDUE. Sir, I come from a different world too. I come from the business world. I have never seen this done anywhere else in the world. It is absolutely absurd that we are going to do that and tie your hands about allowing you to move money from one department to another, to even adapt to reduce levels of spending.

Our procurement program—I think you mentioned just now. One of the competitive issues that I believe—and you just said it—that will make winners and losers in the future is how quickly we can adapt technology to the battlefield. It sounds to me like with what we have been doing compared to what China is doing particularly with the rise of their investment—they are spending about \$826 billion a year in comparable terms on their military today. That compares to our \$600 billion, just to put that in perspective. In addition, they can bring things to market so much quicker. Would you elaborate on that just a little bit and how China is outpacing us in terms of bringing new technologies to the battlefield?

General MILLEY. Your assessment is accurate, they have made significant advances. We are in the 38th year I guess since Deng Xiaoping and the 1979 reforms. So they have made a massive economic improvement in their society for 37 consecutive years. It is the largest economic shift in global power in 5 centuries. When that happens, inevitably throughout history, significant military capability follows. That is what we are seeing, we are seeing a significant development of Chinese military capability, and it is relatively rapid. They are not at 100 percent of our levels yet in some areas, but in other areas they have developed capabilities that are quite challenging. The specific capabilities—I would prefer not to talk about them in open session, but it is a significant capability that they are developing.

Senator PERDUE. Thank you both.

Chairman MCCAIN. Senator Reed?

Senator REED. Thank you, Mr. Chairman.

Just one quick follow-up question with respect to small arms. To what extent, if we adopted a new round, would it impact the inter-

operability of our relationship with NATO countries, the rounds that they have? Related to that is, what would it cost us to refurbish the worldwide stockpile, which exists now, 5.56 and 7.62?

General MILLEY. Those are all part of the analysis that we are doing down at Benning. Just to put your mind at ease a little bit, what we have developed is a 7.62 bullet. So it is not like something that is not in the inventory anywhere. We have developed a pretty effective round down at Fort Benning. We think that we can get that into production here in a year or two and get that fielded out to the force. It is 7.62, not 5.56.

But not everybody necessarily needs a 7.62—this idea that the entire Army—everybody needs the same thing all the time—is not necessarily true. There are some units, some infantry units, that are much more highly likely to rapidly deploy than others and conduct close quarters combat that we would probably want to field them with a better grade weapon that can penetrate this body armor that we are talking about.

Senator REED. Would this round be interoperable with NATO allies?

General MILLEY. I probably should owe you a specific answer. I think yes. It is a 7.62 round. So I think the answer is yes. Let me get you a specific ballistics answer.

[The information referred to follows:]

General MILLEY. The Army's current 5.56mm and 7.62mm cartridges are all NATO standard rounds which can be chambered and fired in NATO standard weapons. These include:

- 5.56mm:
 - M855A1: Enhanced Performance Round (EPR) is the primary combat round
 - M856A1: Tracer round
 - M995: Armor Piercing round (War Reserve)
 - M1037/M862: Short Range Training Ammunition
- 7.62mm:
 - M80A1: EPR is the primary combat round
 - M62A1: Tracer round
 - M993: Armor Piercing (War Reserve)
 - M973: Short Range Training Ammunition Ball for use in training
 - M974: Short Range Training Ammunition Tracer for use in training
 - M118: Long Range is the primary round for the M110 Semi-Automatic Sniper System

In order to address peer and near-peer threat increases in Soldier protection, the Army is in the process of qualifying the 7.62mm XM1158 Advanced Armor Piercing (ADVAP) round which is also a NATO standard caliber round. The XM1158 is planned for Low Rate Initial Production (LRIP) in fiscal year 2019 with quantities being added into the war reserve in fiscal year 2020. There will be 35 million rounds in the war reserve for contingency operations. The Army will spend a total of \$420 million to include research and development, qualification and LRIP at Picatinny Arsenal and Full Rate Production at Lake City Army Ammunition Plant (LCAAP).

The Army is also in the process of research and development for the next generation squad weapon systems with anticipated fielding in fiscal year 2023 to replace the 5.56mm M249 SAW and M4 Carbine. This system will address peer and near-peer threats at greater ranges. The caliber is not yet selected but is anticipated to be in the range of 5.56mm, 6.5mm, 6.8mm or 7.62mm. It is currently too early to determine the total cost of development and fielding of this new ammunition. The Army anticipates better cost fidelity upon selection of the weapon, ammunition type and caliber, which is projected for fiscal year 2021.

Senator REED. Thank you, sir.

Chairman MCCAIN. Senator Cruz?

Senator CRUZ. Thank you, Mr. Chairman.

Good morning, gentlemen. Welcome. Thank you for your service to our Nation particularly at this time of great challenges abroad and rising perils. I want to thank you both for your work particularly on the fiscal year 2018 defense budget and your commitment to rebuilding our military capability to keep this Nation safe, to restore our readiness, and make sure we are in a position to defeat our enemies and to defend the Homeland.

I want to talk about several aspects of the budget. The first concerns Fort Hood and other Texas bases, which is we visited the barracks and other facilities at Fort Hood and other Texas bases. The bachelor enlisted quarters are currently at unacceptable habitable levels. I understand that MILCON [Military Construction] spending has been limited due to the operational challenges causing the services to make difficult budget decisions. Can you share with this committee your commitment to providing the necessary sustainment and restoration and modernization of these facilities to keep them functioning at a habitable level?

Secretary SPEER. So, Senator, I would agree with you. The past non-predictable funding, the problems of lower funding we had has created some strain which generates some readiness from the institutional base of the installations. We have—and thank you so much for the fiscal year 2017 budget—added additional resources to sustaining those installations, to include Fort Hood. We have asked for, inside the fiscal year 2018 budget, double the restoration and modernization previously. We got over \$1 billion more than we had in fiscal year 2017. So we will get after both not only Fort Hood but other installations in terms of improving modernization and readiness of the facilities. MILCON has not been plused up as much. We are still taking some risk, and we will have to look at that in terms of the total infrastructure of the installations in the future.

Senator CRUZ. Thank you.

Let me turn, General Milley, to a different topic, which is that prepositioned stocks in South Korea are planning to move back to the continental United States to equip a new armored brigade combat team. Could you expand on the reasons why the prepositioned stock has to be relocated from a forward-deployed location supporting rotational units to outfit an ABCT [Armoured Brigade Combat Team] that will be stationed in the U.S.?

General MILLEY. Thanks, Senator. Two things. One is that equipment is over there prepositioned for a force to arrive for training or otherwise. The intent is that the armored units that deploy there will deploy with their equipment. As I mentioned earlier to one of the Senators, for the last 15–16 years, our force—we restructured ourselves to fight an insurgency and counterterrorist fight, and we went with infantry heavy, which is appropriate for that type of fight. As we look at the world ahead, we need to rebalance a little bit. So we need to increase our armored brigade combat team capability. So we want to convert one infantry to an armored to create a 15th and then create a 16th after that. That equipment—the key set you are talking about—will be necessary to create that 16th armored brigade. Absent that, we will not be able to do it given the money that we have and the vehicle inventory that we have. So that is the logic behind it. It is an element of risk, but

we think it is acceptable level of risk because that particular unit would be the one going anyway.

Senator CRUZ. Let me turn to a different question, which is that the President's budget keeps regular Army BCTs at 31, without any increases across the Active Duty National Guard or Reserve forces. Does this budget contain any provisions that would aid in the future reactivations of new BCTs?

General MILLEY. Yes. It was 30, and this budget request keeps 31. That one is the airborne brigade up in Alaska. So that is where you get your 31st one.

There are modest increases in force structure built into this budget. One of the ones that relates to your question is the security force assistance brigades. They are the chains of command. Think of them as the chain of command from staff sergeant on up of an infantry brigade. They will train together. They will work together, and they will deploy as advisors to places like Iraq, Afghanistan, and other places where we think advisory help for indigenous forces.

They will not have soldiers in them, though. They will not have the privates and the sergeants and the corporals, et cetera. So if we need to expand rapidly, they do form the basis, the nucleus, the leadership piece of a brigade combat team that we could bring soldiers through basic training and AIT [Advanced Infantry Training] and fold them underneath that chain of command, and you could very quickly have an additional brigade must faster than building one from scratch. We plan on building five of those, four in the regular Army, one in the Guard. That would be an expansion there.

The other part of that is what we are trying to do with this budget is fill the holes of the existing force structure, and then we are going to want to come back to you in the 2019 budget with what we think is the optimal force structure for the national military strategy and the defense planning guidance. Secretary Mattis is currently leading us through a very rigorous review of that, which we expect the results—we will be finished with it probably in the fall. Once we are done with that, we come back in 2019 with here is how we think we make ourselves right-sized for the challenges we think we face.

The last budget stopped the bleeding, this budget is to steady the ship and start the increase, as slight as it is, in readiness and modernization and modest increases in capacity. I hope that answers the question.

Senator CRUZ. Thank you, General.

Senator REED [presiding]. Thank you, Senator Cruz.

Gentlemen, thank you for your testimony, for your service. On behalf of Chairman McCain, let me call the hearing adjourned.

[Whereupon, at 11:31 a.m., the committee adjourned.]

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR JAMES INHOFE

ARMY END STRENGTH

1. Senator INHOFE. General Milley, understanding that the ultimate size of the Army will largely depend on the outcome of the ongoing National Security Strategy review, what is the correct end strength number for each Army component to meet present enduring Combatant Command requirements and contingency operations?

General MILLEY. Until the National Security Strategy review is complete, I cannot provide exact end strength numbers by component. However, under the current national military strategy and defense planning guidance, increases above 1.018 million soldiers (476,000 Regular Army; 343,000 National Guard; 199,000 Reserves) would enable the Army to better fulfill all of its requirements at more acceptable levels of military risk.

CURRENT ARMY READINESS

2. Senator INHOFE. General Milley, you testified that the readiness goal for Army BCTs is roughly 66 percent. We further know from open testimony that we are not even close to that goal, with only about one-third of BCTs ready currently. What practical steps can we take to bring us closer to the 66 percent readiness goal?

General MILLEY. The additional end strength for Active and Reserve components provided in the fiscal year 2017 National Defense Authorization Act (NDAA), will improve the manning levels inside Brigade Combat Teams (BCTs) gaining additional readiness. In fiscal year 2017, we emphasized decisive action training at home station and at our Combat Training Centers (CTC). Building on our gains in fiscal year 2017, we have requested increased funding for CTC rotations and emergency deployment readiness exercises (EDREs) in fiscal year 2018. These exercises will improve readiness of forces preparing for deployment and contingency operations. We have also increased funding for BCT home station training to above 90 percent of the total requirement for Regular Army units and above 80 percent for Army National Guard units.

Beginning this year, and increasing in fiscal year 2018, all Army National Guard BCTs receive additional man-days with associated pay and allowances. We are increasing the number of Army National Guard BCT CTC rotations from two to four per year.

Additional resources for home station training, increased maintenance for aviation that includes the 4 AH64 Battalion's in the ARNG, and increased EDRE funding would all help accelerate our readiness. These items were included in the fiscal year 2018 UFR Letter.

Army-wide, we are also aligning BCTs with ongoing missions, so that it builds readiness at the least risk to contingency and war plan demands.

Finally, to achieve the optimal readiness of our BCT formations, sustained, sufficient, and predictable funding for required manning levels, modernization, and sustainment are critical.

3. Senator INHOFE. General Milley, of the four pillars of readiness (manning, equipment, leader development, training), which are you most comfortable with in its current state, and which one concerns you the most?

General MILLEY. In its current state, the manning pillar presents the least concerns due to recent approved increases in end strength, however that does not mean we are comfortable with its current state—it is only a beginning in an area that saw reduction by 80,000 soldiers in the last 8 years. The increase in end strength should not be mischaracterized as an increase in the overall Army; it will fill gaps in the existing force structure. We're not increasing the brigades and divisions; we're filling holes in existing units.

Most concerning is the equipment pillar. With the passing of the fiscal year 2017 Consolidated Appropriations Act, procurement efforts will begin to address known shortfalls and gaps in combat systems and most importantly in munitions, electronic warfare, cyber programs, air and missile defense, long-range fires, protection and mobility programs. However, this will not fully reverse the effects of constrained funding and multiple years of continuing resolutions. Without predictable steady funding in the years ahead we will be required to continue to leverage future modernization to achieve current readiness requirements.

QUESTIONS SUBMITTED BY SENATOR TOM COTTON

ARMY FISCAL YEAR 2018 UNFUNDED LIST

4. Senator COTTON. General Milley and Secretary Speer, if Congress decides to add additional resources for a second set of up-gunned Stryker vehicles, would the Army find this consistent with their needs given the threat?

General MILLEY and Secretary SPEER. Yes, additional resources for a second set of up-gunned Stryker vehicles would be consistent with Army needs given the threat. Stryker lethality is included in our Fiscal Year 2018 Unfunded Require-

ments List and it will better equip our maneuver forces against peer and near-peer threats.

DISTRIBUTED COMMON GROUND SYSTEM-ARMY (DCGS-A)

5. Senator COTTON. General Milley, “Last we spoke, I was assured that the Army was on track to comply with Section 113 of the NDAA regarding DCGS-A and that the Army Chief of Staff was fully aware of that effort. As of now, the Army has 27 days to award a contract for a working commercial solution that will be fielded Army-wide for users at the division and below levels. I am concerned because it appears that the Army has still not defined its requirements, begun a competition, or made any concrete steps towards meeting those requirements. So, is the Army going to award a contract by June 21 that will give users from the division and below a working capability?”

General MILLEY. The Army is complying with Section 113 of the National Defense Authorization Act (NDAA) regarding Distributed Common Ground System-ArmY (DCGS-A). The Army will not award a contract by June 21, 2017. However, to comply with the NDAA, the Army has conducted comprehensive market research to solicit feedback on available commercial capabilities and will submit a waiver request to the Secretary of Defense to allow the Army to award a contract. To date, industry has provided valuable data on current commercial off-the-shelf and non-developmental products and their feedback has directly informed the requirements. U.S. Army Forces Command has also participated in the requirements process in order to provide input on what capabilities soldiers need. I will personally review and approve the final requirements document to support this effort. Direct industry engagements and well-defined requirements are necessary steps prior to awarding a contract for a commercial solution or non-developmental item that will be fielded Army-wide for users at the tactical levels.

QUESTIONS SUBMITTED BY SENATOR CLAIRE MCCASKILL

CBRN PREPAREDNESS

6. Senator MCCASKILL. General Milley and Secretary Speer, please provide, in a classified format if necessary, current assessments on the timeline in which the United States believes that North Korea will have the capability of: Successfully launching an ICBM; Successfully launching an ICBM capable of ranging any portion of the continental United States; Successfully launching an ICBM capable of ranging the entire continental United States; and Successfully launching an ICBM with a nuclear warhead.

General MILLEY and Secretary SPEER. [Deleted.]

7. Senator MCCASKILL. General Milley and Secretary Speer, do you feel confident that Army forces generally, and in the Pacific theater specifically, have the CBRN equipment necessary to defend United States troops against a potential chemical or biological attack by North Korea?

General MILLEY and Secretary SPEER. Yes, We are confident that the Army has broadly equipped its soldiers, and the United States Forces Korea, 8th Army and United States Army Pacific Command specifically, with the most ready and modern capabilities as it relates to defending themselves against a CBRN attack from North Korea.

However, as a result of frequent provocations from North Korea, which is armed with chemical, biological and nuclear weapons, and given the advances in technology in the area of Chemical, Biological, Radiological and Nuclear (CBRN) defense, the Army is continuing to seek opportunities to improve the CBRN equipment, capabilities and capacity available to defend U.S. troops against a potential attack in the Pacific theater.

In Fiscal Year 2018 (FY18) Army and Joint Chemical and Biological Defense Program budget requests, we have sought to maximize investments in CBRN readiness on the Korean peninsula. Additionally, the Army's Fiscal Year 2018 Unfunded Requirements List includes requests to deliver improved CBRN decontamination and radiological detection capabilities to the Army forces on the Korean peninsula.

8. Senator MCCASKILL. General Milley and Secretary Speer, in 2016, the National Commission on the Future of the Army identified CBRN response and defense as a critical shortfall in Army capabilities in a major contingency operation.

Do you agree with the shortfall identified by the Commission? If so, what have you done or plan to do to address the shortfall? How many additional soldiers should we be training?

What are some of the potential consequences in an overseas military conflict of having a gap in our Chemical, Biological, Radiological and Nuclear response capabilities?

What are the consequences of this gap to the Army's ability to respond to an attack on the Homeland?

General MILLEY and Secretary SPEER. The Army agrees with the National Commission on the Future of the Army report with regards to shortfalls related to Chemical, Biological, Radiological and Nuclear (CBRN) capabilities and modernization.

To address these concerns, we requested additional funding in the President's Budget 2017 Request for Additional Appropriations which allows us to procure chemical protective ensembles to meet contingency requirements, as well as fund improved early warning to detect potential chemical attacks in the Central Command area of responsibility.

Likewise, the Army's Fiscal Year 2018 President's Budget submission and our continued work with the Joint Chemical and Biological Defense Program are also informed by the Commission's recommendations on CBRN modernization.

The Army continually seeks opportunities to improve CBRN capabilities and capacity within larger readiness and modernization efforts to ensure we have the most ready force available to address the broad threats of modern warfare.

With regards to training, the Army fully recognizes the importance of preparing soldiers to operate in a CBRN environment and fully resources CBRN training executed by all units in the force structure. As we field modernized equipment to address emerging and advanced threats, we ensure soldiers receive the needed training to close the shortfall.

Gaps in the Army's CBRN response capabilities, whether in a military conflict or in the Homeland, could increase risk to soldiers and delay mission accomplishment. We maximize investments in our CBRN force structure and training to best minimize consequences to the warfighter within our current capabilities. In the Homeland, the Army has made a concerted effort over the last few years with regards to CBRN defense and protection through forces, training and equipment in support of the CBRN Response Enterprise. Using the Total Force approach, 18,700+ personnel in CBRN response capable units from the Active Component, Reserve Component, and National Guard may be called upon to provide a wide range of capabilities to save lives and protect property. The CBRN Response Enterprise consists of 57 Civil Support Teams, 10 Homeland Response Forces, and 17 CBRN Enhanced Response Force Packages which normally respond in State Active Duty under State control; and one Defense CBRN Response Force and two Command and Control CBRN Response Elements which provide the Federal response under USNORTHCOM.

Additional readiness and modernization efforts are highlighted in the Army's Fiscal Year 2018 Unfunded Requirements List, which seeks opportunities to accelerate improved radiological detection systems, expand decontamination capabilities to United States forces in Korea, increase readiness of our Stryker Nuclear, Biological and Chemical Reconnaissance Vehicle fleet, and deliver improved protective masks and ensembles to Chemical, Biological, Radiological, and Nuclear forces for both warfighting and Homeland defense missions.

9. Senator MCCASKILL. General Milley and Secretary Speer, last year I had the privilege of meeting U.S. Army soldiers responsible for operating anti-ballistic missile weapons systems.

Do you believe it is advantageous for the United States to deploy additional anti-ballistic missile capabilities to Japan?

Do you believe THAAD is necessary?

General MILLEY and Secretary SPEER. Yes, it is advantageous to deploy additional anti-ballistic missile capabilities, where needed. Missile Defenses are less provocative than offensive systems, protect critical assets and population centers, assure our Allies, and preserve capabilities should deterrence fail.

U.S. Patriot and THAAD are some of the Army's most in-demand systems. Increasing United States missile defense in Japan must be balanced. Japan already has considerable defenses including Patriot batteries with advanced missiles.

The Department developed the "THAAD Global Posture" to maximize strategic flexibility in order to respond to war plans and contingency demands. Not adhering to that Global Posture footprint would make it very difficult to meet other worldwide requirements.

CONTRACTS

10. Senator MCCASKILL. General Milley and Secretary Speer, in 2015, the GAO found (GAO-16-46) that, in 2013, the Army reported nearly 80 percent of the \$9.7 billion it obligated for contracted services—such as professional and management support—were for services that were closely associated with inherently governmental functions. What is the Army doing to ensure that we are either transitioning these types of contracted roles to DOD permanent hires, or else ensuring that such contracted services result in savings to the taxpayer?

General MILLEY and Secretary SPEER. The Army continues to comply with the statutory requirements to review its inventory of contracted services and, to the extent possible, reduce contracted services for functions that are closely associated with inherently governmental functions. However, the existing constraints on the size of the civilian workforce and force manning levels impede our ability to in-source functions deemed to be closely associated with inherently governmental functions. Because the Army is managing to a civilian end strength limit, it is difficult for Army organizations to move this contracted work in-house.

Although it is possible that some of these contracted positions may be saving the taxpayers money, we generally have not done the cost comparisons to show which labor source would be most cost effective because, given the current civilian end strength limitations, there is no option to in source those positions. In fiscal year 2014 we in-sourced 14 positions; in fiscal year 2015 we in-sourced 14 positions; in fiscal year 2016, 141 positions, and so far in fiscal year 2017, we have in-sourced 56 positions.

In addition to transitioning from contracted services to permanent civilian positions, in an effort to reduce costs, the Army is carefully considering the extent to which contracted services in operational theaters may be transitioned to either DA civilian or military personnel. Many Army units have deployed to Afghanistan without all of their support personnel in order to remain within the force management level restrictions. Now that the administration has lifted these restrictions, it may be possible for the Army to shift these functions currently performed by contractors, such as aviation maintenance, base security, and UAS operators, back to the military personnel that have been trained in those areas.

11. Senator MCCASKILL. General Milley and Secretary Speer, in 2016 the GAO recommended (GAO-16-119) that the DOD, to the extent possible, revise programing guidance to collect information on how contracted services will be used to meet requirements beyond the budget year, but rather into the Future Year Defense Program. What steps has the Army taken to bring this recommendation into reality and practice?

General MILLEY and Secretary SPEER. To bring the Government Accountability Office's recommendation into reality, the Army first initiated a trial process with select commands in fiscal year 2016 (FY16) to collect and analyze contracted service requirements and funding. In fiscal year 2017, the Army is continuing this effort by updating the existing data collected and further expanding the number of participating commands. The Army expects to be fully operational by the end of fiscal year 2018. The Army defined the contracted services per the Federal Acquisition Regulation 37.101—a “contract service” is one that directly engages the time and effort of a contractor whose primary purpose is to perform an identifiable task rather than to furnish an end item of supply. This includes services performed by either professional or nonprofessional personnel whether on an individual or organizational basis.

COOPERATION WITH THE DEPARTMENT OF HOMELAND SECURITY

12. Senator MCCASKILL. General Milley and Secretary Speer, the military has long embraced the concept of ‘jointness’ wherein each branch of service works hand in hand with the others. This has made our military more capable and better trained to accomplish their mission.

Do you agree the military, and the National Guard in particular, should closely embrace the concept of ‘jointness’ and increase coordination with DHS to ensure they are prepared to respond to a massive CBRNE attack against the United States Homeland?

Would you agree joint training opportunities are an effective way to integrate the functions of the National Guard and DHS in a disaster response situation?

Will you commit to working with DHS to increase combined training, including training conducted by the CBRNE school at Fort Leonard Wood, and ensure the National Guard is fully prepared to meet this important mission?

General MILLEY and Secretary SPEER. I agree that the Army, including the National Guard, should work closely with DHS and other government agencies to ensure we are prepared to respond to any CBRNE attack. Title 32 and Title 10 National Guard CBRN Response Enterprise element leaders are currently working to forge more in depth relationship to ensure “jointness” across the Total Force. I also agree that joint training is one of the most effective ways to integrate Army and DHS functions in a disaster response scenario. There are already a number of opportunities for soldiers, Regular Army and National Guard, to train alongside DHS responders at Fort Leonard Wood. These include both collective and individual training. The National Guard also participates in the DHS National Exercise Program which ensures DHS and National Guard senior leaders have the opportunity to exercise interagency coordination procedures with OSD and DHS/FEMA.

The National Guard leverages training opportunities at Maneuver Support Center of Excellence (MSCOE)/CBRNE School at Ft Leonard Wood and continues to work with MSCOE/CBRNE School to ensure DHS requirements are properly represented in Army Requirements Oversight Council (AROC) processes. I am committed to close coordination with the Services, OSD, and DHS to prepare for a whole of Government response to any largescale CBRNE incidents or attacks in the United States Homeland. We recognize the critical role Ft. Leonard Wood plays in that effort.

CYBER

13. Senator McCASKILL. General Milley and Secretary Speer, what types of enemy cyber effects are brigade combat teams faced with during their rotations at Army Combat Training Centers? How well are they prepared to face these effects?

General MILLEY and Secretary SPEER. Brigade Combat Teams (BCTs) face a hybrid threat, meaning Cyber Opposing Forces (OPFOR) transition their effects between those used by state and non-state actors, including organized criminal elements, in cyberspace. The intent of the effect is to degrade BCT mission command capabilities or to assist in information warfare campaigns. Examples of effects used in the last 6 months to degrade mission command include a denial of service attack on the BCT network, repeatedly restarting critical domain infrastructure, phishing attacks, and exfiltration of operational and intelligence information allowing the OPFOR to conduct kinetic attacks and information warfare campaigns. Examples of effects used for information warfare campaigns include injecting false information into a mission command system and defacing the unit webpage with a propaganda message. Additionally, OPFOR frequently targets the BCT's usage of the electromagnetic spectrum (EMS), degrading friendly tactical communications and conducting local denial of GPS, affecting BCT positioning, navigation, and timing ability.

The Army is continuing its efforts to grow, train and equip the Cyber Force through the institutional recruiting, training and equipping processes. In general, BCTs that have not yet been fielded with cyber trained and equipped manpower lack organic capability and capacity to effectively respond to enemy cyber effects during Combat Training Centers (CTC) rotations. During CTC pilot rotations where Army Cyber Command has provided embedded augmentation of trained and equipped personnel, the BCTs have been very successful in blocking and defeating the opposing force cyber effects. In many cases, application of basic cybersecurity practices (password management, log monitoring, and firewall configurations) would minimize the impact or ability to conduct an effect. Recent Cyber Electromagnetic Activities (CEMA) Support to Corps and Below (CSCB) supported rotations at CTCs have greatly improved the BCTs ability to execute cyberspace operations and electronic warfare to enable dominance of the cyber, electromagnetic, and information environments. The lessons learned from these CSCB rotations will inform many aspects of doctrine, organization, training, materiel, leadership, personnel, facilities and policies (DOTMLPF-P) and education initiatives going forward.

14. Senator McCASKILL. General Milley and Secretary Speer, in what ways is the Army coordinating with private sector owners and operators of critical infrastructure that is part of the defense industrial base?

General MILLEY and Secretary SPEER. The Army is working closely with prime and sub-contractors of the weapons platforms assessed in response to section 1647 of the National Defense Authorization Act (NDAA) for fiscal year 2016 requirements to help them better understand the threat and identify vulnerabilities in their enabling Platform Information Technology (PIT). The Army intends to pursue a similar relationship with the private sector entities involved with the Facility Related Control Systems and Industrial Control Systems assessed in response to the require-

ments of section 1650 of the fiscal year 2017 NDAA. As we evolve these assessment programs into enduring capabilities, the Army will maintain this reinforcing relationship with the private sector entities that build and maintain our systems and infrastructure.

Army Materiel Command (AMC) is working to improve its critical infrastructure, and the cybersecurity posture of its supporting Cleared Defense Contractor (CDC) networks (often connected directly to Army-owned systems) through efforts to gain better visibility (utilizing ARCYBER Cyber Protection Teams) of the vulnerabilities associated. The long term improvements, however, will be through changes to contracting language; AMC is currently preparing to enter into negotiations with a supporting CDC to modify a contract to support stricter cybersecurity requirements and increased visibility.

GENDER INTEGRATION

15. Senator MCCASKILL. General Milley and Secretary Speer, what is the Army's plan to continue to recruit women into the newly opened ground combat jobs?

General MILLEY and Secretary SPEER. The Army is recruiting across the spectrum of the eligible population. The Army Marketing Research Group has developed products developed to highlight diversity and to appeal to potential female candidates for service. The Army has conducted more than 40 local, regional, and national media engagements focusing on integration efforts and highlights many of the stories of female soldiers on official social media accounts as a standard practice.

16. Senator MCCASKILL. General Milley and Secretary Speer, what is the Army's plan to increase inclusion of women into the special operations career fields?

General MILLEY and Secretary SPEER. The Army is actively seeking female candidates who can meet the physical, cognitive, and non-cognitive qualifications for special operations career fields. Many female soldiers already work in Special Forces units as Civil Affairs officers; Special Forces units draw upon special female-only teams in order to meet mission requirements. Special Operations Command's implementation plan mirrors the Army's lines of effort (transform accessions, talent management, communicate and educate, and assessment of progress). The Army is committed to ensuring all qualified and interested candidates, whether male or female, have the opportunity to meet the rigorous standards for the special operations career fields.

17. Senator MCCASKILL. General Milley and Secretary Speer, have we seen any harm to readiness since women began serving as leaders in the infantry, armor, field artillery, or other combat arms?

General MILLEY and Secretary SPEER. No. The integration of women into combat arms branches has not adversely affected the readiness of the Army.

18. Senator MCCASKILL. General Milley and Secretary Speer, do you believe the success the Army has had in opening positions to the entire talent pool could be replicated by other services?

General MILLEY and Secretary SPEER. Yes. However, the Services differ in their missions which may drive Service specific recruiting. Although the Army has had success with a standards based leaders first strategy for integrating women, we are open to sharing this approach and lessons learned with the other Services.

EUROPEAN REASSURANCE INITIATIVE

19. Senator MCCASKILL. General Milley and Secretary Speer, while the overall budget for the European Reassurance Initiative was increased by 65 percent in the president's budget, the amount allocated to build partner capacity was cut significantly (\$32 million or 63 percent). This is even more concerning paired with State Department cuts in the Foreign Military Financing program and the complete elimination of the program to NATO states bordering Russia (Estonia, Latvia, Lithuania). With these cuts how are our allies and regional partners to be assured that the United States takes seriously the threat of Russian aggression and the potential harm to regional stability?

General MILLEY and Secretary SPEER. NATO allies and partners are assured of the United States' commitment to regional stability through the continuous presence of an Armored Brigade Combat Team (ABCT) and a Combat Aviation Brigade (CAB) along with forward stationed presence, that continue to partner with NATO allies and partners in bilateral and multilateral exercises throughout eastern Europe from the Baltics to the Balkans. The United States is also a framework nation in the NATO-led enhanced Forward Presence (eFP) initiative which places battalion-sized

combined arms battle groups in the three Baltic States and Poland. This is a visible demonstration of the United States commitment to collective defense and that the United States takes the threat of Russian aggression seriously. Additionally, although the amount of funding dedicated to building partner capacity has decreased, the amount dedicated to exercises and training has increased. As the focus of Atlantic Resolve shifts from reassurance to deterrence, more emphasis is placed on interoperability and deterrence exercises that build on the capacity and capability gains achieved from previous efforts at building partner capacity.

QUESTIONS SUBMITTED BY SENATOR JOE DONNELLY

ABRAM TANKS AND BRADLEY FIGHTING VEHICLE FUNDING

20. Senator DONNELLY. General Milley, over the last several months, the Army has made clear that it wants to create additional armored brigades and that it wants to equip these brigades with the most modern combat vehicles. Please explain the Army's plan for additional armored brigades and what you need from Congress to resource the Army's plan to significantly expand the number of armored brigade combat teams.

General MILLEY. The Army wants to create two additional Armored Brigade Combat Teams (ABCTs) and add one ABCT set of equipment to Army Prepositioned Stocks in Europe.

To accelerate the creation of additional ABCTs, the Army will begin the conversion of a regular army Infantry Brigade Combat Team (IBCT) to an ABCT at Fort Stewart, Georgia, in October 2017. This ABCT will complete its conversion and training in June 2019. This ABCT will be fielded with the M1A1 AIM-SA Abrams tanks and the M2A2 ODS-SA Bradley Fighting Vehicles sourced from the conversion of the 81st ABCT (Washington Army National Guard) to a Stryker Brigade and Army stocks. Modernization of these Abrams and Bradleys will take place sometime in the future as assets become available. In addition, the Army is looking at opportunities to convert a second IBCT to an ABCT. The location and timeline for this conversion is still being determined.

The Army is also building an additional ABCT set of equipment in Europe as part of the European Defense Initiative. The funding for this ABCT is part of the fiscal year 2017 appropriation and the fiscal year 2018 budget request and we anticipate requesting additional funding in future budget requests so we can begin fielding in fiscal year 2020.

What the Army needs from Congress is full support of the \$1.16 billion (B) in Fiscal Year 2018 Base Funding request for Army Combat Vehicle Modernization programs and the additional \$834 million (M) that is included in the Fiscal Year 2018 Unfunded Requirements list. Further, the Army needs timely passage of the required Fiscal Year 2018 Appropriations and Authorization. Any delay in funding will extend the timeline for fielding these ABCTs.

DFARS CYBERSECURITY ISSUE

21. Senator DONNELLY. General Milley, in the fiscal year 2013 and the fiscal year 2015 NDAA, Congress included provisions requiring contractor reporting on network penetrations and cloud computing (Section 941 of the National Defense Authorization Act (NDAA) for fiscal year 2013 (Pub. L. 112-239) as added by Section 1632 of the NDAA for fiscal year 2015 (Pub. L. 113-291)). I'm told that DOD subsequently added several additional requirements. Commercial off the shelf equipment has been exempted from these new requirements, but other commercial equipment has not. Have you examined the impact this issue will have on the Army if DOD does not exempt commercial equipment from the DOD-added regulations? Are you aware of any plans to extend this exemption to commercial equipment or otherwise address this issue ahead of the implementation deadline of December 31, 2017 to ensure suppliers can meet the needs of the Army?

General MILLEY. DFARS clause 252.204-7012 is required in all solicitations and contracts, including solicitations and contracts using Federal Acquisition Regulation (FAR) part 12 procedures for the acquisition of commercial items. The clause is not required for solicitations and contracts solely for the acquisition of COTS items. Procurements solely for the acquisition of COT items are extremely unlikely to involve covered defense information or operationally critical support.

When the acquisition of commercial items involves covered defense information (i.e., any information that requires safeguarding or dissemination controls pursuant to and consistent with law, regulations, and Government-wide policies), such as cases when commercial items, services, or offerings are tailored to meet a particular

customer's requirement. DFARS clause 252.204-7012 will apply. There is no flexibility that allows commercial equipment suppliers to operate outside the scope of this clause.

It is my understanding that flexibilities within the DOD policy allow the Army to continue working with commercial equipment suppliers to ensure the needs of the Army are met, while also improving cybersecurity at all levels of the supply chain to prevent the loss of covered defense information. I am unaware of any specific issues that would require Army to examine the impacts of 48 CFR 204.73, Safeguarding Covered Defense Information and Cyber Incident Reporting.

QUESTIONS SUBMITTED BY SENATOR MARTIN HEINRICH

COUNTER UAS

22. Senator HEINRICH. General Milley, I appreciated our exchange at the hearing regarding next generation weapon systems to counter rockets, artillery, and mortar. In 2013 the Army demonstrated a 10-kW class laser and successfully engaged over 90 mortar rounds and several UAVs with its High Energy Laser Mobile Demonstrators (HEL MD). At the time, Army officials said mortars and UAVs were representative of the threats faced by United States and allied forces in the battlefield. The Army's investment this year in a 50 kilowatt high energy laser on a striker vehicle is a welcome decision that will help greatly in terms of SWaP. I look forward to being an advocate for this program during budget deliberations, but I will also continue to encourage military leadership across services to not let perfect be the enemy of the good.

In terms of counter UAS, adversaries continue to procure low-cost Unmanned Aerial Systems (UAS) and have armed them for military purposes. In May, 2017 at the Special Operations Forces Industry Conference, GEN Thomas stated that in 2016 the "most daunting problem was an adaptive enemy who, for a time, enjoyed tactical superiority in the airspace under our conventional air superiority in the form of commercially available drones and fuel-expedient weapons systems, and our only available response was small arms fire." In response to such threats, the Marine Corps will procure and deploy five Compact Laser Weapons Systems (CLWS) as an urgent need to expand C-UAS capabilities against small UAS. Additionally, this effort will help will identify the future technology and policy concerns of a directed energy Ground Based Air Defense Program of Record.

Significant advances in directed energy high energy lasers in recent years has proven that this technology is effective against the entire Find, Fix, Track, Target, Engage and Assess UAS kill chain. This technology has been demonstrated at recent DOD exercises such as live-fire exercise at White Sands Missile Range and the U.S. Army's Maneuver Fires Integration Exercise (MFI) and is ready to be operationalized. Does the Army intend to employ high energy lasers for C-UAS capabilities similar to Marine Corps introduction of CLWS?

General MILLEY. The Army intends to continue to explore the development of high energy lasers and their uses against both unmanned aircraft systems (UAS) and rocket, artillery and mortar (RAM) threats and has conducted exercises and test events demonstrating these systems. Specifically, the Army is partnering with the USMC in pursuit of the CLWS technology for mutual benefit. The Army is also exploring testing configurations including the Mobile Expeditionary High Energy Laser (MEHEL) and the High Energy Laser Mobile Test Truck (HELMTT). The Army will continue testing and development of lasers and will field systems as soon as they are technologically ready.

23. Senator HEINRICH. General Milley, if so, please explain the strategy and types of systems the Army intends to utilize.

General MILLEY. The Army has multiple testing configurations in development, including the Mobile Expeditionary High Energy Laser (MEHEL), which is a Stryker-based platform, and the High Energy Laser Mobile Test Truck (HELMTT), based on a Heavy Mobility Expanded Tactical Truck (HEMTT). Space and Missile Defense Command (SMDC) is the Army proponent for these initiatives. These platforms are used for testing application only in order to demonstrate developmental technology. They do not represent a materiel solution for the Army's current existing requirements to defeat air threats including unmanned aircraft systems (UAS), rocket, artillery and mortar (RAM), fixed-wing and rotary-wing aircraft, tactical ballistic missiles, and cruise missiles. Depending on the success of ongoing laser science and technology efforts, the Army intends to incorporate viable directed energy solu-

tions to mitigate these threats as part of a tiered and layered approach to air defense.

24. Senator HEINRICH. If not, please explain the C-UAS strategy.
General MILLEY. See Answer to Question 23.

25. Senator HEINRICH. General Milley, is there an Army acquisition strategy for high energy laser systems demonstrated at MFI? If so, please explain.

General MILLEY. Yes. The purpose of Maneuver Fires Integration Experiment (MFI) is to partner with the Fires Battle Lab to begin working through tactics, techniques and procedures, gain feedback from and build the trust with soldiers that will be vital for the successful transition and employment of advanced technologies such as High Energy Lasers (HEL).

The specific HEL technologies that the Army exercised during MFI 16 and MFI 17 were scheduled as critical knowledge points along our path to demonstrating a 50kW-class capability with the Multi-Mission High Energy Laser (MMHEL) in fiscal year 2021 (FY21). In support of the Maneuver-Short Range Air Defense (M-SHORAD) future objective capability as well as the full 100kW-class capability for the High Energy Laser Tactical Vehicle Demonstrator (HEL TVD) in fiscal year 2022 in support of the Indirect Fire Protection Capability (IFPC) Inc 2-I Program of Record (POR). Program Executive Office Missiles and Space is the transition partner and Program Office of Record for all Army Air Defense capabilities, both kinetic and directed energy, including both the M-SHORAD and IFPC Inc 2-I PoRs.

DOSIMETERS

26. Senator HEINRICH. General Milley and Secretary Speer, the recent rise in nuclear threats from countries like North Korea and Iran and non-state actors such as ISIS, who are making serious and dangerous attempts to obtain nuclear material to create a "dirty bomb", puts our service men and woman at increased risk for exposure to dangerous levels of radiation. These threats necessitate that our service men and women have the best and most capable radiation detection systems available. I am concerned that some of the currently fielded systems may not meet that high standard requirement. Is it true that at least half of the Active Army's personal dosimeters and readers, developed over 30 years ago with now outdated technology, do not measure and record the range of dose presented by radiological threats on today's battlefields and, in many cases, cannot be calibrated to function in any capacity, thus making them obsolete and non-mission capable?

General MILLEY and Secretary SPEER. Yes, it is true that currently half of the Army's Dosimeter (AN/PDR 75) readers are based on outdated technology.

As a result, the requirement for the Joint Personal Dosimeter-Individual (JPD-IND) was approved in March 2016. The Army is operationally testing JPD-IND in the second quarter of fiscal year 2018 and the Full Rate Production Decision is scheduled for later in fiscal year 2018, with Initial Operating Capability in fiscal year 2020.

27. Senator HEINRICH. General Milley and Secretary Speer, what kind of risks does this pose for our nation's servicemembers and what readiness shortfalls does it create for the Army as a whole?

General MILLEY and Secretary SPEER. This does not present readiness shortfalls, rather it increases risk on the battlefield. The current Army combat dosimeters (DT-236) gather radiation exposure data but do not allow for 'real-time' assessment and warning of soldiers' radiation exposure. This system requires measurements be taken manually, individually, with a separate reader (AN/PDR 75 or AN/PDR 75A) at the company level. Soldiers and leaders have no knowledge of their exposure until the mission is complete, risking unintended exposure to potentially detrimental or lethal amounts. Understanding the 'real-time' radiation exposure status of units would allow commanders to make informed risk decisions on troop employment operations to meet mission requirements.

28. Senator HEINRICH. General Milley and Secretary Speer, given this significant nuclear threat and low readiness level of our current detection systems, what is the Army's acquisition plan to rapidly complete fielding of a modern dosimeter system capable of detecting radiation on the battlefield that is not susceptible to being incapacitated by electromagnetic pulse?

General MILLEY and Secretary SPEER. The Army intends to field the Joint Personal Dosimeter-Individual (JPD-IND) as a personal dosimeter at the soldier, platoon and company level. The JPD-IND is intended not to be susceptible to incapaci-

tation by electromagnetic pulse. With each soldier having a JPD-IND assigned to them, the exposure rate data will be transmitted from the soldier through the squad, platoon and company levels electronically. The Army is operationally testing JPD-IND in the second quarter of fiscal year 2018 and the Full Rate Production Decision is scheduled for later in fiscal year 2018, with Initial Operating Capability in fiscal year 2020.

29. Senator HEINRICH. General Milley and Secretary Speer, recent news reports have highlighted current problems facing soldiers and veterans seeking treatment at the Department of Veterans Affairs whose radiation exposure was not recorded or tracked. Unfortunately this spans across exposure at Pacific island nuclear test sites in the 1950s, in Desert Shield and Desert Storm, around the Fukushima nuclear disaster, and via depleted Uranium use in current operations. These examples demonstrate the urgent need and application for modern personal dosimeters that provide a legal record of radiation exposure for each soldier. This recorded information can then be kept as part of the soldier's medical record and provides a soldier with a comprehensive record of radiation exposure over his or her entire career. It also provides the same information to medical professionals at the Army and Department of Veterans Affairs who can then treat those servicemembers and veterans.

I commend the Army Reserve and Army National Guard for ensuring that 100 percent of their soldiers have the most modern and capable personal dosimeters. I understand, however, that the Active Army currently has a significant readiness shortfall in this area, having supplied only 50 percent of your soldiers with personal dosimeters that provide a legal record of any radiation exposure.

Given this current readiness shortfall and the near-term nuclear threat in places like North Korea, Syria and Ukraine, what is the Army's acquisition plan to close the technology gap and complete fielding of cost effective modern dosimeters capable of accurately detecting nuclear threats and providing all servicemembers a legal dose of record of radiological exposure over the entire length of their careers?

General MILLEY and Secretary SPEER. The Joint Personal Dosimeter—Individual (JPD-IND) is the Army's acquisition solution to close the capability gap. The JPD-IND will be fielded to every soldier and provide the capability to track and record the soldier's radiological exposure over time.

QUESTIONS SUBMITTED BY SENATOR GARY PETERS

HMMWV ROLLOVER MITIGATION

30. Senator PETERS. Secretary Speer, I have been concerned about the issue of HMMWV rollovers and the numerous injuries and fatalities caused by these accidents. I understand that the Army has been moving toward a solution to mitigate this issue. In my most recent correspondence from the Army on this issue in October 2016, I was advised that an acquisition decision was being made for fiscal year 2018. What are the Army's plans to install technology to mitigate rollovers of vehicles in the HMMWV fleet?

Secretary SPEER. The Army remains interested in improvements in our light tactical vehicle fleet, which will consist of both High Mobility Multipurpose Wheeled Vehicle (HMMWV) and Joint Light Tactical Vehicles for several years to come. We continue to anticipate making a decision on the balance of HMMWVs and JLTVs in the fleet during fiscal year 2018, including modernization of enduring HMMWV vehicles. Known safety technologies like Antilock Brake System and Electronic Stability Control can play an important role in reducing potential injuries and deaths from rollover accidents, and we will begin incorporating them in the upgraded M997A3 HMMWV ambulances in the first quarter of fiscal year 2018—which will be fielded to all components. The Army continues to investigate and move toward qualifying potential upgrade kits for existing HMMWV vehicles and we anticipate incorporating these technologies in future modernization efforts, consistent with available funding.

**DEPARTMENT OF DEFENSE AUTHORIZATION
FOR APPROPRIATIONS FOR FISCAL YEAR
2018 AND THE FUTURE YEARS DEFENSE
PROGRAM**

TUESDAY, JUNE 6, 2017

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

AIR FORCE POSTURE

The committee met, pursuant to notice, at 9:39 a.m. in Room SD-G50, Dirksen Senate Office Building, Senator John McCain (chairman) presiding.

Committee members present: Senators McCain, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Perdue, Cruz, Graham, Sasse, Strange, Reed, Nelson, McCaskill, Shaheen, Gillibrand, Blumenthal, Donnelly, Hirono, Kaine, King, Heinrich, Warren, and Peters.

OPENING STATEMENT OF SENATOR JOHN McCAIN

Chairman MCCAIN. Good morning.

This committee meets today to consider the posture of the Air Force in the context of our review and oversight of the fiscal year 2018 defense budget request.

I welcome our witnesses: Secretary of the Air Force Heather Wilson and Chief of Staff of the Air Force General David Goldfein.

This committee honors the outstanding men and women of the United States Air Force. On this anniversary of D-Day, we recognize the service and sacrifice of all generations of our armed forces, and we are guided by their example.

Hearings like this are an opportunity to reflect on whether we are meeting the highest constitutional responsibility, to ensure that our armed forces have the resources they need to provide for the common defense. The simple answer is that in recent years, we have not. With growing threats around the world, we have asked our men and women in uniform to do more and more, but we have not given them what they need. America's airmen and our other servicemembers have paid the price.

The Budget Control Act and sequestration remain the law of the land. The military buildup we need and that the President promised remains illegal. There is still no serious progress being made to change that. The self-inflicted wounds of these budget cuts have produced the smallest, oldest, and least ready Air Force in our his-

tory. Currently the force is short 1,500 pilots and 3,400 maintainers. I repeat currently the Air Force is short 1,500 pilots and 3,400 maintainers.

This is a full-blown crisis, and if left unresolved, it will call into question the Air Force's ability to accomplish its mission. Americans become Air Force pilots because they love to fly high-performance aircraft and they become maintainers to work on those aircraft. If budgets do not allow these servicemembers to do their jobs and perform the mission they love, they will vote with their feet, and there is no retention bonus high enough to win a bidding war with the commercial airlines.

At the same time, America's adversaries are developing and fielding new warfighting technologies: fifth generation fighters, advanced air defense systems, and sophisticated space, cyber, and electronic warfare capabilities. Taken together, these advances are eroding America's military technological advantage. The skies that America has dominated are once again becoming contested airspace.

To meet this challenge, the Air Force is committed to an ambitious set of modernization initiatives: F-35A fighters, B-21 bombers, KC-46A tankers, JSTARS, Compass Call, AWACS, and a new trainer aircraft, not to mention a modernized nuclear force. But there is simply no way all of these important yet expensive modernization programs will fit into the projected Air Force budget.

Unfortunately, the President's fiscal year 2018 budget request does not sufficiently address the problems. It is only—and I repeat—only—a 3 percent increase over President Obama's defense plan, which explains why the Air Force has identified a detailed list of unfunded requirements totaling \$10.7 billion. The budget calls for 46 F-35A's, far fewer than the 80 needed each year to put a dent in the Air Force's fighter capacity shortfall. The Air Force is expected to be almost 500 fighters short in fiscal year 2018, and that shortfall will grow to nearly 1,000 by fiscal year 2032 on the current program of record.

Money alone will not address these problems. The Air Force must use its new acquisition authorities and avoid the mistakes of its many past acquisition failures.

For example, while the F-35 is finally approaching the end of its long and arduous system design and demonstration phase, I remain concerned about the program's ability to finish on its latest—I emphasize "latest"—delayed schedule and within its already massive budget. I am particularly concerned with the affordability and execution of the plan for block 4 follow-on modernization.

Similarly, the B-21 will provide a much needed modernization of our aging bomber force. But this committee and the American people deserve to know more about how the Air Force intends to use the \$2 billion in research and development funding for this program, as requested for the coming fiscal year.

Modernization of the nuclear triad, to include a replacement for the air-launched cruise missile, is critical and has bipartisan support in Congress. Modernization is not cheap but it is affordable, and the reality is the costs of not modernizing our nuclear triad are far greater.

On the KC-46, while I am glad that taxpayers will not foot the bill for the repeated delays, thanks to the use of fixed price contracts, I am concerned these delays will affect the scheduled introduction of this critical capability.

Finally, we must confront challenges in the information domain. Despite some growth in this budget request, space program budgets are at 30-year lows and decision-making is fragmented across more than 60—I repeat—60—offices in the Department of Defense. Questions also remain about the Air Force's commitment to the national cyber mission. Last year, of the 127 Air Force officers that completed cyber basic training, not one—not one—was retained on the Cyber Mission Force. When it comes to the development of information technology, all of the Military Services continue with one costly failure after another, as seen recently in the Air Force's new Air Operations Center program. As the information domain of warfare becomes more important than ever, there is growing evidence to suggest that the Air Force and the Department of Defense are not organized to succeed in this vital national mission.

Restoring readiness, recapitalizing our combat aircraft fleet, and reinvesting in modernization will require strong personal leadership, accountability, and a frank assessment of the Air Force's true warfighting requirements, not simply what insufficient funding can accomplish. This committee expects you, Secretary Wilson, and you, General Goldfein, to provide the leadership our airmen deserve.

Senator Reed?

STATEMENT OF SENATOR JACK REED

Senator REED. Well, thank you very much, Mr. Chairman. Let me join you in welcoming Secretary Wilson and General Goldfein. Thank you and welcome to the committee, and we are eager to hear your testimony on the plans and programs of the Department of the Air Force in our review of the fiscal year 2018 annual authorization request.

We certainly are grateful to the men and women of the Air Force for their truly professional service and to their families for their continued support.

Over the past 15 years, Air Force personnel and equipment have played a key role in supporting our national security goals in Iraq, Afghanistan, and elsewhere around the world. During this lengthy period, we have relied heavily on Air Force strike aircraft to take on important ground targets, Air Force manned aircraft and unmanned aerial vehicles to provide intelligence, surveillance, and reconnaissance support, and Air Force tankers and cargo aircraft to support coalition air operations.

Our witnesses this morning face huge challenges as they strive to balance the need to support ongoing operations and sustain readiness with the need to modernize and keep the technological edge in the three critical domains of air, space, and cyberspace. The Air Force has produced a budget that, even with proposed budget increases, reflects tough decisions.

The budget increases the Air Force is proposing in fiscal year 2018 would seek to increase readiness, address shortfalls in muni-

tions, address shortfalls in pilots and maintenance personnel, and modernize our strategic deterrent capability.

In addition, the Air Force faces a continuing challenge in managing the costs and progress of its major acquisition programs, including the Joint Strike Fighter, the most expensive DOD acquisition program in history, and a new tanker and a new bomber.

After considerable discussion within the Department and between the Department and Congress, the Air Force last year laid out a number of plans to improve the shortfalls within the remotely piloted aircraft, RPA, operator community. This was an area where Chairman McCain and I pressed the Department to live up to previous commitments to fully support RPA operations and avoid overstressing RPA crews and their families. I would ask that the witnesses give us an update on the progress the Air Force is making on these plans.

Due to ongoing operations, primarily in CENTCOM, the Defense Department has been striving to catch up with the demand for munitions both for our forces and for coalition partners. I am pleased to see that the Air Force budget starts on a path to make up lost ground on our munitions inventories.

I am also pleased that this budget request does not resurrect painful battles from previous years such as retiring the A-10 aircraft, retiring either the U-2 or the Global Hawk remotely piloted aircraft or retiring other high-demand, low-density aircraft before replacements have been fielded.

In this request, the administration is asking for an increase in the Department of Defense top line of roughly \$54 billion above the total budget for fiscal year 2018 prescribed by the Budget Control Act. Of that total, the Air Force budget would constitute an increase of roughly \$15 billion. However, I must point out, as the chairman has, unless Congress can achieve a broad and bipartisan agreement to repeal or modify the BCA, any approval of the \$15 billion increase for the Air Force will trigger sequestration of a similar amount.

The President's budget ignores this problem by making cuts of roughly \$54 billion in non-defense discretionary as a way of balancing the increases for defense. From my perspective, this is an untenable position, particularly as the budget reduces programs that contribute to national security, such as State Department operations.

Mr. Chairman, I look forward to working with you and other members on resolving the difficult position the Defense Department and all federal agencies are placed in due to the BCA and sequestration. We simply cannot continue down this path.

Secretary Wilson, General Goldfein, thank you again for appearing before our committee, and I look forward to your testimony.

Chairman MCCAIN. Secretary Wilson?

**STATEMENT OF HONORABLE HEATHER A. WILSON,
SECRETARY OF THE AIR FORCE**

Secretary WILSON. Good morning, Mr. Chairman. I would ask that our written statement be put into the record.

Chairman MCCAIN. Without objection.

Secretary WILSON. Rather than go through the written testimony in detail, I would just like to summarize a few things and highlight a few things for the committee, and then ask the Chief to say a few things as well.

The first is this. The Air Force is too small for what the Nation expects of it. The fiscal year 2017 budget began to arrest that decline and to restore the readiness of the force, but there is a lot more that needs to be done.

So what does the fiscal year 2018 budget do? What are the big outlines of that budget? Well, there are hundreds of programs in there, but there are two major themes.

The first is to continue to restore the readiness of the force. For the Air Force, readiness is first and foremost about people and their training, but also about munitions. Those two things are highlighted in the fiscal year 2018 budget. We have proposed to increase the end strength of the Air Force in this budget for Active, Guard, Reserve, and civilians.

The second major theme in this budget is to continue the modernization, to make the force more lethal. The top three priorities in that are fighters, tankers, and bombers. But it is not limited to that. Over the next 5 to 10 years, the Air Force will be modernizing across the board in order to meet the threats that we see arrayed against us.

The third thing that I would like to highlight is the Air Force role in space. My role, in addition to being Secretary of the Air Force, is the principal advisor to the Secretary of Defense with respect to space for all of the Department of Defense. It is a responsibility that I take quite seriously. The Air Force has served as the leader for space for 54 years. We provided GPS for the world and transformed not only the way we fight, but the way all of you probably navigate yourselves around this city. We do missile and nuclear detonation warning. We do weather, secure command and control, communications. All of those are Air Force missions.

When the Chief and I were young officers, space was a benign place. In fact, we always thought of it as a benign place up until actually quite recently. Our adversaries know how heavily we depend upon it and that we are vulnerable. We must expect that war of any kind will extend into space in any future conflict, and we have to change the way in which we think and prepare for that eventuality.

The budget proposal for fiscal year 2018 has a 20 percent increase for Air Force space. It does several things that the Air Force is trying to do in concert with the Army, the Navy, and other government agencies. We need situational awareness, not just keeping a catalog of what is up there, but really knowing what is up there and how it is moving in near real time.

Secure command, control, and communications. We are moving towards an integrated battle management control system, which is funded in this year's budget where the Army, the Navy, the Air Force, and other government agencies will be able to have a clear site picture and be able to operate in space. No one-off science experiments anymore in the control of satellites. It has to be integrated for a common picture.

Assured access to space is also something we are continuing in this budget. Competition is reducing the cost of launch services. Currently we have got two providers for medium and heavily launch: SpaceX, the Falcon 9, which we will be sending in the next Air Force payload up into space in August, and emerging small satellites have other launch capabilities that are very interesting to us, including Orbital ATK and others.

We need to be able to defend ourselves in space, not just systems but also strategies and tactics, anti-jamming, GPS. We now have initial capability for the National Space Defense Center that is funded in this budget with new capabilities. Last year, they did exercises that led to the top 40 user needs across all of the services, and we are changing the way in which we train for space, training to prevail in space and not just operate in a benign environment.

As the Air Force Secretary, I am also looking at how we organize the Department of Defense for space so that we integrate it, normalize it, and elevate it as part of the joint warfighting team. That means not just operations but also policy development and acquisition strategies.

So this budget does not get us all—you know, we are not going to recover readiness in a single year. We are not going to modernize in a single year either. But this proposed budget for the next year continues recovering readiness and continues to modernize to make the force more lethal.

With that, I would like the Chief to add some things.

**STATEMENT OF GENERAL DAVID L. GOLDFEIN, CHIEF OF
STAFF OF THE AIR FORCE**

General GOLDFEIN. Thank you, Madam Secretary.

Chairman McCain, Ranking Member Reed, members of the committee, it is an honor to be here.

It is an honor also to rejoin with Secretary Wilson some 40 years after we started together at the Air Force Academy, and I want to thank Secretary Mattis for recommending her to the President, for nominating her, for this committee confirming her. It ought not go without notice that 24 hours after she became our Secretary of the Air Force, she was sitting beside me and two of our space warriors testifying before Senator Fischer and the Space Subcommittee. That gives a new meaning to the word “fights on.” So, Madam Secretary, it is an honor to serve with you and be on your wing once again.

So building on Secretary Wilson’s opening statement, I would like to spend just a few moments, because I know you are eager to get to questions, and briefly describe the missions our airmen are performing today to defend the Homeland, to own the high ground, and to project power with allies and partners, because it is a rather diverse set of missions. To understand the Air Force, you actually have to look through two lenses. The first lens is that which we do here in the Homeland to defend the Homeland and to project power abroad, and the second lens is that which we do when we are deployed and based forward to contribute to global campaigns.

For the Air Force, it begins with the nuclear enterprise, and side by side with the United States Navy, we are responsible for two of

the three legs of the nuclear triad. On our worst day as a Nation, our responsibility is to ensure that the President is where he needs to be when he needs to be there, and he stays connected through nuclear command and control to the nuclear enterprise. For an airman, that remains job one.

To produce a common operational picture so that the President can make those decisions, very often, as the Secretary mentioned, that information comes to us from space. It is your United States Air Force that is responsible for flying 12 constellations in space from everything from precision navigation and timing to early warning to the protected and unprotected communications that we all rely on. We have been the stewards of space since 1954, and as you heard from the Secretary, we joined a long line of Secretary-Chief teams who take on this responsibility.

Someone has to turn the 1's and 0's into decision quality information, and that lies heavily on the United States Air Force. Thirty-five thousand airmen that take the sensing that we do from the six domains, air, land, sea, space, cyber, and undersea, and turns that into a common operational picture and decision quality information for leaders to make decisions.

Like our sister services, we are contributing cyber talent and building cyber mission teams to support the combatant commander, Admiral Rogers, in his responsibility to defend the Nation in cyber and to execute cyber capabilities. If you heard jet noise this morning driving here to work, it was probably two F-16's from the Air National Guard that scrambled this morning from Andrews Air Force Base to protect our critical infrastructure just as we do at bases around the United States as part of Operation Noble Eagle. Those missions I just described are only what your Air Force does here in the Homeland to protect the Homeland and contribute to global campaigns.

Now I will shift to that second lens, which is what we do when we are based abroad and deployed, and it begins with air superiority, freedom from attack, and freedom to maneuver. We are proud of our track record that a soldier, sailor, airman, or marine on the ground has not been attacked from the air since 1953, and under our watch, we will continue that record. For an airman it is nothing short of a moral obligation. When a soldier, sailor, airman, or marine on the ground or at sea hears jet noise, we never want them to look up. We want them to know it us.

Once we gain and maintain air superiority, we operate on a series of bases across the globe, and every two and a half minutes, an aircraft takes off or lands delivering critical supplies or equipment somewhere where it is required, whether for humanitarian relief operations or in combat support. Very often those locations are not secure, and we use our air commandoes, our special forces, to secure those locations so that we can operate.

I cannot give you a better example of holding targets at risk for the President than two B-2's that took off out of Whiteman Air Force Base in Missouri, flew 32 hours roundtrip, 16 air refuelings, dropped 80 munitions on two training camps in Libya, 10 seconds from their planned time over target.

Then finally, in the fight against ISIS [Islamic State of Iraq and Syria], it is your Air Force that is leading the campaign when it

comes to taking out the enemy. Whether you want to talk about command and control or personnel recovery or tanking or the strikes that occur, it is your Air Force that continues to lead the way over there working under General Townsend and the joint task force and General Nicholson to take the fight against the enemy.

Every mission I just described for you is a growth area to the Secretary's point about being too small for the missions that we are being asked to perform. Every mission I described for you is a no-fail mission, and every mission I described for you, our adversaries are investing to take away our advantages.

Twenty-six years of continual combat since Operation Desert Storm has taken a toll. As the Secretary mentioned, the fiscal year 2017 budget stopped the bleeding after years of budget instability, and this budget request begins to set the table for recovering and rebuilding our force. The Secretary said it right. We did not get here overnight, and we are not going to recover overnight. But with your help, with the help of this committee, we will give our airmen and their families the quality of service and the quality of life they deserve.

Thank you, and we look forward to your questions.

[The prepared statement of Secretary Wilson and General Goldfein follows:]

PREPARED STATEMENT BY THE HONORABLE HEATHER A. WILSON AND
GENERAL DAVID L. GOLDFEIN
THE FUTURE OF AIR AND SPACE POWER

Air and space power are vital to our nation's security. Any objective evaluation of today's U.S. Air Force reaches stark conclusions.

- First, the Air Force is too small for the missions demanded of it and it is unlikely that the need for air and space power will diminish significantly in the coming decade.
- Second, adversaries are modernizing and innovating faster than we are, putting at risk America's technological advantage in air and space.

The resources provided in fiscal year 2017 have begun to arrest the readiness decline. The Fiscal Year 2018 President's Budget request begins to restore readiness and increase the lethality of the force. Future budgets must focus on modernization and continued readiness recovery so that we can defend the Homeland, own the high ground, and project power in conjunction with allies.

An Air Force in Demand

Today's Air Force is growing after a period of significant decline and we must continue to increase the size of the force. Currently, the Air Force includes 660,000 Active, Guard, Reserve and civilian airmen, compared to 946,000 just 26 years ago when we fought in Operation Desert Storm—a 30 percent reduction.

The Air Force also reduced its aircraft inventory over this same period from 8,600 to 5,500 aircraft. We have 55 combat-coded fighter squadrons across the Active Duty, Guard, and Reserve, compared to 134 squadrons during Desert Storm.

Before 1991, the Air Force bought approximately 510 aircraft per year. In the past 20 years, we have averaged only 96 per year. Today, the average age of our aircraft is over 27 years.

And, unlike during the Cold War, Air Force aircraft have been flying in combat for 26 straight years. When the Islamic State of Iraq and Syria (ISIS) sought to consolidate power in Syria and northern Iraq in 2014, the U.S. Air Force surged to the fight. Since then, airmen have executed over 70 sorties daily against ISIS targets. Coalition air forces have put over 80,000 weapons against enemy targets in over 26,000 airstrikes in Iraq and Syria since the campaign began. Over 70 percent of those strikes have been conducted by the U.S. Air Force.

Last year alone, MQ-1 and MQ-9 remotely piloted aircraft crews flew more than 351,000 hours and employed more than 3,000 weapons, removing thousands of enemy combatants from the battlefield and protecting U.S. and coalition forces.

Air Force intelligence, surveillance and reconnaissance provides warfighters over 6,000 intelligence products per day that are used to identify enemy targets and initiate 70 percent of Special Operations Forces assaults on terrorists.

Air Force-operated space-based sensors provide around-the-clock global coverage for missile warning, nuclear detonations and other threats.

Air Force cyber operators blocked more than 1.3 billion malicious connections in 2016 alone, an average of more than 40 malicious connections per second.

While we continue to extend the life of old aircraft, materials suffer fatigue and maintaining old equipment is time consuming and expensive.

We are short of maintainers and pilots. While flying hours to defeat ISIS overseas is a priority, training to confront near peer adversaries has suffered. We are at our lowest state of full spectrum readiness in our history. Only 50 percent of our squadrons are ready to conduct all of the missions assigned to them.

The decisive warfighting advantages we hold over our near peer adversaries are diminishing.

Air and space superiority—owning the high ground—is not America’s ordained right. We cannot take it for granted. We must plan for it, equip for it, train for it and fight for it.

The Changing Security Environment

Adversaries are rapidly developing new capabilities to control air and space. They seek to undermine the credibility of our alliances, contest our freedom of maneuver, and neutralize our ability to project power. Over the past several years, their targeted investments in critical capabilities have outpaced our own.

Russia continues its aggression and malign influence in Ukraine and Syria while seeking to return to great power parity with the United States by modernizing its military.

China is fielding new defense platforms at a startling pace and continues to expand its regional influence in the East and South China Seas.

North Korea is accelerating nuclear and missile testing. Their actions in the Pacific increase risk of miscalculation and threaten the security of our allies and the Homeland.

Iran continues to support international terrorist organizations and extend its negative influence throughout the Middle East while modernizing an array of military capabilities.

Each of these state actors possesses or is pursuing advanced long-range capabilities with the potential to strike American soil.

At the same time, violent extremist organizations and individuals inspired by them are threatening America and our allies.

Potential adversaries are quickly closing the gap in the decisive warfighting advantages we have held for decades. As their capabilities become stronger, the international order will grow more unstable and the strategic risks to American security and our global interests will increase. Staying ahead of these trends will require a concerted, coordinated effort.

Stopping the Decline

The Consolidated Appropriations Act of 2017 begins to arrest the decline and focuses on starting to restore the readiness of the force. The funds for fiscal year 2017 address critical capability shortfalls, and enable us to start to address delayed procurement and modernization of our force. This is a critical first step in restoring the Air Force’s capabilities to meet future threats. We must have stable, predictable budgets that include strategy-driven funding.

We also add our voice to the chorus of concern that budget instability is itself a significant problem. Continuing resolutions, or worse, sequestration, puts at risk our ability to successfully accomplish what our nation asks of us.

A failure to provide relief from the current Budget Control Act caps would cut \$15 billion from the Air Force budget—a reduction that would further hollow out the force and set us back years.

Restoring the Force

Looking ahead, we are focused on restoring readiness, cost-effective modernization, innovation for the future, and developing exceptional leaders. These areas of focus will allow us to defend the Homeland, own the high ground, and project power in concert with our allies.

Of course, there is an assumption behind our plans. As a nation, since the end of World War II, America has chosen to be a *global* power, capable not only of de-

fending the Homeland, but gaining and maintaining dominance over areas of operation abroad. We have an Air Force that provides *global* mobility, *global* intelligence surveillance and reconnaissance, *global* strike, and global command and control to protect our vital national interests in concert with allies.

Threat drives strategy; strategy drives force posture. America's national security interests continue to be global in scope, requiring an Air Force which goes beyond Homeland defense or regional power projection.

Restoring Readiness

The Air Force budget recognizes that we cannot restore our readiness in a single year. When we lose an F-22 avionics specialist with 10 years of experience, we cannot hire another person with 10 years of experience on the F-22. We have to recruit them, train them, mentor them and, most importantly, retain them.

For the Air Force, readiness is first and foremost about people.

Personnel—Restoring Readiness

The fiscal year 2017 budget increased Active Duty manpower to 321,000 airmen. The Fiscal Year 2018 President's Budget request continues to rebuild the force to 325,100 Active Duty airmen, while also adding 800 reservists, 900 guardsmen, and 3,000 civilians. The Total Force will increase to 669,611 people from 660,707 in fiscal year 2017. The additional personnel are focused on increasing maintainers—particularly for the F-16 and F-35A, increasing remotely piloted aircraft crews, and increasing pilot training capacity by adding two new F-16 formal training squadrons. It also allows us to reduce critical gaps in our space, nuclear, cyber, and intelligence career fields.

Pilot retention continues to be a significant concern. We project a deficit of approximately 1,500 total Active, Guard, and Reserve pilots at the end of fiscal year 2017 and trending further negative in the near term. Our fighter pilot shortage has already reached crisis levels and we will be approximately 1,300 Total Force fighter pilots below the requirement at the end of this fiscal year. There will be no single solution and no quick fix for the pilot shortage. This budget expands pilot training, continues incentive pay and bonuses, increases administrative support at the squadron level, improves readiness, and funds flying hours.

This budget request also includes 1,168 military and civilian positions to support squadron commanders so that "additional duties," which were shifted to operators, aircrew, and maintainers over years of personnel cuts and most recently in the wake of sequestration and the Budget Control Act, can be performed by dedicated support staff.

Squadrons are where readiness is generated and sustained, and where airmen and families thrive. It is also where leadership matters the most. We are working to revitalize squadrons as the most essential level of command and the heart of our Air Force. Over the coming year, the Air Force will be reviewing leadership development, particularly at the squadron level.

In order to restore readiness, the budget request includes \$6.2 billion to fund flying hours at maximum executable levels and \$11.9 billion to fund weapons system sustainment (parts, maintenance and logistics support) to near the maximum executable level. While the budget for flying hours decreases slightly from fiscal year 2017, this reduction is largely because of a decline in fuel costs.

Further, the Fiscal Year 2018 President's Budget request funds a continuation of 641 Active, Guard, Reserve, and civilian positions dedicated to Sexual Assault Prevention and Response (SAPR).

Finally, this budget request is vital for the quality of life for our airmen and their families—funding a 2.1 percent increase in military pay, a 3.2 percent increase in basic allowance for housing, and a 3.4 percent increase in subsistence.

Munitions—Restoring Readiness

In addition to adding people and training, this budget request also addresses munitions. In the fight against ISIS in Iraq and Syria, the Air Force has delivered more than 56,000 direct attack munitions from the air. That is more than we used in all of Operation Iraqi Freedom.

Our use of munitions in operations is out-pacing production. Working with industry, the Fiscal Year 2018 President's Budget request funds maximum factory production of the most critical munitions, including the Joint Direct Attack Munition, the Hellfire missile, and the Small Diameter Bomb.

Cost-Effective Modernization

While restoring readiness is primarily about the size of the force, quality training, and munitions, for the long term the Air Force must modernize its weapon systems and equipment to defeat emerging threats.

The Fiscal Year 2018 President's Budget request budget prioritizes our top three acquisition programs to modernize the force: the F-35A fighter, the KC-46 tanker, and the B-21 bomber.

The F-35A is essential to our national security—a stealthy multi-role fighter needed to own the high ground and project power against increasingly capable adversaries. This budget request funds the purchase of the next 46 F-35A fighters with a goal of reaching 60 per year in the future. The budget also focuses on restoring readiness and modernizing our 55 combat-coded fighter squadrons.

We have enhanced our air refueling capability by entering initial production of the KC-46 Pegasus tanker. The KC-46 program modernizes our aerial refueling fleet, providing global mobility for the joint force and our allies. The Fiscal Year 2018 President's Budget request buys 15 more KC-46 aircraft. The Air Force expects to sustain steady state production of 15 KC-46 aircraft a year throughout the Future Years Defense Program (FYDP).

We are rapidly developing the B-21 Raider long-range strike bomber. The B-21 will form the backbone of our future bomber force, ensuring the ability of our nation's leaders to hold targets at risk around the world with both conventional and nuclear weapons.

While the F-35 fighter, the KC-46 tanker and the B-21 bomber are our top modernization priorities, there are a number of other modernization efforts supported in the Fiscal Year 2018 President's Budget request. These include the modernization of F-22A, F-15, and F-16 aircraft so that they remain viable, along with B-52, B-1, and B-2 bombers for strategic delivery of advanced munitions.

In the realm of intelligence, surveillance and reconnaissance, the Air Force continues to support the MQ-9 Reaper, RQ-4 Global Hawk, and RC-135 Rivet Joint upgrade strategies.

The Fiscal Year 2018 President's Budget request supports special operations and combat search and rescue with the purchase of two HC-130J and five MC-130J aircraft. We also sustain our commitment to command and control by funding several upgrades to the E-3 Airborne Warning and Control System (AWACS).

Modernizing the Nuclear Deterrent

All legs of our nuclear triad need to be modernized. The last major recapitalization of U.S. nuclear forces occurred in the 1980s. In the case of the Air Force, maintaining our aging nuclear weapons systems is becoming more expensive and less practical.

Nuclear deterrence underpins national security for the United States and our allies. The Air Force stewards two legs of the nation's strategic nuclear deterrent and operates 75 percent of the nuclear command, control, and communications for the President and the military chain of command. Additionally, forward-based nuclear capable aircraft are a key component of the U.S. commitment to deter attack on our NATO allies.

The intercontinental ballistic missile (ICBM) force represents the most responsive leg of the nuclear triad. The dispersed basing of our land-based deterrent enhances strategic stability by creating an extraordinarily high threshold for a large-scale conventional or nuclear attack on the U.S. Homeland. The air-delivered leg of the triad and dual-capable fighters provide a recallable, and highly visible force to extend deterrence, demonstrate resolve, and signal U.S. strategic commitment to our allies.

In addition to the B-21 bomber, the Air Force is committed to modernizing the nuclear enterprise by replacing Air-Launched Cruise Missiles with the Long Range Stand-Off munition, modernizing ICBMs with the Ground Based Strategic Deterrent (GBSD), replacing the UH-1N helicopter, and making targeted investments in nuclear command, control and communication.

Meeting the Space Threat

For decades, the United States enjoyed unimpeded freedom of action in space. This benign environment allowed us to operate satellites for intelligence collection, missile warning, weather monitoring, communications, and precision positioning, navigation, and timing without considering how to protect these systems. That environment no longer exists. Our adversaries understand the advantages we derive from space and are actively pursuing capabilities to diminish them. In future conflict, space will be contested.

The Air Force has been the leading Military Service responsible for space systems for 54 years, and the Secretary of the Air Force is the principal advisor to the Secretary of Defense on space.

Over the last several years, the U.S. Air Force has been developing operational concepts to ensure freedom of action in space, changing the way we train our space force, and integrating space with the joint force.

The Fiscal Year 2018 President's Budget request increases the Air Force's space investment funding from \$6.5 billion in fiscal year 2017 to \$7.8 billion, a 20 percent increase. This increase represents a 27 percent increase in research, development, testing and evaluation (RDT&E) for space systems and a 12 percent increase in space procurement.

The budget request includes a fixed price block buy of Space Based Infrared Systems (SBIRS) 5 and 6 satellites. The budget funds purchase of terminals, ground control systems, and related communications security for satellites and funds three launches as part of the Evolved Expendable Launch Vehicles (EELV) program.

To fill a gap in weather coverage, the budget request funds a weather satellite through the Operationally Responsive Space (ORS) office.

While our existing Global Positioning System (GPS) satellites remain healthy, we face increasing risk from potential adversary advances, and will improve anti-jamming and secure access to military GPS.

The Air Force budget also funds the continuation of the Space Security and Defense Program and the National Space Defense Center where we are experimenting with concepts to ensure freedom of action in space and resilience in an integrated center that includes all sister-services, as well as the intelligence community. It also funds improvements in space situational awareness, which is foundational for space control, integrated ground systems and improved training of space forces.

Our budget supports the continued integration and normalization of space in the joint warfighting environment and places a high priority on space to ensure that our space systems continue to operate in a contested environment. We would prefer that war not extend into the space domain, but must be prepared to win if it does.

Modernizing Cyber

The Fiscal Year 2018 President's Budget request funds 39 offensive and defensive cyber teams that are on track to be fully operational in fiscal year 2018. The budget anticipates an increased reliance on contractors for basic information technology and cloud services so that military members can focus on advanced threats and warfighter missions as part of the joint force.

Innovation for the Future

Research, development, test and evaluation are critically important for a technically oriented service. The Fiscal Year 2018 President's Budget request includes a significant increase in funding for systems development and testing for the B-21, the Global Positioning System Operational Control System (OCX) and the Long Range Standoff weapon. Funding is also included for engineering and risk reduction for the Presidential Aircraft (PAR), Joint Surveillance and Target Attack Radar System (JSTARS) replacement, and the new Combat Rescue Helicopter.

Funding for basic and applied research related to longer-term national security challenges remains flat in this budget request, although funding for long term research on air dominance is increased significantly. Over the next several years, the Air Force will seek to increase basic and applied research in areas where we must maintain the competitive advantage over potential adversaries, including game-changing technologies like hypersonic vehicles, directed-energy, unmanned and autonomous systems, and nanotechnology.

Accelerating Procurement

To prevail against a rapidly innovating adversary, the Air Force must get capability from the lab bench to the warfighter faster than ever before.

In the Fiscal Year 2017 National Defense Authorization Act, Congress expanded acquisition authorities for the services. Taking advantage of this flexibility, the Air Force is sponsoring an experiment in August 2017 to evaluate low-cost, permissive environment attack aircraft. While this is an experiment, not a procurement, the project has gone from approval by the Chief of Staff of the Air Force to an operational capabilities assessment in five short months.

The Air Force is also testing new procurement methods with early stage, highly innovative companies who do not normally do business with the Department of Defense. If successful, we will seek to replicate this approach. While not appropriate for large system development, these kinds of projects can open the pathway to rapid innovation for air and space dominance.

Infrastructure and Military Construction

Constrained by the Budget Control Act, the Air Force has prioritized combat and not infrastructure. The Fiscal Year 2018 President's Budget request includes \$2 billion for military construction. The beddown of new missions, combatant commander needs, and strengthening the nuclear security enterprise have been given priority for the limited funding available.

In addition, the Fiscal Year 2018 President's Budget request funds construction of improved ranges at the Utah Test and Training Range and Red Flag in Nevada so that we can train using the full range of capabilities available to our aircrews in the F-35A. The budget also funds additional virtual and constructive, or "synthetic", Operational Training Infrastructure (OTI). Synthetic capability provides opportunities to test and train against the world's most significant threats at reduced cost.

The Air Force supports the Department of Defense request for authorization to conduct a Base Realignment and Closure (BRAC) round in fiscal year 2021. Completing the more detailed analysis once a BRAC is authorized will have value, and may highlight opportunities for some savings. Enduring savings from BRAC recommendations will leave more DOD resources available for future force structure or readiness requirements. BRAC also allows us, if the analysis supports it, to reposition forces or station new forces in locations that optimize their military value.

Conclusion

The Fiscal Year 2018 President's Budget request begins to restore Air Force readiness with a focus on people, high quality training, squadron support, and critical munitions.

The budget request also invests in top priority procurement to increase the lethality of the force with the F-35A fighter, KC-46 tanker, and the B-21 bomber while also making significant investments in space, the nuclear deterrent, and special operations.

As we enter our 70th year as a separate service and our 26th year of continuous combat operations, we have presented a budget that starts to turn the corner by building on the fiscal year 2017 budget that arrested years of decline.

As important as program funding is, we also need budget certainty. A return to the current Budget Control Act caps will pose unmanageable—and unacceptable—risks to our ability to protect America's vital national interests.

We request that Congress support this budget and provide fiscal predictability for the Air Force so that we can support the National Military Strategy by defending the Homeland, owning the high ground, and projecting power in conjunction with allies.

Chairman MCCAIN. Thank you, General. Thank you, Madam Secretary.

The way we read it, there is a three percent increase in defense spending in this budget over former President Obama's number. Do you think that is sufficient, General?

General GOLDFEIN. Chairman, I would say it is a good start.

Chairman MCCAIN. Good start. So if we do three percent per year for the next 10 years, that is a great start.

General GOLDFEIN. No, sir, not at all. What this one does is it is arresting the decline that we have seen over the years. It is only a start to where we need to get to with stable budgets that we can plan for.

Chairman MCCAIN. So we need more than three percent in the future. Is that correct?

General GOLDFEIN. Sir, it is not only correct, not only do we need three percent, we need more than budgets that give us only one year of spending in which the first third of that year is unexecutable because of continuing resolutions.

Chairman MCCAIN. When do you project the Air Force to achieve full spectrum readiness?

General GOLDFEIN. Sir, we have said before and it is continual to say that it is going to take us approximately 8 years to be able to get to full spectrum readiness with stable budgets.

Chairman MCCAIN. How many fighter aircraft do you need to fulfill a national military strategy?

General GOLDFEIN. One thousand nine hundred is the total number of combat coded aircraft required.

Chairman MCCAIN. How many do we have now?

General GOLDFEIN. We have right now—let me get that answer for you to make sure I have it exactly right.

Chairman MCCAIN. Take a guess.

General GOLDFEIN. Right now, we are down to about—total number of fighters—we have just short of about 1,500.

Chairman MCCAIN. 1,500 fighters short.

How many bombers do you need to fulfill the national military strategy?

General GOLDFEIN. We predict approximately 175 is what we are going to need.

Chairman MCCAIN. How many do we have now?

General GOLDFEIN. Right now, in terms of B-52's, we have 76. We have 20 B-2's, and we have 62 B-1's. While I do not have the total number of fighters exactly, you know, just to give you a run-down of the number we actually have on hand, we have—

Chairman MCCAIN. Before you go on, you state the Air Force will be 1,500 pilots short by the end of this fiscal year, 1,300 of them fighter pilots. Those numbers seem to be getting worse and not better.

General GOLDFEIN. They are.

So we are taking two approaches, Chairman, on this. First of all, there is a national approach because the reality is the Nation currently does not produce the number of pilots required to service military and commercial aviation requirements. I recently hosted a meeting with CEOs from the major airlines, the regional airlines, and the major industry representatives, and we talked about how we could partner together to find win-win solutions to increase the supply of pilots to service those both.

Chairman MCCAIN. So this shortfall came as a surprise to you?

General GOLDFEIN. No, sir. We projected this shortfall some years ago. However, what did come not as a surprise but something that was not within our control is the fact that the airlines project that they are going to require 4,500 pilots a year for the next 10 years.

Chairman MCCAIN. I knew it. Why were you surprised?

General GOLDFEIN. Well, sir, I will tell you. I would not say we were surprised. I will say that the numbers that they were going to require we had not seen coming.

Chairman MCCAIN. Secretary Wilson, the planned delivery date for the KC-46 continues to slip. When will the first aircraft be delivered, and when will the 18th be delivered?

Secretary WILSON. Senator, there is a meeting this morning in the Pentagon about the risk on the schedule. We think that there is some risk particularly in the testing schedule, and Boeing does not agree with that risk. The meeting is actually going on right now. We did an independent assessment on timing, and we may see a couple of months' slip is what I am hearing informally. But as soon as we get the readout from that meeting, we will let you know.

Chairman MCCAIN. All of this comes as a surprise?

It is understandable to keep the B-21 specific warfighting capabilities classified, but it is difficult to understand why you should keep other aspects of the program under the veil of secrecy. Do the

American people not deserve to understand more about what their dollars are being spent on such as \$2 billion in R&D [research and development] money requested in this year's budget?

Secretary WILSON. Senator, we are very open with the appropriate committees in the Congress about exactly what we are doing and what we are spending it on.

Chairman MCCAIN. That is not true, Madam Secretary. That is simply not true. The American people need to know if we are going to spend \$2 billion on what? On R&D?

Does the Air Force plan on releasing any further details on the program? If so, when will you do so?

Secretary WILSON. Senator, there is always a balance between not telling our enemies what we are doing and making sure we are forthcoming with the representatives of the American people.

Chairman MCCAIN. I totally agree with you. But I have never seen anything like this one.

What is the long-term plan for how long you will keep fourth generation fighter aircraft in your combat aircraft inventory and how the Air Force will keep them relevant in today's threat environment?

General GOLDFEIN. Chairman, we are going to keep fourth gen aircraft into the 2040s, and so what you will see in this budget, in addition to buying fifth gen aircraft, is actually modernizing our fourth gen.

Here is what we found. When we talk about the fighter inventory, what we have found and continue to develop is the ability to actually fly these aircraft together in a complementary fashion. So the fourth gen actually makes fifth gen better, and fifth gen actually makes fourth gen better.

Chairman MCCAIN. Can you tell me a program that has been on time and on schedule in the last 20 years?

General GOLDFEIN. Yes, sir.

Actually when you take a look at—and you called it on the F-35. The reality of the F-35 program is when you make a decision to do three things at once, which is to develop new technology, procure that technology simultaneously, and make it an international program with a number of international partners, those three things in concert actually I believe is what contributed most to the cost growth and the time frame it has taken us to bring that to bear.

Chairman MCCAIN. So we had never learned that lesson before?

General GOLDFEIN. I do not think we have learned it to the level of this program. Especially I do not think that in the new age of the cybersecurity environment that we live in, I think that we are learning every day what it means in the business of information and sharing infusion and the challenges that gives it. It goes to a point that you made about information technology and just how do we go about procuring it.

Chairman MCCAIN. Well, I can assure you it has been a source of great frustration on this committee because it was obvious to us exactly what was happening, and it happened.

Senator Reed?

Senator REED. Well, thank you very much, Mr. Chairman.

Thank you, Madam Secretary, General Goldfein.

Let me go back to the RPA [Remotely Piloted Aircraft] issue. There has been for the last several years great stress on the RPA community. Secretary Carter tried to address that by moving from 65 missions down to 60. Can you give me an update—and then, Madam Secretary, you might join in—of where we are and what are you doing to ensure we have a very adequate RPA capability?

General GOLDFEIN. Yes, sir, Senator. So that is probably the most important decision that we have made in this business was when we stopped the exponential growth of combat lines and caps because, as you remember, just about the time we started trying to get the weapon system healthy, we would have three more caps added. Who can blame the soldier, sailor, airman, or marine on the ground who wants to have someone overhead who is telling them what is behind the town, what is behind the village, what is behind the hill before they go it?

So when we actually stopped the growth at 60 caps, that allowed us to actually start building the force to a healthy weapon system. As you may recall, the first target we were shooting at was a 10-to-1 crew ratio. That begins to get to a healthy force, and we will achieve that this year.

The other thing that we have done is we have built the instructor cadre force up so that we can actually increase the influx in the pipeline that is bringing the crews in that we need for the future.

We are also standing up two bases now. One we have just announced. The preferred alternative is Shaw Air Force Base to actually do a mission there, and then we are going to stand up another base that can expand the enterprise so that you actually can get the mission synergy that happens when you actually combine an RPA squadron with another mission that it actually supports when it flies.

All those things are in the works, and so my report to you is we are on glide slope for the plan that we laid out for you. There is work ahead that needs to be come. I am not declaring victory, but we have made some significant progress.

Senator REED. One element that was mentioned was not requiring that the lead pilot at least be a commissioned officer, but to look at a warrant officer or an NCO. When I was at Nellis last year, I saw a lot of very experienced non-commissioned officers who could switch seats pretty quickly. Is that being considered?

General GOLDFEIN. It is. The first three have graduated. Our second class is going through right of enlisted operators. Because the MQ-19 was the most stressed, we chose the RQ-4 as the weapon system to begin this program. So now we are laying these individuals into each of our training classes, and then we will continue to grow the force accordingly.

Senator REED. Madam Secretary, any comments?

Secretary WILSON. Senator, the only thing I would add is that the fiscal year 2018 budget does continue to fund the get well plan for the RPA pilots, and we now have about 2,200 RPA pilots, including that first group of enlisted operators.

Senator REED. Thank you, ma'am.

Again, General Goldfein, retention is one of the critical issues. The chairman has mentioned it. You have mentioned it. The Secretary has mentioned it. Last year, we looked at this issue and we

discovered—at least our insights were anyone who wanted a bonus got the maximum bonus. So the bonus was seen as sort of like they owe me this, rather than this is something that is going to affect my decision to stay or go.

In fact, we asked you to go ahead and start allocating bonuses based on critical needs, not just everyone gets one, and we assumed that the bonus could be the most obvious and most immediate way to enhance retention. You seemed to—well, I will not put words in your mouth.

But, one, tell us where we are with the bonus issue. Also tell us what types of arrangements you think you can make with the airlines to get additional pilots.

General GOLDFEIN. Yes, sir. So, first, what we are focused on is a combination and a balance between quality of service and quality of life. The aviation bonus goes in the quality of life category, and so we really appreciate this committee and Congress' support to allow us to up the number from \$25,000 to \$35,000.

But we tiered that based on a business case analysis that looks at how long does it take to actually train that pilot in that particular career field, what is the cost associated with that, and what is our projections for retention. Based on that model and weighting, we have now come up with a tiered approach that now pays against that particular model.

We are in our first year of that. I expect we will get an assessment of its impact and whether it is having the desired impact, and that we may come back to this committee for additions in terms of authorizations.

But we are looking at a number of areas. You know, retention comes down to this balance because pilots—Chairman, I think you said it in your opening statement. Pilots join to fly high-performance aircraft. Maintainers join to maintain high-performance aircraft. When we do not have the readiness that allows them to do that, that is going to have a direct relation to readiness, and I would submit to you it has a direct relation on morale because morale and readiness are absolutely inextricably linked.

So we are taking an approach where this is about 100 swings of the axe at the trunk of this tree, and we are not going to swing. It is not swinging until we continue to see the retention numbers go up. So this is about revitalizing the health of our squadrons to make sure that where we do our fighting from, which is in squadrons, our squadrons are healthy. This is making sure that we have the right support structure in those squadrons so the pilots are able to do the flying. This is about making sure that pilots have a balance in terms of what they are doing. Let me give you a vignette.

I just came from Shaw Air Force Base. A young F-16 pilot at Shaw Air Force Base in a 4½ year tour—this is what that tour looks like today on this smaller force: 1 year deployed to the desert, 1 year remote to Korea, four 2-week deployments to support Red Flag or other high-end training, four 1-week deployments that do weapons systems kinds of specific training, 6 weeks to squadron officer school. That 4½ year assignment will allow that pilot 18 months total at home in 4½ years. So the Secretary and I are looking at a number of things that we can do to bring them more bal-

ance in addition to the financial piece that the Congress has authorized.

Senator REED. Thank you very much.

Chairman MCCAIN. Senator Inhofe?

Senator INHOFE. Thank you, Mr. Chairman.

We have done a lot of talking about the size of our Air Force, and it seems like it might be a good idea to put it in a perspective. Do you happen to know what the size of our Air Force was during the Desert Storm related to what that size is today? Either one of you.

Secretary WILSON. Senator, it is about 30 percent smaller than it was in Desert Storm.

Senator INHOFE. Thirty percent smaller than it was in Desert Storm.

Secretary WILSON. Yes, sir.

Senator INHOFE. Would you say we are in a much greater threatened position today than we were during—

Secretary WILSON. We have the same level of tasking today as we did during Desert Storm, and we have 55 squadrons rather than—

Senator INHOFE. You know, I think it is important to have people like you and the uniforms particularly to be talking about this because the American people do not know that. You have heard me say this before. But that is a very frustrating thing when you go back and you are talking to real people who are listening to false reports from the media assuming that we have this great, superior power that we have historically had perhaps in some times of our history but do not have today.

I had a hearing in the subcommittee I chair on readiness. We had the four Vices there, and it was the Vice Chief of the Air Force, General Wilson—no relation I guess—who made the statement, after we talked about it for a while, are we in the same situation, a similar situation, that we were facing back in the late 1980s when we had a hollow force? I was very proud of him because he said, yes, we are, and he went into some of the details as to what we were back at that time compared to where we are today.

General Goldfein, what are your thoughts about that?

General GOLDFEIN. Sir, I absolutely align with that statement. I think it is important too for us to have a common understanding and a definition of what constitutes a hollow force because that term gets thrown around a lot. I actually went back and Senator McCain actually, sir, you gave a definition of this in 1993. I think it actually captures it still for today. You said readiness is not a matter of funding operations and maintenance at the proper level. It is not a matter of funding adequate numbers of high quality personnel. It is not a matter of funding superior weapons and munitions or funding strategic mobility and prepositioning or funding high operations tempos or funding realistic levels of training at every level of combat. Readiness is all of these things and more. A force begins to go hollow the moment it loses overall mix of combat capabilities in any one critical area. That definition in 1993 applies today.

When we talk about the hollow force, we got to talk about holistically all of those things that go into producing a ready force, and

it is training and it is personnel and it is equipment. They all have to come together.

Senator REED. That is good, General Goldfein.

You know, I think again that is something we need to talk about, and while you say it is difficult to define what a hollow force is, the general public does know about a hollow force. They knew the conditions that we faced back in the late 1980s and how similar they are today.

Just for a minute, I want to touch on the BRAC [Base Realignment and Closure] recommendations. The budget, it is my understanding, is looking toward the years what—2021 to be looking at a possible BRAC and making preparations before that time?

General GOLDFEIN. Yes, sir. I think you will see from the Secretary of Defense a request for a BRAC, I believe in 2021 is what you will see coming in from the Secretary.

You know, from our perspective, we tend to focus on the “C,” closure, but I will tell you for the Air Force, it is as much about the “R,” realignment. We have got some great examples of how we have been able to, with the help of Congress and this committee, realign forces in order to become more combat-capable and more lethal. For me, it is as much about realignment as it is about closure.

Senator INHOFE. Yes, but you have to keep in mind that one of the facts is that there has not been a BRAC round yet—and I have been involved in these BRAC rounds since 1987—where they have not lost money the first 3 years or so. This is one of the big problems.

This is at a time that is different than most times in the past. We really cannot afford to be paying for something that we do not need, and the second thing is we do not know, once we start rebuilding, what our needs are going to be. I am sure that that probably came to their attention when they were making that decision not to do something until that time.

Secretary WILSON. Senator, if I could just add.

Senator INHOFE. Yes, of course.

Secretary WILSON. with respect to base realignment and closure, one of the things that I think we really need to do is look at infrastructure based on the needs of the warfighter, and for the Air Force, that is less about square footage and concrete than it is airspace and capabilities to be able to train as we will fight not only today but into the future. Some of the language with respect to base closure restricts us from doing some of that analysis, and I think we need to do that analysis to be able to tell where we have excess capacity and of what kind.

Senator INHOFE. Well, my time has expired, but for the record, General Goldfein, you said—I looked it up in your written statement. It was not there. But you said for every mission that I have described to you in your opening statement, you said our adversaries are advancing. I would kind of like to have in a written statement of where we are relative to our adversaries out there, something that you probably would not want to talk about here anyway.

General GOLDFEIN. Yes, sir.

Senator INHOFE. Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Gillibrand?

Senator GILLIBRAND. Thank you, Mr. Chairman.

Secretary Wilson, during your confirmation hearing, I asked you for your attention on continuing contamination issues with water supplies across the U.S. The Air Force, including the Air National Guard, is dealing with contamination as a result of perfluorinated chemicals (PFCs), expelled by firefighting units on these bases. There are two known sites in New York, one at the 106th on Gabreski and one of the 105th in Newburgh. Until recently coordination seemed to be moving forward at Gabreski, though not in Newburgh, though I understand that cooperation has now ceased.

My staff was briefed that all mitigation work and negotiations on cooperative agreements has ceased because the Air Force is assessing whether it has the authorities to pay for any mitigation or cleanup on non-federal land. Are you aware of this issue? My staff was told that there should be a determination by early summer.

Secretary WILSON. Senator, I am aware that the Defense Department is looking at this across all of the services and all of our installations. I think the Air Force was a little bit out in front of others in saying, all right, do we have a problem, do we have an issue at any of our bases. So we have done more assessment than perhaps the other services had. I know that the Office of the Secretary of Defense is looking at this both with respect to particular bases but also more generally with respect to how we move forward on any cleanup.

Senator GILLIBRAND. Can I have your commitment that you will work with my staff to make sure that if you do need additional authorities, we put that in the NDAA [National Defense Authorization Act] so that you have the authorities you need?

Secretary WILSON. Yes.

Senator GILLIBRAND. Will you commit with my office to work with the relevant local authorities to address any adverse consequences resulting from the negotiations that were ongoing at Gabreski?

Secretary WILSON. We will. I would say that this has now become something that the Office of the Secretary of Defense, Installations and Environment folks are also involved in, as well as their general counsel. So we are just one piece of the force on that.

Senator GILLIBRAND. Thank you.

General Goldfein, I watched the news last night about a leaked memorandum concerning breaches by Russia into our electoral infrastructure. The nature of that was about a hack into a vendor who does perhaps voter registration.

I have been talking a lot about the role of our military and particularly the role of our National Guard and how we increase our cyber capabilities by using the National Guard specifically since you are going to have experts within the National Guard who work in the cyber field as part of their day jobs. Can you imagine any function where we can use the National Guard particularly to serve as a conduit between State, local, and the Federal Government, as well as the private sector because of their unique abilities? One such area is perhaps a way to work with the States to certify that our elections are cyber-protected because, obviously, the best cyber personnel we have—many of them are within the armed services as part of the Guard.

General GOLDFEIN. Yes, ma'am. As a matter of fact, you will see that as we are building up our 39 cyber mission teams, a significant part of that is from our Guard and Reserve. There are title authorities that we have got to work our way through in terms of when you are serving in a title 10 status, Active Duty, or title 32 status, working in the States. But what we have found, especially in the cyber business, is where we can really leverage industry and especially young men and women who are working in the cyber business in a civilian capacity that can then also do part-time work with the military in the Guard and Reserve is a powerful combination. We are leveraging that very heavily.

Senator GILLIBRAND. If you need any additional authorities or have any concerns about retention, keeping the best people at Cyber Command, please advise this committee because we would like to make sure you have access to all the cyber warriors you need for all of these functions moving forward.

General GOLDFEIN. Yes, ma'am.

Senator GILLIBRAND. Are there any obstacles that you see now for having the cyber force that you need?

General GOLDFEIN. No. I think our biggest challenge is that we have got to balance the talent between that which serves under Admiral Rogers and his responsibilities as the CYBERCOM commander, that which we require to be able to protect our cyber vulnerabilities, ensure that we can operate to do the missions I described for you in our opening statement, and that which has to serve the combatant commanders who have got cyber equities built into their campaign plans.

We are building this force right now at the same time, and so we are having to now, as we build this capability, ensure that we fill all three of those bins simultaneously. So it is just going to take some time, and we are looking for all kinds of creative ways to build as fast as we can.

Senator GILLIBRAND. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Wicker?

Senator WICKER. General, we might as well settle this on the record. How do you pronounce your last name?

General GOLDFEIN. Sir, "feen" is fine.

[Laughter.]

Senator WICKER. General Goldfein then. We are 1,500 pilots short; by the end of this calendar year, 1,300 of those fighter pilots, 3,000 maintainers short. I was a little unclear about how many aircraft short we are going to be.

General GOLDFEIN. Yes, sir. I would like to clear the record too. I said 1,500. I actually did the math wrong. Part of my philosophy degree. It is 2,031 is the current number of aircraft that we have on the inventory.

The number of aircraft we need relative to all of the missions that we perform—and this is beyond fighters and bombers. This is big wing command and control. This is intelligence, surveillance, reconnaissance. This is across all of those. This is Joint Stars, this is Compass Call. All of the missions we perform—those are the areas where we have got to recapitalize and modernize for the future to ensure that we have all of those mission areas covered.

Senator WICKER. Well, what figure would that be? We have 2,031 current. How many do we need?

General GOLDFEIN. 1,900 combat coded fighters is what we require. We are projecting 175 bombers. We are working right now a bomber road map that lays out the combination—one of the things that we are working hard on is that we have in the past rolled out plans after we have done all of our planning without actually including Congress in the dialogue. We are in the process right now of actually socializing our bomber road map that achieves the 175 total that we need.

Senator WICKER. Okay. Well, if you get your budget request this year, how many pilots short are we going to be and maintainers short are we going to be at the end of next year, at the end of 5 years?

General GOLDFEIN. So if there is no change, right now we are projecting that we will be 1,300 fighter pilots alone short by the end of this year. That is just fighter pilots.

Senator WICKER. But you are asking for a budget number that would improve that. Are you not?

General GOLDFEIN. We are.

Senator WICKER. If you get your numbers, how are we going to look in 5 years?

General GOLDFEIN. Well, our hope, based on all the things that we are doing—that is why I described it as it is not one thing that we are doing. It is 100 things that we are going after that go after both quality of service and quality of life because we are not going to buy our way out of this with money. There is no way we are going to ever be able to—

Senator WICKER. You cannot give us that number of how you hope to look in 5 years?

General GOLDFEIN. Yes.

Senator WICKER. Are you still going to be 1,500 pilots short in 5 years?

General GOLDFEIN. I hope that we are not, and I say “hope”—

Senator WICKER. Can you do that based on your budget request?

General GOLDFEIN. We can definitely get started, but we do not know yet, for instance, pilot bonus is a classic example—

Chairman MCCAIN. What does “get started” mean, General?

General GOLDFEIN. Sir, what it means is that we put in place those measures that start moving forward on increasing quality of service and quality of life across the pilot force. So the budget has the aircraft bonus in it this year. We are going to have to assess to see how that works relative to how many we retain.

Senator WICKER. Suffice it to say, it is hard for you to give us specific numbers to project.

Let me do this. I think Senator Inhofe mentioned the general public. Help the general public understand what we are not getting done now because of these shortfalls. What can we not do? Help the taxpayer understand why this is crucial to us.

Secretary WILSON. Sir, one of the things that happened after sequester and ISIS reared its ugly head in Iraq and Syria, the Air Force and the rest of the services did what they should do, they surged to the fight. That means we have pilots in the desert fighting and putting, you know, 26,000 airstrikes on the ISIS target

since 2014. Twenty-six thousand. That is more airstrikes than we did in Operation Desert Storm—or rather, Iraqi Freedom. So they are in the fight, but that is not a high-end, near-peer kind of fight.

What we are most worried about is that those crews, when they come back, are not ready for some of the potential high-end conflicts that we might face where there is integrated air defense and where we do have to fight in order to own the airspace over any potential adversary. That is where the risk is, and it is not that we would not surge to that fight, but the losses would be higher and it would be a harder fight.

Senator WICKER. Are our allies and our adversaries having this same problem with pilot shortages?

Secretary WILSON. Yes.

Senator WICKER. Specifically Britain? Specifically Russia, China?

Secretary WILSON. The airlines are a global industry, and we are seeing it in the other services in the United States, and we are also seeing a shortage globally of pilots. The Chief mentioned the number of pilots that are being hired annually by the airlines. It is actually higher than the airlines themselves predicted. So they were predicting about 3,200. I think last year they hired 4,500 or something like that. So it was higher than they initially projected. There is a demand for pilots and it is a global demand.

General GOLDFEIN. Sir, just to be clear because you had said allies and adversaries. We do see that our allies are facing—as an international air chief, I have discussions with all of my allies to talk about what—because this movie is coming to a theater near them. But I cannot say that for our adversaries. We have seen no indications of a slowdown for adversaries.

Senator WICKER. Thank you.

Chairman MCCAIN. Senator Blumenthal?

Senator BLUMENTHAL. Thank you, Mr. Chairman.

I do not want to put you on the spot now, but in terms of our allies, if you could provide some numbers as to how they are seeing the same kind of challenges, that would be very helpful. If you could also provide in writing, after this hearing, a rundown or summary of what they are doing, if they are doing anything different than ourselves, but exactly what they are doing.

We have seen this problem coming, as you well know. I asked about it at the Airland Subcommittee—Lieutenant General Nowland was testifying in March. I asked about it last year. I was going to send a letter asking for more detailed information, and I decided not to do so on the assurance that this kind of information would be forthcoming. But if you could provide that kind of information, General Goldfein or Madam Secretary, I would appreciate it.

[The information referred to follows:]

Secretary WILSON. The U.S. Air Force does not track readiness statistics with regard to other nations pilot readiness issues. Some Foreign Military Sales programs with partners are experiencing delays in training, such as the F-16, due to a limited number of USAF pilots available to support ally and partner training. USAF's other aviation sales with partners are being supported. In previous discussions with other Air Chiefs, we understand they are also facing budget issues, which has an impact to their aviation readiness. We are working with partners to improve integration of flight activities with coalition partners where mutually advantageous in support of national security strategies.

Senator BLUMENTHAL. I want to focus on the UH-1N Huey, whose average fleet is about 40 years old and continues to operate under a waiver to protect our ICBM [Intercontinental Ballistic Missile] fleet and the National Capital Region. Earlier this year, the Air Force announced that the anticipated request for proposal for the Huey replacement would be delayed from February to July, which in turn will delay the delivery of the first operational helicopter by a year to the second quarter of fiscal year 2021.

I discussed my frustration with this delay when STRATCOM [Strategic Command] Commander General Hyten came before this committee in April, and I will be understated. He was critical of the Air Force's inability to quickly procure a helicopter desperately needed to fulfill STRATCOM's requirements.

I led a bipartisan letter to Secretary Mattis urging him to do everything in his power to expedite the fielding of new helicopters, but I have received as yet no response. I understand he has a lot of challenges and responsibilities. I am not being critical of him.

But the plain fact is that an existing military aircraft already in the inventory is well suited for these missions, and I hope that after much delay, this acquisition process will proceed with a medium lift helicopter that meets General Hyten's needs.

So let me ask you, Madam Secretary. As you know, during your confirmation process, you committed in writing to me—I am quoting—if confirmed, I will ensure the Air Force remains committed to delivering a UH-1N replacement with needed capabilities on schedule and within budget. Now that you are confirmed, what actions specifically—and I put the emphasis on the word “specifically”—are you taking to fulfill this commitment?

Secretary WILSON. Senator, I have been briefed on the UH-1N program. Initially the strategy was to try to buy something that is just coming down the line and get more of them that are coming down the line that are being bought for other purposes. Apparently none of the potential airframes could do that without some kind of a modification, and each of them had different kinds of modifications. So the Air Force took a step back, and the July RFP [Request for Proposal], as I understand it, is on track to be released.

Senator BLUMENTHAL. That is on track now.

Secretary WILSON. That is what I have been told.

Senator BLUMENTHAL. There will be no slippage in that schedule.

Secretary WILSON. That is what I have been told as of this last week.

Senator BLUMENTHAL. Let me turn to, if I may—

Chairman MCCAIN. Does that mean you will ascertain that it will be done on time?

Secretary WILSON. Senator, I have been told that the RFP is supposed to be released in July, and I have no reason to question what I have been told.

Senator BLUMENTHAL. If there is any slippage, will you commit to reporting to this committee as soon as there is any indication—I mean, any indication—that that schedule may at all be delayed again?

Secretary WILSON. Yes.

Senator BLUMENTHAL. The combat rescue helicopter. As you know, the HH-60G Pave Hawk helicopters, the most deployed De-

partment of Defense rotary wing asset, has been responsible for saving 12,000 lives—12,000 lives. The high operational tempo in Iraq and Afghanistan for these helicopters performing personnel recovery and combat search and rescue missions means that the current aircraft are nearing the end of their useful life with declining readiness rates. It is an essential program. We have to be sure that it remains on track. The program successfully reached its critical design review just last week, finalizing the build plan for the Sikorsky-made helicopter and paving the way to begin building the first test helicopters.

Let me ask you, General Goldfein. This program is critical. It is lifesaving. It is essential to readiness. This year's budget requests just \$354.5 million for the combat rescue helicopter program. That is \$100 million lower. It is a \$100 million decrease from what was anticipated last year. For a program that is so critical, how do you justify such a reduction in funding?

General GOLDFEIN. Yes, sir. As we do with all of the programs, we look at how fast we can bring on that capability and how do we sustain that capability over time. You said it exactly right. When it comes to combat rescue, we are the service that is responsible for fighting our way to a point of injury and actually providing critical combat care in that golden hour and being able to bring folks out. The combat rescue helicopter is an absolutely critical component of that. So the \$100 million shortfall that you referred to is a disconnect that we continue to watch and ensure that we look at as we spread the program out over time.

Senator BLUMENTHAL. Well, General, I apologize. I do not mean to interrupt you but my time is expiring.

I just want to say the word "disconnect" is one of the all-time euphemisms that I have heard in this room. It is a—forgive me. I mean no disrespect to you. It is a disservice to the men and women who need that helicopter and who will be looking up. They are going to be looking up to see when those helicopters are arriving to save them from serious injury during that golden hour. This decrease is a disservice to our men and women in uniform.

Thank you, Mr. Chairman.

Chairman MCCAIN. Thank you, Mr. Chairman.

Thank you to both of you for your service to our country.

With regard to the B-21 program, there have been conflicting reports and testimony from the Air Force about how many B-21's the service intends to buy. When is the correct date that we will start talking about the actual number? We have had reports from the generals which say 80 to 100. One hundred is the minimum. We will start with 100 and go from there. One hundred sixty-five seems like the more realistic number.

Last year, we had an amendment that became part of the NDAA that directed a force mix study to refine what this should look like, and the report deadline has passed. Why is it that the service says it needs exactly 1,763 F-35's but has not produced a precise number of B-21 that it will require? Secretary Wilson?

Secretary WILSON. Senator, it is my understanding that it is 100 B-21's. There was some confusion, and I think the Air Force actually corrected this yesterday in the newspaper about what the total

number of bombers would be, and I believe that number is actually 165.

Senator ROUNDS. It is 165 or is it 100?

Secretary WILSON. One hundred B-21's, 165 total bombers in the Air Force.

One caveat I would make is that there is a national security strategy review that is currently underway, and one of the reasons why you do not have a 5-year defense plan in the formal submission is because that national security strategy, which will drive our force structure, is underway.

General GOLDFEIN. Senator, I will just second that to say that in the bomber mix in the road map that we are socializing now with Congress, it is 165 total bombers, and of those 165 bombers, it is 100 B-21's.

We do that based on our assessment of combatant commander requirements and targets that they require us to hold at risk in their operational war plans, not only the geographic combatant commanders, but also General Hyten in his responsibility for the nuclear enterprise. So we do our troop-to-task, if you will, assessment based on supporting combatant commander requirements and objectives that they are being given to be able to hit.

Senator ROUNDS. General Goldfein, at what date in the future is this determined to be the day that we are shooting for? At what point in time are we talking about this being the goal, to have 165?

General GOLDFEIN. In terms of the total numbers that we will buy to?

Senator ROUNDS. Yes. In other words, the B-21 we all know is not coming on line for a number of years yet. Are we talking about the year 2030, 2035, 2040? What is the number that we are shooting at for having 165 bombers of all sorts?

General GOLDFEIN. Between the 2020 and 2030 time frame. But the way we will manage that, because remember, right now we have B-52's, B-2's, B-1's, and B-21's that will come on board—as the B-21 comes on board, then what we are socializing is then how do we then reduce the existing infrastructure so that we can keep the bomber force at a stable platform.

We are also working to ensure that as we look at what bases that we look at for bomber force structure, that the bases that actually have current bomber capabilities will retain bomber force structure for the future. So all of that is coming together to ensure that we have a solid bomber road map going forward.

Senator ROUNDS. Is there any question but that bomber number 100 is going to be less costly per copy than bomber number 25?

General GOLDFEIN. Well, we amortize those over time. So what we learned in the B-2 was, of course, when we did our cost projections and then we stopped the buy at 21 aircraft, all of those costs were borne by 21 aircraft. We never want to go down that path again. So 100 aircraft is going to have those costs amortized over time. If we buy 130 aircraft, it is going to be lower cost over time because you amortize over the cost of the fleet. So for us, we think the sweet spot is at least 100 bombers when it comes to the B-21.

Senator ROUNDS. Thank you.

I am just curious. When we talk about space, I think we began a discussion here on it, but I just want to get into this a little bit

more and I think it is very important that we emphasize how critical it is, not only air, land, and sea, but we do have the domains of cyber and space. You have already had some questions here about cyber and your commitment with cyber.

Let me get into space just a little bit. I think it is critical that you share with this committee and the American people how serious the threats are to our ability to operate in space and how quickly we need to begin the process of strengthening our defenses for our products or our equipment, which is in space now and in the future. Could you elaborate on that, please?

Secretary WILSON. Sir, I was on the House Permanent Select Committee on Intelligence in 2007 when the Chinese demonstrated the ability to launch a missile into space and destroy a satellite. They targeted and destroyed and created all kinds of debris from one of their old weather satellites. I think that got people's attention.

But that is not the only thing that is going on with respect to threats to our space capabilities. There are threats from space itself and threats from the ground. There is also the issue of trying to jam space-based assets that the United States relies upon. So we have to assume that because we are so dependent on space, that our adversaries know that and they are developing capabilities to deny us the high ground in that way. We have to plan for that eventuality.

Senator ROUNDS. Thank you.

General GOLDFEIN. Sir, where the Secretary and I are focused is in four key areas relative to moving forward on this migration or evolution of space as a benign domain to a warfighting domain where we have the responsibility for gaining and maintaining space superiority, much like I talked about air superiority previously.

The four key areas that we are focused on are, first, how do we ensure that we have got good, solid strategy and policy that comes to us that then we can then build good concept of operations, which we are right now in the process of finalizing in joint publications to speak to the language of joint warfighting as we normalize space as a joint warfighting domain.

From those concept of operations comes solid requirements as the joint chief that you would look at for space, and as the Chief of Staff of the Air Force, I am responsible for requirements to be able to ensure that we build solid requirements and we hold those firm.

From solid requirements, then we look at how we acquire and how we ensure that we have acquisition authority that acquires at a pace that outpaces the enemy.

Finally, as the Secretary mentioned before, it is how do we organize, train, equip, and present ready forces to be able to fight and win in space if a war extends there.

Senator ROUNDS. Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Hirono?

Senator HIRONO. Thank you, Mr. Chairman.

General, the Eagle Vision system, which provides unclassified imagery, has proven to be very valuable in military operations and exercises with our allies, as well as in humanitarian assistance and disaster relief missions.

Senator Graham and I have been strong proponents of this system, and as you know, we have a unit in the Hawaii Air National Guard, which has proven very useful in mil-to-mil exercises and HADR [Humanitarian Assistance and Disaster Relief] missions.

So I want to commend you for including Eagle Vision in your budget request at a level which will allow program stability and the necessary resources to maintain important capabilities such as SAR [synthetic aperture radar]. I think this is a very good investment which will continue to produce significant dividends. So, again, I thank you for your attention to Eagle Vision.

Secretary Wilson, I am very concerned about stability in the Asia-Pacific area even as we see all kinds of conflagrations in the Middle East, as well as in Africa and other parts. So peace and stability in the Asia-Pacific is essential and is important for the United States to project strength and reassure our allies, particularly in light of the actions of China and North Korea.

Do you envision an expanded role for the Guard and Reserve components in future Asia-Pacific missions? What additional assets does the Air Force envision directing to the Asia-Pacific area of operations?

Secretary WILSON. Well, Senator, of course, we organize, train, and equip forces for the combatant commanders, and we also have tens of thousands of airmen who are stationed forward permanently and others that rotate through the Asia-Pacific theater. We also announced yesterday that as we bring KC-46's to McConnell Air Force Base, Kansas, that the KC-135's that are there are going to move up to Fairford to support the air bridge with tankers across the Pacific. So it is an important theater for us. We support the combatant commanders' requirements for warfighting and their operating plans.

Senator HIRONO. Are you saying that we are doing enough to make sure that enough resources are going toward the Asia-Pacific theater?

General GOLDFEIN. Ma'am, I will just offer to you that the rebalance to the Pacific has actually been more about what we have taken risk in elsewhere to be able to maintain a steady presence in the Pacific region. If you take a look historically over time, the Air Force component has actually not changed significantly. We have kept forces on Guam, forces on the peninsula, forces in Japan, forces in Hawaii and Alaska.

So what has happened is we have actually taken forces, as we have gotten smaller over time, from the European theater primarily, here in the Homeland, but we have kept our forces in the Pacific relatively stable. So I would offer to you that my projection, based on the size of the force we have and the global responsibilities we have—you will see that the Pacific laydown will probably remain relatively unchanged.

Senator HIRONO. I thank you for that because I think that the Asia-Pacific area of the world needs to remain as stable as we can, especially as we know with North Korea doing what it is doing and China's continuing buildup of their military.

I know that the budget challenges—you often have to weigh readiness, modernization, and additional capabilities versus MILCON [military construction]. This is for you, General. What

impact does limited MILCON funding have on the capability to fulfill your mission requirements, and what is the Air Force doing to mitigate mission impact resulting from reduced MILCON funding?

General GOLDFEIN. Yes, ma'am. As we have focused on the current fight and combat operations, we have taken risks in MILCON, and the challenge for a service that fights from its base—I mean, go back to that Whiteman example I gave you with the B-2 strike. We had to fight Whiteman before we fought the B-2, meaning we project power from our bases.

So our focus on MILCON, really our priorities, has been first and foremost combatant commander critical needs. The second priority has been new mission beddown. So those bases that are getting KC-46's, F-35's—that is part of that program. So we focus MILCON efforts there, and the third that we have gone to is what we call worst first, and that is where we compete MILCON projects and there is actually very little money that we are able to put towards those when we look at all the other competing priorities. So for an Air Force, the impact is our being able to project power from those bases.

One good news story, though, I will tell you is investments we have made in the European Reconstruction Initiative, ERI [European Reassurance Initiative], because it has become very clear to the combatant commander that our ability to push forward forces quickly is going to be based on our access and the bases we can operate on. So we do have a fair amount of investment to ERI that is helpful.

Senator HIRONO. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Ernst?

Senator ERNST. Thank you, Secretary Wilson and General Goldfein, for being in front of us today.

General, SOCOM [Special Operations Command] proved that a low-cost but highly lethal platform is an incredible asset to our current battlefield, and the Combat Dragon 2 program took retired OV-10's and outfitted them with commercial off-the-shelf technology. They flew 120 combat missions and employed 63 advanced precision kill weapon systems in an 82-day deployment.

As the Air Force conducts its testing this summer on light attack aircraft, how are you leveraging the previous experiences that SOCOM has had?

General GOLDFEIN. Yes, ma'am. Having been involved personally in both Combat Dragon 1 and Combat Dragon 2, we are calling this, to a certain extent, Combat Dragon 3. We are leveraging all of the experience and all of the lessons we learned from that.

What is important about this particular experiment, which aligns exactly with some of the additional authorities that Congress has given to the Service Chief and the service secretary, is it allows us to actually go out to industry and ask what do you have that is shovel ready, that there is not a lot of development costs that we could actually put into the fight and acquire, if we chose to very quickly.

But equally important to that is what kind of a network will they be able to connect to. So as we look at the fight against violent extremism that extends from the Philippines to Nigeria and every-

where in between, how do we actually network this capability so that we can actually then produce the combat value we need? That is the next step of the Combat Dragon series. It is not only to look at the platform. It is actually to look at the network it rides on.

We are hopeful that when we see what industry comes forward in the first phase of this that we are going to hold this summer in New Mexico, that we will be able to go on to a follow-on phase, which will be a combat demonstration.

Senator ERNST. That is very good to hear.

We know that we have seen successes in that program already. So if you were funded, then would you be able to move forward much faster in some of those trials then and actually see this platform through fruition sooner because of those proven successes?

General GOLDFEIN. Ma'am, actually we got the money in. It actually does not cost us that much, quite frankly, to run an experiment because for very few dollars that we have been able to put forward in the budget, we have got a partnership now with industry who have chosen to come in and show us what they have. So actually we do not need additional funding for the experiment. The question will be really, okay, what have we learned from the experiment and then what do want to go forward from there. That is the time when we will be definitely coming back to Congress.

Senator ERNST. Very good. I think it is a great example of taking what we already have and fitting it towards the wave of the future with the technology, and so if we have already proven that—and I am sure you will see the same level of success in your experimentation, but we need to move quickly on that. I appreciate the fact that you do have knowledge of that.

Secretary, we continue to see life support systems grounding entire fleets of our advanced fighters due to physiological episodes. We saw with the F-22 not too long ago, and today we are seeing that in the T-45's and F-18's.

Surprisingly, despite multiple sensors in the generating systems, we do not monitor the oxygen level right before inhalation or right when the pilot exhales. It is my understanding that the same applies to the F-35.

Would monitoring what exactly pilots are inhaling and exhaling not be important?

Secretary WILSON. Senator, I will probably take that for the record. The aircraft that I am most familiar with most recently that had the problem was the Navy F-18. I will ask the Chief whether he is aware of any problems that we have had recently with Air Force aircraft. But as to what the F-35 actually uses on inhalation and exhalation, I will have to get back to you.

Senator ERNST. Okay.

General, do you want to address that?

General GOLDFEIN. Yes, ma'am. We actually have a little bit of history with the F-22 as well. What we learned in the F-22 was that what we train to, which was to understand the indications of hypoxia, which is having less oxygen than you would normally need at altitude—we learned in that system—the way it works is actually the pilots were getting too much oxygen. What we did not know at the time that we learned through that study was that too much oxygen will actually give you some of the same symptoms.

So we went back and we retrofitted that in terms of how we operate. So now we are looking at what we learned from that particular test and series and applying that to what—we are helping the Navy with what they are doing with their F-18's. We are just now beginning to look at the F-35 from the same lens.

Senator ERNST. Very good. I think monitoring throughout the system is important, but actually what they are taking in and exhaling is probably pretty smart to do as well. So I appreciate it.

Thank you both for being here today.

Thank you, Mr. Chair.

Chairman MCCAIN. Senator Peters?

Senator PETERS. Thank you, Mr. Chairman.

Thank you to both our witnesses here today.

Secretary Wilson, during your confirmation, we discussed the Air Force strategic basing plan for the F-35A, basing operations 5 and 6. I understand that site survey teams are visiting the five candidate bases of the summer, and we are expecting a decision on the preferred and reasonable alternatives due sometime later this year.

You, as you always have, stressed the need for readiness, and the Air Force has successfully used the Active associate unit model to provide for increased training opportunities and share equipment and knowledge between the Active, Guard, and Reserve components.

Does the Air Force intend for all Air Guard units receiving F-35's to become an Active associate unit and host Active Duty airmen at these bases that you are aware of?

Secretary WILSON. Senator, I do not think that that was one of the requirements.

I would also tell you that, yes, there are site surveys going on. I intentionally do not ask about the status of those surveys until they are ready to fully brief me on their analysis. So I keep my hands off until the analysis is ready, and then it is presented to me as a whole.

Senator PETERS. So that was not a requirement to your knowledge, but certainly that is something that would be a positive. Is that correct, General?

General GOLDFEIN. Yes, sir. We first start off in the basing process determining what will be the lead at that base. So, therefore, when we talk about ops 5 and 6 or 7, we first say this is going to be an Air National Guard base. This is going to be an Active. This is going to be a Reserve.

We have a separate process that takes a look at the values of associations, and so we look at every base to determine where we can actually get value from an association, whether that be a classic or an Active association or Reserve association. We actually do not start down the path in the beginning. We establish a lead for that base, which service will be lead or which component will be lead, and then we look at it from a purpose of an association.

Senator PETERS. If I could follow up as part of some of the criteria, it is my understanding that close proximity to large airspace in this decision is very important, those that have advanced threat emitters. Is that accurate that that is going to be a significant factor as you are evaluating potential sites?

General GOLDFEIN. Yes, sir, it is.

Senator PETERS. Does the Air Force consider support or opposition in an installation's community as part of that process, the impact of potential lawsuits and others that could delay the basing process? I would assume you are looking for an active and vibrant community that is very excited about the basing. Would that be an accurate assessment?

General GOLDFEIN. Yes, sir. The community involvement relative to an increasingly deployed force because families of these airmen live in the communities, and it is the communities that wrap their arms around them and take care of them. It is the schools that the kids go to. All of that plays in when we are taking a look at particular bases.

Senator PETERS. Thank you.

Secretary Wilson, the 110th attack wing of the Michigan Air National Guard flies the MQ Reaper, as you are aware. While the aircraft they fly can be anywhere in the world, we are very proud that the pilots are sitting in Battle Creek, Michigan.

Their base currently has only one ground control station despite having space for three, and this limits the number of combat air patrols that the pilots and operators at the 110th can contribute to. If there is ever a technical issue, for example, with any of their existing consoles, the wing is unable to fly at all or they may have to reallocate their pilots somewhere else at additional expense. Given the demand for persistent ISR [Intelligence Surveillance and Reconnaissance] coverage, as well as strike capabilities, installations hosting RPA [Remotely Piloted Aircraft] wings should hopefully have the equipment necessary to contribute to the flight.

Secretary Wilson, in response to a question for the record that I submitted during your confirmation hearing, you said that, if confirmed, you would review this high-demand program to ensure that we are using the resources we have to accomplish the mission expected of us cost effectively. To date, have you been able to review allocation of resources for RPA missions at places like Battle Creek but certainly other places around the country as well? What is the Air Force's plan to ensure that the RPA mission is properly resourced?

Secretary WILSON. Senator, the fiscal year 2018 budget does fund what we call the RPA get well plan. The hardest part, as I understand it, for the RPA mission is the people part, and it is making sure that we do not take on more. There is an insatiable demand for intelligence, surveillance, and reconnaissance, and the decision to say we just cannot keep exponentially expanding this without getting the people trained and getting this right has been part of that get well plan. So the people part appears to be the long pole in the tent.

Senator PETERS. Thank you.

Chairman MCCAIN. Senator Perdue?

Senator PERDUE. Thank you, Chairman.

Thank you both.

I want to make one comment for the record. It is awfully reassuring, Mr. Chairman, that 40 years later we have two people leading our Air Force who are esteemed graduates of our beloved Air Force Academy. So congratulations to you both. Thank you for being here and for your careers.

I have two quick questions. Madam Secretary, I do not have time. We could spend all day talking about this. The budget is the number one concern here. I am concerned that we are not funding you at the level to where you can meet the missions that you need to meet to protect our country and fulfill the missions that the General laid out earlier.

Today we are in a different world than we were just 10 years ago. China is spending in equivalent dollars \$826 billion on their military. To put it in perspective, we spend about \$600 billion in this budget. The Air Force gets about 20 percent, a little more than 20 percent of that budget, as I understand it today. The threats today are probably more dangerous than anytime in my lifetime especially.

What I am concerned about is we are putting arbitrary constraints on you guys, and we have not had a bottoms-up look at this thing since 2011 when Secretary Gates at that point did a 5-year analysis, and for 2016, his estimate was a little over \$100 billion more than we actually spent in 2016. In 2016, we spent 3.1 percent of our GDP on our military. That is 100 basis points less than our 30-year average. That is about \$200 billion. So I can triangulate around this \$200 billion number a number of different ways.

My question to you today is, Madam Secretary, if we do not remove this Budget Control Act limit, what will that mean to the Air Force this year, and what will it mean to us over the next 5 years?

Secretary WILSON. Senator, if the Budget Control Act limit is not fixed, if we have to go through sequester, that will be a \$15 billion cut.

Senator PERDUE. Five to zero or one to five?

Secretary WILSON. One to five billion.

Senator PERDUE. What would that mean to end strength, readiness, capacity—

Secretary WILSON. That would mean we would go through pretty much what we did after sequester in the 2013 time frame. We would have to stop flying hours. We would have to ground—

Senator PERDUE. Sorry to interrupt. We are only flying about 150 hours a year right now for a pilot. Correct?

Secretary WILSON. It would be devastating.

Senator PERDUE. That is devastating.

So here is the question. If that were to happen, can you fulfill your mission that was laid out earlier so articulately by the General in terms of the mission of the Air Force today?

Secretary WILSON. Senator, we are too small for what the Nation expects of us now, and sequester would further—

Senator PERDUE. Thank you. That is the answer I was looking for.

I want to move on to space. General, you made a comment after—well, let me first put a little background in here. You mentioned, Secretary, that China ten years ago and just again in 2014 has demonstrated a capability, but Russia is also demonstrating capabilities today. In an unclassified environment, the GAO [Government Accountability Office] mentioned earlier this year that they have identified 60 stakeholder organizations that get involved in the decision-making process in our space programs.

General, you made a comment and I agree with you 100 percent. That is no way to run a railroad. Sixty voices cannot and will not produce a coherent acquisition strategy.

Would you elaborate on that and help us understand what that should look like?

The Rumsfeld Commission as early as 2001 called this out, and here we are 16 years later still debating just the institutional organization and the organization itself. We have a person that now is Chief of the Air Force telling us that this is no way to run a railroad. I agree.

General GOLDFEIN. Yes, sir. Without walking it back through those four lines of effort where we are focused where the Secretary and I are moving forward, this really comes down to a discussion about acquisition and acquisition authority and really decision authority. When you look at the 60 different folks that are in the organization now that each can say no or slow down the progress, the challenge we face is really one of decision authority. How do we actually ensure that we can make decisions, have the accountability in the process so we can move forward and acquire a capability at a pace that is faster than our adversaries.

Senator PERDUE. Sir, is this a little bit like the cyber development that we are going through as a military? Is this something we should look at organizationally from the military standpoint in terms of space and cyber? Madam Secretary, you may want to jump in on that as well.

Secretary WILSON. Senator, actually in the last National Defense Authorization Act, this committee and the Congress gave instructions to the Department of Defense to move decision authority back to the Air Force. We are trying to move forward with that.

In addition, there was a number of work done on organization before I arrived. I am taking a hard scrub brush to that as to how we organize ourselves better both for operations and for policy and acquisition so that we can get rapid decisions. There are a lot of people who have to have insight, but that does not mean that everybody gets a veto. So we will be looking at that over the spring and summer here to make decisions to make sure the right people are aware but the decision authority is clear and fast.

Senator PERDUE. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Warren?

Senator WARREN. Thank you, Mr. Chairman.

Thank you to our witnesses for being here.

I want to quickly ask about the importance of our non-military agencies and programs to the Air Force mission. General Goldfein, would a significant reduction in funding to the State Department and other non-defense security agencies and programs make the Air Force job of defending America easier or harder?

General GOLDFEIN. Ma'am, I will align with the Secretary of Defense who has clearly stated it would make it harder.

Senator WARREN. Yes. Thank you. I agree. In fact, I have asked every combatant commander that same question, and to a person, they have all given me essentially the same answer.

So what I ask about now is about cyber defenses. We need to be completely sure that our aircraft and our other critical systems

cannot be hacked by an adversary and that they are going to work when we really need them. Secretary Wilson and General Goldfein, in your 2018 budget request, you highlight the importance of improving the cyber resiliency of both new and existing weapons systems, making sure that the Air Force systems can stay operational or can bounce back quickly even in the face of aggressive cyber attacks.

That said, a few months ago, in the Airspace and Cyber Conference, General Pawlikowski, the Commander of the Air Force Materiel Command, said it would take five to seven years for the Air Force to become fully cyber secure in part because the budget process had not yet made it a priority. Right now, the new Cyber Resiliency Office for Weapons Systems (CROWS), as only five full-time people.

I know the Pentagon is a big bureaucracy. I know it does not always move as quickly as you would like. But I would like to ask how does the Air Force's fiscal year 2018 budget prioritize securing vulnerabilities in existing weapons systems, and what can we do right now this year to make this a priority?

Secretary WILSON. Senator, let me start out by saying in this year's budget, the Deputy Secretary of Defense directed a look at how we organize ourselves with respect to cyber and set up cyber defense teams. The Air Force is responsible for 39 of those. This year, we will reach the full 39 and that is funded in the budget.

Beyond that, there is the responsibility to try to make sure that our systems are secure, both our communications systems but also our weapons systems. That has to be built into every element of procurement that we are pursuing. As I understand it, it is not done by a particular center. It is done in every single acquisitions system, and it is a huge challenge.

I would also say that it is a rapidly evolving target space, and so trying to maintain cybersecurity both for our systems and more broadly is one of the greatest challenges that we face as a Nation.

Senator WARREN. So I appreciate what you are saying here and the importance of changes in our acquisition system. So let me just switch over to that immediately.

General Goldfein, what kind of changes do you believe we need to make to our acquisition systems in order to execute on your vision of multi-domain command and control?

General GOLDFEIN. Yes, ma'am. Thank you.

Currently when we look at weapons systems procurement, I would offer that we are coming out of the industrial age where you think about the weapon system and the munition and the sensor, and then you figure out how to connect it. I think we are getting into an age where victory is going to go to those who actually can connect together capabilities in the future in new ways of doing business.

What that means is you have got to focus on the highway before you focus on the truck, and so getting the network right, having common system architecture, having a common set of standards so that what we procure not only in the Air Force but in the Army, the Navy, and the Marine Corps—it is going to be how we connect these things up that is going to matter most in the future.

For the Air Force of the future, it is going to be old and new, manned and unmanned. It is going to be conventional and unconventional. We are going to have parts that are exquisite that penetrate and those that stand off. It is going to have all of the above, and the challenge for us in the future to move forward is how do we connect them.

Senator WARREN. So I applaud your vision here. I am just asking in my few remaining seconds about how we need to change our acquisition system so we can accomplish that vision. I see the Secretary shaking her head. She is very much there on the vision. Do we need to make changes in the acquisition system to get there?

Secretary WILSON. I would say two things.

One is we need to take full advantage of the authorities which you have given us and sometimes take some risk, calculated risk, to do things quickly. We are actually doing a scrub of our existing acquisition authorities and what we are not taking advantage of and where we should push the envelope this summer.

The second thing is—and I will just give you an example. The integrated battle management command and control system for space is in this year's budget. That came out of an experiment authorized by the Congress last year on space. It is a common architecture for all kinds of space systems, and it says if you cannot hook into that common architecture for the common picture for command and control, you are not going to build the next satellite system. We are not doing one-off stovepipes. It has to be integrated and drive that through, and we are actually driving that through a very rapid acquisition system.

Senator WARREN. Thank you very much, and I want to see if I can get you up to Massachusetts to talk to our CROWS folks up there too.

Secretary WILSON. You bet you.

Senator WARREN. Okay, good. Thank you.

Chairman MCCAIN. Senator Sullivan?

Senator SULLIVAN. Thank you, Mr. Chairman.

Madam Secretary, General Goldfein, good to see you both. It is always impressive to me to hear about just how broad the mission set is for the Air Force. Please pass on our compliments to the professionalism in the service of the men and women you are leading.

I wanted to provide one example of that professionalism. In the last two months in Alaska, the F-22 pilots, Guard and Active, and the KC-135 pilots have done missions to intercept Russian Bear bomber runs at America's sovereign airspace five times in the last two months. Five intercepts, different ones.

General Goldfein, what are the Russians up to, and in your discussions and the tank and the Joint Chiefs, what should be our response?

General GOLDFEIN. Sir, we are seeing an increase in Russian activity when it comes to long-range aviation.

Senator SULLIVAN. Are they testing our NORAD capabilities? I mean, what are they doing? What do we see them trying to do right now. That is a lot of intercepts in a two-month period.

General GOLDFEIN. It is. It is a combination of things that we are seeing relative to them reaching out with advancements in aviation that they have invested in. We are also seeing this as much in the

Pacific theater as well. We see that not only from Russia but also from China. So we have seen long-range aviation increases.

I will just give one example. I was talking to my counterpart in Japan, and he was telling me that Japan for this year will actually—they will actually exceed over 1,000 intercepts this year, which is more than they have ever had in their history.

Senator SULLIVAN. Are we learning something from our perspective on the intercepts of the Chinese or Russian bomber flights?

General GOLDFEIN. We learn something on every particular intercept. Yes, sir.

Senator SULLIVAN. Let me ask another question. Last year's NDAA provided the Air Force guidance with the KC-46 OCONUS beddown. As you are looking to make that decision, some of the guidance talked about the ability to support multiple combatant commanders in their different warfighting capabilities. Your training area is collocated with other Air Force assets like fifth generation fighters, part of an air bridge to the Asia-Pacific. Are you familiar with that provision of the NDAA?

General GOLDFEIN. Yes, sir, I am.

Senator SULLIVAN. Are you, Madam Secretary?

Secretary WILSON. Yes, sir.

Senator SULLIVAN. What are the three key lessons that we have learned in the ongoing development and deployment of the F-35?

General GOLDFEIN. I would say overall the most important lesson we have learned is the importance of information fusion and how we can take an aircraft and be able to sense both what it can do on the aircraft with what it does off the aircraft to able to then be the quarterback for a formation.

Very quickly let me just give you a sense of what I saw when I went to Red Flag recently and saw the F-35's debut.

I flew the F-117. In the first generation of stealth, we actually had a switch in the cockpit called the stealth switch. We flipped the switch. All the antennas would stow. All the emissions would stop, and we would close off the world.

The F-35 actually connects into the network before the pilot climbs the ladder. In Nellis Air Force Base, we have a cyber protection team, cyber mission teams that are engaged in a cyber war that are doing this on a cyber range, and the impacts are being fed to the cockpit and on the displays of the F-35 pilot.

We had space activities and actually space capabilities taking place in the middle of the campaign, and the impacts of those were actually on the displays and on the helmet of the F-35. He is calling audibles for the formation at 2 o'clock in the morning based on the impacts of the space and cyber wars before he even crosses into enemy territory. It is about the fusion of capability of information that the F-35 brings.

Secretary WILSON. Senator, there is one other thing that I think is going to be—sometimes when you have vastly new capabilities, the people who are using those capabilities, the pilots that are out there, start to think of new ways of doing things. So I think we are only at the beginning of the innovation that we are going to see in the way in which we fight with these new tools. So I think it is just starting. It will change the way we fight.

The night before I was sworn in, we had dinner at the Chief's house, at Air House, with the head of the Israeli Air Force. The Israelis still fly. The Chief of Staff still flies. We do not let our Chief of Staff still fly. He said something. As soon as he met me, he said I have had seven sorties in the F-35, and he said this is a game changer. There is nothing like it. This is an air chief who has flown the F-16, the F-15, the F-4 and done all of those in combat as an Israeli in the Middle East, and he said there is nothing like this in the world. This changes the game.

Senator SULLIVAN. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Shaheen?

Senator SHAHEEN. Thank you, Mr. Chairman.

Thank you both for being here and for your service to this country.

Secretary Wilson, as I know you are aware, we have had issues in Portsmouth, New Hampshire with the water because of perfluorinated (PFCs) compounds, that have gotten into the drinking water for the City of Portsmouth because of the former Air Force base at Pease. The levels there are 12 and a half times higher than what as the provisional health advisory from the EPA [Environmental Protection Agency]. We have more than 1,500 Granite Staters who have lived and worked around the air base who have learned that their blood contains elevated levels of these chemicals. I very much appreciate the Air Force's efforts to date to try and help address the pollution from the operations there at Pease.

You provided funding to ATSDR [Agency for Toxic Substances and Disease Registry], which is the federal agency that conducted a feasibility assessment on the health study for those exposed to the contaminated water. But my understanding is that the Air Force has said it is not able to fund a follow-on health study. Can you talk about why that is and what can be done to address this, which is a continuing threat to people in the sea coast region?

Secretary WILSON. Senator, I am familiar somewhat with this issue. I think the question is whether the Air Force is the right entity to do—and whether we even have the authorities to do a human health study on a civilian population around the base. I think the general counsel's offices, both in the Office of the Secretary of Defense, as well as the Air Force, are taking a look at that, and then we are happy to work with you and others on what is the best way to do a human health study. That is not our core competency, honestly.

Senator SHAHEEN. No. I certainly understand that the Air Force would not be doing the study itself. I also understand that the Navy funded ATSDR to do a study at Camp Lejeune, a similar kind of health study, and I just wondered what is the difference between the Navy's ability to do that and the Air Force's. Is that just willingness? Is there some other issue there?

Secretary WILSON. Senator, we heard from your staff. In fact, we got from your staff the tip with respect to Camp Lejeune, and we have asked the general counsel to talk to the Marine Corps and Navy general counsel, find out how they did that and see if we can find you an answer.

Senator SHAHEEN. Well, thank you. I very much appreciate that, and I know the people in New Hampshire do as well.

General Goldfein, I want to follow up on the comments about the KC-46 because I understand that Senator McCain earlier raised his concerns about where we are with the program and some of the delays. But one of the other challenges with getting this new refueling tanker out are the changes that need to be made at some of the bases to address the beddowns, the sustainment, restoration, and modernization. Can you talk about those challenges as well?

General GOLDFEIN. Yes, ma'am. So right now in the 2018 budget, we have funded new mission MILCON to make sure that we are meeting our responsibilities for the beddown because, as you know, you have to have some of that completed before the weapon system actually arrives. This morning, we are actually performing—our acquisition lead is actually doing a schedule review with the company on where we are relative to the schedule. As of this time, we still believe that we are going to be able to absorb the delays at McConnell and Altus and that we will be back on track by the time we actually then arrive at Pease Air Force Base. So the 2018 budget has MILCON in it.

Senator SHAHEEN. Great. Thank you very much.

Secretary Wilson, there has been a lot of news in the last 2 days about what is happening in Qatar in the Middle East and the Arab countries who have expressed their concern about the way Qatar is operating a number of things with respect to Iran and Saudi Arabia. I wonder if you are concerned at all about our air base there and the operations that we need to continue to perform out of Qatar and the challenges that we are seeing.

Secretary WILSON. Senator, the air operations at Al Udeid are continuing without interruption. Of course, the Air Force and the Department of Defense has a number of backup plans and those kinds of things. But it is our hope that this resolves itself with or without the assistance of the American Secretary of State. So from our perspective, it is largely at this point a diplomatic issue and our air operations continue unabated.

Senator SHAHEEN. So there has been no threat that we have to remove our air base there.

Secretary WILSON. No.

Senator SHAHEEN. Thank you.

Chairman MCCAIN. Senator Donnelly?

Senator DONNELLY. Thank you, Mr. Chairman.

I want to thank both of you for being here, Ms. Wilson and General Goldfein.

I want to return to an issue I have discussed with both of you before, which is the future of the 122nd fighter wing in Fort Wayne, Indiana. We have put this to bed it seems about three times, but it keeps coming up. I was just with our adjutant general and wing commander in Fort Wayne last week, and I can tell you they are doing an incredible job in their A-10 mission.

Prior to the A-10 retirement ban, the Air Force was planning to bring F-16's from Hill Air Force Base to Fort Wayne. We would have been starting that mission conversion this year. Just yesterday, there was an article about those Hill F-16's now on their way

to Holloman Air Force Base in New Mexico. I understand that given current conditions.

But when that decision process began, General Mark Welsh who was then the Air Force Chief of Staff, asked for a meeting with me in my office, and he made a rock solid commitment that the Air Force would be maintaining a manned air combat mission in Fort Wayne.

General Goldfein, you and I met less than a month later, just prior to your confirmation hearing, and you told me you would honor General Welsh's commitment.

Ms. Wilson, you and I discussed the same issue in a meeting in your confirmation hearing March of this year, in which you said that if a commitment has been made, we will stand by it.

I want to make sure that this commitment to maintaining a manned air combat mission at Fort Wayne will be kept. Ms. Wilson?

Secretary WILSON. Senator, the A-10 is at Fort Wayne and we have no intention of removing it. It is there for the foreseeable future, and they will have that manned combat mission. We have no intention of changing that.

Senator DONNELLY. We have been promised a follow-on mission once the A-10—if and when it leaves.

Secretary WILSON. Senator, our intention is not—we made the decision to keep the A-10's. So we are keeping the A-10's and we have no intention of taking that away from the Guard.

Senator DONNELLY. General Goldfein?

General GOLDFEIN. Sir, I agree with the Secretary. The reality is we need that wing flying the A-10 right now, and so we made a decision in this budget to keep the A-10.

Senator DONNELLY. Well, my question is how long does right now last.

Secretary WILSON. This does not have the five-year budget in it, but we are keeping the A-10's for the foreseeable future, which is five or ten years at least.

Senator DONNELLY. Let me ask you something else.

One of the things I have been working on is mental health and mental health services for our servicemembers. I appreciate the commitment both of you have made to improve the mental health and the resiliency of our airmen and military families. The Jacob Sexton Act, which is legislation that was passed, provides for a robust annual mental health assessment for every servicemember. The Air Force has said in the past that the Sexton Act requirements would be fully implemented by October of 2017. Are we still on track to meet that target?

Secretary WILSON. Senator, we are on track to meet that target. But in my view it is more than that. Every morning when the Chief and I start the morning—

Senator DONNELLY. The Sexton Act there is more than that too, but I was just trying to find out about that in particular.

Secretary WILSON. The thing to me that is heartbreaking about this is how many mornings we come in and the status report includes a suicide, Active, Guard, and Reserve. They come up in our morning reports, and somehow we have to get to that "we man"

culture that says we try to take care of each other and identify problems and get people help when they need it.

Chairman MCCAIN. Could I interrupt? Madam Secretary, section 702 of the Defense Authorization Act required it. So are you going to implement the law or are you going to have meetings and talk about it?

Secretary WILSON. Senator, we are implementing the law.

Chairman MCCAIN. All right. Thanks.

Senator DONNELLY. Thank you, Mr. Chairman.

General Goldfein?

General GOLDFEIN. Sir, one of the things that we are looking at is the Special Operations Command has a very successful program called Preservation of the Force and Family (POTFF) for an acronym. What they have asked is an important question, and the question is, if we would take an aircraft off the line at a certain point for scheduled maintenance, check it, pull panels, make sure it is good, get it back on the line, and then later do depot maintenance, which is a heavier look, if we would do that for machines, what would it look like if we did that for people?

Now we are following their lead on a program that looks at how do we take airmen off the line at a certain point and make sure we pull panels, if you will, and take a look at how they are doing, how they are doing financially, how are they doing with their career, how they are doing at home, how are they doing spiritually. Once it is scheduled maintenance, the stigma goes away because everyone is doing it, and then we do a later time and we pull them off for depot maintenance, which is a deeper look.

So we have three bases now that we have started this. We call it Task Force True North. We are moving out on this, and we are going to look at that across the entire Air Force because I think SOCOM has got the model for success.

Senator DONNELLY. Thank you, Mr. Chairman.

I would just like to say that I kind of felt like I got half an answer on the A-10's because there is a commitment for an ongoing manned mission, and as long as I am here, I will make sure that commitment is kept.

Thank you, Mr. Chairman.

Chairman MCCAIN. Thank you also, Senator Donnelly. Twice I have kind of heard, well, yes, we see the law but we are not implementing it. I have to tell you, Madam Secretary and General, we are going to have to start imposing some penalties if you do not carry out the law. That is our job. That is our job, not to give you an option as to whether we are going to do something or not. If it had been entirely up to you, the A-10 would be down in the bone yard in Tucson. So we are going to be looking at provisions that we put in the bill in the last 2 years, which are reform provisions, and frankly, we are going to have to impose some penalty if you do not carry out the law. It is sort of a fundamental.

Secretary WILSON. Senator, we will carry out the law.

Senator DONNELLY. Thank you, Mr. Chairman.

Chairman MCCAIN. But so far you have not. Anyway, we will give you a list of those that we have mandated, and unfortunately, then if you do not get it done, we are going to have to add it to the bill that there is going to be some kind of penalty for not doing

it. We take our jobs very seriously and we take the Constitution very seriously.

Senator GRAHAM?

Senator GRAHAM. Thank you, Mr. Chairman.

Madam Secretary, how many political appointments are available to the Department of the Air Force?

Secretary WILSON. Senator, there are I believe six that are confirmable, in addition to me.

Senator GRAHAM. Are all of them moving forward? Are there names to fill these slots?

Secretary WILSON. Senator, there are two that we are still, I believe, interviewing for, but the other ones—we have a preferred nominee that is in some point in the process.

Senator GRAHAM. This is June. When do you think they will get to the committee?

Secretary WILSON. Sir, I do not know.

Senator GRAHAM. Does this impede your ability to do your job?

Secretary WILSON. It is becoming difficult, yes.

Senator GRAHAM. Where is the problem? At the White House?

Secretary WILSON. Senator, I am not really sure.

Senator GRAHAM. Could you let us know?

Secretary WILSON. Yes, sir.

Senator GRAHAM. This committee—the chairman has decided, I think, to mark up the 640 versus 603. From the Air Force point of view, could you use some of that money?

Secretary WILSON. Senator, we have a list of unfunded requirements.

Senator GRAHAM. How much is that?

Secretary WILSON. Senator, it is a little more than \$10 billion.

Senator GRAHAM. I think all the unfunded requirements are \$30 billion. So 603 plus 30 is 633. So we are not far off. So if you had \$10 billion more on top of what the White House requested, that would be a good thing. Is that right, General?

General GOLDFEIN. Yes, sir. It absolutely would be a good thing.

Senator GRAHAM. In terms of threats, from 2011 until today when sequestration first kicked in, how would you describe the threats to the Nation in terms of more or less?

General GOLDFEIN. Sir, absolutely more, and I think the framework that the Secretary and the Chairman have laid out, which you are familiar with, the Four Plus One, China, Russia, Iran, North Korea, and violent extremism—I can say that in each one of those areas, the threat has increased.

Senator GRAHAM. In terms of the ability to deal with those threats, sequestration is the law of the land. It kicks back in this year. What would happen to the Air Force's ability to deal with these threats if we went back to sequestration levels?

General GOLDFEIN. Sir, I want to be very clear and it is what all the Joint Chiefs have testified before. We will be unable to execute the Defense Strategic Guidance under sequester.

Senator GRAHAM. Do you agree with that, Madam Secretary?

Secretary WILSON. Senator, yes, I do.

Senator GRAHAM. From the Air Force's point of view, who is our greatest foe? Maybe you can name a couple, and does the budget

this committee is proposing—does it give you the resources adequately to deal with those foes?

Secretary WILSON. Senator, when we look at the world and the threats we face, there is China, North Korea, Russia, Iran, and violent extremism that we principally focus on. All of those threats are growing in different ways. I would say that this budget builds—

Senator GRAHAM. Let us just talk about the air threat, from a nation state air threat.

Secretary WILSON. China is very rapidly modernizing its air force. North Korea, as you well know, is seeking to have an intercontinental ballistic missile capability and the ability to deliver a nuclear device. I think that concerns us all. Iran also is developing its missile capability and sponsoring terrorist organizations, and the Russians are also modernizing their military.

Senator GRAHAM. General, what advice would you give the Congress in terms of this dilemma? Is it better for us to allow the ICBM [Intercontinental Ballistic Missile] to be developed with a warhead on top that could reach America and have a missile defense system to deal with the threat with the assurance that if you ever launch toward us, we will destroy North Korea? Or is it better from a Homeland security perspective not to allow them to have that capability to begin with?

General GOLDFEIN. Sir, I would align with current policy which stated that it is better not to allow them to have it.

Senator GRAHAM. That means, as a last option, military force if diplomacy fails?

General GOLDFEIN. Well, sir, my responsibility is to provide the President options and to ensure that he has the options to do what he needs to do.

Chairman MCCAIN. Senator King?

Senator KING. Thank you, Mr. Chairman.

Madam Secretary—did you have a follow-up question, Senator?

Senator GRAHAM. No.

Senator KING. I want to follow up on Senator Shaheen's questions. I am concerned about Al Udeid. In the last 24 hours, Saudi Arabia, UAE [United Arab Emirates], Bahrain, and Egypt have cut off diplomatic relations with Qatar. Have you been in touch with any officials of those countries or in Qatar directly since that has taken place to guarantee, if you will, the continued viability of our operations at Al Udeid?

Secretary WILSON. Senator, I am going to ask the Chief to follow up on this as well.

I have not personally been in touch with them, but we have information from Al Udeid, as well as the combatant commander there, and I know the Chief has talked directly.

Senator KING. General?

General GOLDFEIN. Sir, so I have talked directly to the commander there who has assured me that—

Senator KING. Our commander.

General GOLDFEIN. Our commander, our air commander, who lives at Al Udeid, and you may know that I lived there for 2 years from 2011 to 2013 as the Air Component Commander. I am very

familiar with the Qataris and the region, having spent 2 years traveling the region.

What I will tell you is that he assured me that they are working right now through the ambassador and the country team, that this is a diplomatic lead effort, and now militarily there is no impact to our operations. I will tell you that we always build alternative contingencies to be able to continue operations.

Then I will just share with you—again, this is in diplomatic lanes, but the military element to it—as the region works this out and the GCC [Gulf Coast Countries] countries work this out—one of my responsibilities as the Air Component Commander was to be the area defense commander and to build a collective defense of the Arabian Gulf.

Senator KING. That is what worries me is the split creates a new reality that we have not seen before.

General GOLDFEIN. We spent 2 years—and it has been built on since then—talking to the countries in the region to ensure they understood that individually, when it comes to countering Iranian behavior and especially Iranian missile threats—you know, from the UAE to Iran is about a 5- to 7-minute time of flight, and so we worked together to ensure that the nations understood that collectively they actually had what they need to defend themselves.

Senator KING. I do not mean to interrupt you, but I want to get to some other subjects. But I think the point is they have understood it in the past. The question is do they understand now and what are the implications of what happened yesterday—

General GOLDFEIN. Yes, sir. That is the point, that militarily they need to work through this to ensure they can maintain a collective defense.

Senator KING. General, let me go to the pilot shortage. I met with younger pilots, mid-career pilots, and they do not point to budget issues. They point to quality of life issues, and particularly as they get on in their careers, they end up flying desks more than they fly airplanes. What is the bottleneck? If you had to identify three factors to address, what are they, one, two, three?

General GOLDFEIN. I want to thank you and Senator Cotton for both taking the time to talk to these pilots.

Number one, I get asked all the time—when I am home, I am not home. As soon as I get back from a deployment, I am going to go remote again or I am going to go something else. So just the time at home. So we are working on ways that we can create space in the calendar, just a basic scheduling.

Number two is to get them airborne because pilots who do not fly are not going to stay and get them the flying hours.

Senator KING. Part of the problem there is we do not have enough maintainers. Right?

General GOLDFEIN. Exactly.

Senator KING. It is a shortage of a shortage.

General GOLDFEIN. That is why in this budget you will see us going after personnel as our number one readiness issue to ensure that we have the critical skills to get the aircraft in the air to get them flying.

The number three part of this is to remove what I would call a series of things that are just irritating over time. As we have gotten smaller, the workload and the burden—

Senator KING. Paperwork—

General GOLDFEIN.—has come to the smaller force. I am sure you heard this loud and clear. So we are putting civilians into squadrons to take on some of that workload. We are looking at building healthy squadrons. We are looking at all those things that go into building a healthy atmosphere so we can get at this because it is just as much about quality of service as quality of life.

Senator KING. Is any one person in your organization in charge of this retention issue?

General GOLDFEIN. Yes, sir. Lieutenant General Chris Nowland, who is my A-3, is overall in charge. He has got the lead within the Air Force. I have got the lead within the Joint Chiefs because this affects all of the services, and my commander for Air Mobility Command that actually works with the civilian airlines every day because he has the civilian reserve air fleet—he has got the lead for working with industry. So we are working it from a national level, internal to the Air Force, and across the joint team.

Senator KING. Well, I appreciate that, and I hope that General Nowland wakes up every morning saying how are we going to solve this problem because we have got to solve it. This is not a budget issue really. This is an organizational issue.

Finally, I am out of time. I just want to say we have talked a little bit about the F-35 and the B-21. If what happened to the F-35 happens to the B-21, I am going to find you. We have got to see that that does not happen. We have got to learn those lessons. The country cannot afford either the time or the money in order to field the B-21 efficiently and cost effectively.

General GOLDFEIN. Sir, you can be assured I am the chief requirements officer for the B-21, and I expect to be held fully accountable.

Senator KING. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Cotton?

Senator COTTON. Thank you and welcome, Secretary Wilson. Congratulations. General Goldfein, good to see you again.

I want to build upon what Senator King was speaking about on pilot retention. As you know but as some members of the committee and the public may not know, Senator King, my ranking member on the Airland Power Subcommittee recently held a roundtable breakfast with several company grade officers, a few young majors as well who are pilots, unfortunately, some of whom have decided to leave the service already and go to the airlines. As Senator King says, this cannot be only a monetary issue. This committee offered \$35,000 in bonuses last year. I suspect we could double or even triple that at some serious expense without increasing retention numbers that much because although these pilots found the bonuses were nice to have, when you amortize that out over the years of commitment they are taking on and some of the other, as you call them, irritants, General Goldfein, it simply did not make sense. Not only can the airlines in the long run probably pay them more, but they can give them a lot more stability as well. You can

go to an airline and predict exactly which 10 or 12 days a month that you are going to be flying the way you cannot in the Air Force.

I want to commend you on your efforts to try to eliminate a lot of those non-essential duties that are an irritant for our young pilots so they can get back to focus on flying. I want to commend you for your focus on pushing command authorities back down to the squadron level. I know your push to add civilians to the squadrons to alleviate some of this additional administrative workload has really made a difference in the morale and those pilots appreciate it.

Senator King mentioned flight time. That is flight time in the short term of being able to get in the cockpit and fly. But we also heard an opinion on the long term as well that many of these young men and women join the Air Force because they want to fly. They do not want to sit at desks. They do not want to be PowerPoint warriors, and to put a fine point on it, they do not want to be Chief of Staff of the Air Force. They respect you. They admire what you have accomplished in your career, but they look back at what Captain or Major Goldfein was doing and saying I want to do that for most of my career or all of my career. They say they are simply not allowed to. The Air Force forces them to move on and up.

They suggested we take a look at what is called a tactical track to allow officers who want to spend their career when they are at the peak of their skills to remain flying F-15's or F-16's or B-2's or what have you. Is this something the Air Force has under consideration?

General GOLDFEIN. Sir, we are looking at it.

But I also want to make sure that we are clear. If you put a piece of paper in front of Captain Goldfein and said, listen, Captain, if you want to stay flying and never do anything else, all you got to do is sign here and you will never make it past lieutenant colonel, I would have signed it in a second. That is exactly what our young captains feel like. But then we give them a leadership position and they understand what it feels like to actually lead young men and women into combat. Hopefully we hook them, and so there are some things in a career that we want them to do. While we are looking at different tracks, what I do not to do is to have young officers who have not had the chance to actually show what they are made of relative to leadership, opportunities, much like I am sure you experienced as you were leading soldiers—once you do it and you realize the fact that you can actually have an impact on people's lives, I want to make sure that we do not close doors to those young officers who may find that they actually can be great chiefs of staff some day.

Senator COTTON. Captain Goldfein was a pretty good pilot. Was he not?

General GOLDFEIN. He was the best pilot in the Air Force.

[Laughter.]

Senator COTTON. It is funny. You know, those captains and majors said they are the best pilots, and the colonels and the generals are over the hill.

General GOLDFEIN. Boy, if we do not have that today, then we got bigger problems.

Senator COTTON. But Captain Goldfein made that decision at a different time in the Air Force in its size and funding. We are facing, as we have heard from Senator McCain, Senator Reed, Senator Wicker, Senator King, something of a crisis in fighter pilot retention. Maybe we might lose one or two candidates for Chief of Staff of the Air Force in 2035, but I think that we have to consider this option for 900 or 1,100 pilots short, however many pilots we are short.

General GOLDFEIN. Absolutely. We are continuing to look at that.

Beyond this, if I can just take 30 seconds, the other part of this is the life in the squadron and this idea of service and making sure that we do not ever lose the fact because we have had a lot of discussions here about all the different issues. The Secretary and I are committed to swinging away at this. But there is a big part of this that is also the reason that you joined the Army and I joined the Air Force, which was to serve, to be part of something bigger than ourselves, to be able to make a difference in the world, to be a better version of ourselves. All that still occurs, and we want to make sure that we capture that in our young airmen we have today as we go forward.

Senator COTTON. I understand. The Army and Air Force are different institutions, though. In the Army, it is the junior enlisted who are at the tip of the spear. They are driving vehicles. They are manning the crew-served weapons. Senior enlisted and officers are controlling the element. In the Air Force, it is your officers that are at the tip of the spear. It is Captain Goldfein who is out flying missions in combat and getting shot down in combat. It is something that we have to take into account when we look at the way the two services organize their affairs.

One final point. A lot of issues with the level of online training. I know this is something both of you have looked at. But for the record, I just want to say that our pilots who are flying missions need to get the kind of basic training in critical issues like sexual harassment, sexual assault prevention. We heard reports of some of our pilots, though getting mandatory online training, things like preventing human trafficking, which is a very important and noble goal but maybe better suited for law enforcement or intelligence and so forth. So I hope you will take a careful look at all of the training requirements we are putting on pilots who need to get more time in the cockpit or more time with their families.

Chairman MCCAIN. Senator Kaine?

Senator KAINE. Thank you, Mr. Chair.

Thank you to the witnesses.

Just a point to follow up on a question or comment that Senator Graham made, this question about the pace of appointments. The President tweeted the other day that the hollowness was because of Democratic obstruction. I very much was offended by that. The President has forwarded to us by my counting about 20 percent of the nominations that are the Senate-confirmable positions. Eighty percent there has not been a nominee forwarded to us in June, and certainly on the committees that I serve that are national security committees, the Armed Services and the Foreign Relations Committee, the pace of the chair, once the nominations are here from the White House, has been to move them through committee pretty

quickly. I am not aware of things slowing down on the floor on these positions, and so I will just make that as a statement for the record. I think the facts will bear that out.

There has been some good testimony about the pilot issue, shortages of pilots, a great discussion with Senator Cotton. You mentioned the numbers on maintainers. The numbers on maintainers are maybe even more challenging. Could you each describe what you are doing to try to deal with that shortage?

Secretary WILSON. Senator, this budget also includes an increase in maintainers. One of the reasons that we cannot recover in a single year, no matter how much money you put at it, is because readiness requires not just an avionics tech who has got 1 year of experience, but you got to have those mid-level NCOs [Non Commissioned Officers], the supervisors, the experts on the job, and there is only so much you can accelerate experience. So one of the things that is a real concern on the retention side is trying to keep those maintainers so that you have got a balanced force across all of the different ranks. It is a real challenge if you have a very young force without that hands-on skill and that experience to know how to fix this problem right now. So it is a challenge.

Senator KAINE. If I am correct, the maintainer workforce is an interesting mixture of Active, Guard, and Reserve, some civilians in that workforce. So it is an interesting human resources issue. But you have some breadth of talent from the different posts to pull from in meeting maintainer needs. Correct?

General GOLDFEIN. Yes, sir. One of the things that we are doing is we have shifted to civilian and contract maintenance for all those flying operations that are actually not deployable to combat. So for our training—our training is primarily civilian contract maintenance. So we freed up the blue suit, if you will, to take on that deployable piece of it.

The challenge we find, though, is that in the smaller force—I will give you one vignette. When I started flying airplanes, I would walk out to the airplane. I would meet a dedicated and assistant crew chief at the airplane. We would walk around the airplane. I would strap it on. We would go. I would get to the end of the runway, and a different set of crew chiefs would be there to what we call last chance or end of runway. They would pull the pins. They would arm the bombs. They would make sure we were good to go, and we would take off, fly to a destination and there would be a different maintenance crew that would be there.

Here is what it looks like today in many places. You taxi slow because the crew chief, the one crew chief has got to get in the bread van and drive to the end of the runway and be that same crew chief that pulls the pins and arms the bombs. On our worst day, you fly slow because that crew chief has got to jump on a C-17 with his toolkit and get to the destination to meet you when you arrive.

The problem is it masks the problem because if you were to go to the data and said did you taxi on time, yes. Did you take off? Did you make your mission? Did you recover? Yes. The issue is we did it on the back of that smaller force, and that is what we cannot sustain as the threats go up and the demand signal goes up.

Senator KAINE. A very good answer. That is informative.

Let me ask you a question about one item that is in this budget that I thought was interesting. I do not really have an opinion about it. But your budget proposes to move 10,000 civilian acquisition personnel from the O&M [Operations and Maintenance] account to the research, development, test, and evaluation account. I just thought that was interesting, and could you describe a little bit your thinking in terms of moving that amount of personnel? That is a big move.

Secretary WILSON. Senator, I do not think their jobs are changing. It is just a question of—

Senator KAINE. Right. How will they be managed and where they fit.

Ms. WILSON.—where they fit and what the real work is they are doing, and the finance people felt that they were better accounted for as research, development, test, and evaluation rather than the O&M side.

Senator KAINE. Is this just sort of where they are accounted for in the budget, not only are their jobs not changing, but sort of the chain of command and the reporting? How they report will not change either?

Secretary WILSON. That is correct, that it is really just an accounting change.

Senator KAINE. If that is not correct, I would love it if you could provide additional written response, but if it is correct, you do not need to provide an additional answer.

The last thing is we are dealing with the new fifth generation aircraft, not only the Air Force, but the Navy and Marines as well. Their training range is off the coast in Virginia and North Carolina. Do you have make changes to allow those ranges to be fully utilized by fifth generation aircraft?

General GOLDFEIN. We do with some, and that is that the ranges that we have to train relative to certain scenarios and the threat laydown of emissions that allows us to actually collect on emissions and then fight against an adversary scenario—all those are investments that you have to make.

Interesting, though. So when I grew up flying airplanes, you would go to the airplane for your advanced work and you would go to the simulator for your basic work. So you do emergency procedures, you know, basic capabilities in the simulator to prepare you for the high-end training in the aircraft. In fifth generation, we are seeing a bit of a reversal. To be able to actually train up with all of your capabilities against an adversary with all of their capabilities, very often we can replicate that the best in the virtual world. Now what we are looking at is how do you combine virtual capabilities with live and constructive, which would be computer generated, to actually get to the highest level of training. So you are going to see in this budget a fairly significant investment in virtual and simulation to be able to get our physical ranges connected with our simulators as we go forward.

Chairman MCCAIN. Senator Heinrich?

Senator TILLIS. Thank you, Mr. Chairman.

Thank you both for being here and thank you for your service.

General Goldfein, just quickly. I think you may have answered this briefly. But can you tell me a little bit about the KC-46, the

delay? For States like North Carolina and Seymour Johnson for our planning purposes, what are we looking at? Is that 18-month delay real? Could we go further? Just some idea for planning purposes.

General GOLDFEIN. Yes, sir. So right now this morning, our service acquisition executive is actually holding a schedule review and looking at exactly where we are. We think that there may be a couple months now that we are looking at for delay. It is combination of the contractor not anticipating some of the challenges with FAA certification, a little bit in the testing and getting the data points that are required go into that.

Our best estimate right now is that we are going to be able to absorb the delays at McConnell and Altus and that we will be back on track by the time we get to Pease in terms of delivery schedule. If that changes, we will report immediately.

Senator TILLIS. Thank you.

Secretary Wilson, I think the chairman touched on military health care reform. Can you talk a little bit about how the component model is actually going to drive efficiencies, maybe break down stovepipes? How does it work?

Secretary WILSON. Senator, all of this is being implemented now, and the services are looking at what kinds of pieces stay with the services and how do we combine this to provide more efficiency and honestly reduce some of the overhead in each of the services to run a military health care system. So all of the implementation is moving forward with the Office of the Surgeon General and the Defense Health Care Administration.

There is a lot of pieces to this. There is a lot of contracting that is going on and a lot of decisions about how do we move forward to this new, more integrated system. So there is a lot of work that is going on.

Senator TILLIS. I have another question just on the business side of your responsibilities. It has to do with the audit. How are we doing for 2017?

Secretary WILSON. Senator, I actually checked on that yesterday. We will declare audit readiness at the end of this fiscal year. Fiscal year 2018 will be the first fully audited year. So all of that data will be subject to audit. I think as you understand probably better than most, we expect in the first year we are going to have audit findings. We are going to find problems. That is why you do an audit.

Senator TILLIS. That is great.

Secretary WILSON. So that is good. Then we start to routinely respond to those and improve our financial systems and its management.

Senator TILLIS. Talk a little bit on—now that you have been around for ages, a little bit on initiatives with respect to acquisition reform. I do not know, when you and I met in our office, if I brought in my 680-page prop of the next generation handgun, which actually started in the Air Force and then found its way across the lines of service. But what specific actions are you trying to take—either General Goldfein or Secretary Wilson—that give me some hope that we are going to find a way to right-size acquisition processes to the mission requirement?

Secretary WILSON. Senator, we are trying to look at—and this summer, at the end of June, we have kind of a retreat with all of the senior offices in the Air Force, as well as the senior civilians in the Air Force. With the senior civilians, I have asked them to take a whole half-day chunk of time and let us look at what are the authorities we are currently using. Where are we doing this to ourselves, not driven by statute or regulation, but what can we do ourselves? Let us look at the processes and look at where we can take advantage of new authorities that have been given to us and how we will systematically do that for every procurement.

There are some procurements that are more complex than others, and there are some areas where I found that we are being very aggressive in using authorities, particularly special authorities for special situations. How do we then use that and roll that back into the regular way in which we do business? We will be doing a half-day retreat on that in late June.

Senator TILLIS. General Goldfein?

General GOLDFEIN. Yes. Just to build on the Secretary's point, one of the areas that the Secretary and I have talked a lot about and we are looking at is how do we acquire information technology. It may be that we ought not ever put two acronyms in the same sentence, IT and RFP, because the reality is if you try to acquire information technology as a weapons system or as a platform, it is already too slow because whether we want to talk about the cybersecurity issues we talked about earlier or the fact that it just changes at such a fast pace, we are looking at a holistic view on how do we acquire information technology because it is so central to our future as we look at networking together capabilities.

Senator TILLIS. And to your spend.

General GOLDFEIN. Absolutely.

Senator TILLIS. Thank you, Mr. Chair.

Chairman MCCAIN. Senator Heinrich?

Senator HEINRICH. Thank you, Mr. Chair.

Secretary Wilson, General Goldfein, welcome to both of you.

On Friday, I was very pleased to see that the environmental assessment was completed and found no significant impact for the two additional F-16 squadrons to operate at Holloman Air Force Base. I think this is another testament both to the quality of the range and the airspace near Holloman, as well as the support for the military in the Alamogordo area.

Like you have both said, there is no quick fix to the pilot shortage we have, but I will certainly work with my colleagues to ensure that you have the budget and resources to help train more pilots. If the Air Force identifies any unfunded requirements as it relates to solving this problem, please seek our help because we are very serious about meeting your needs in this front.

To both of you, in addition to pilots, we obviously have the shortage of maintainers for both F-16's and F-35's. You have heard about that from some of my colleagues this morning. I think we lose roughly 6,000 maintainers a year just due to retirements and separations.

So I want to ask how much do you rely on the National Guard to help fill in some of that challenge in terms of the gap there? How can we strengthen that partnership? For either of you.

General GOLDFEIN. Sir, I will be really clear. We could not perform our mission of the United States Air Force without the Air National Guard in any of the areas where we have actually—because the way we have organized, you know, we are one Air Force with three components. You can go onto a C-17 and walk up into the cockpit and say, okay, who is Guard, who is Active, who is Reserve, and all three hands will go up.

So in terms of maintenance specifically, one of the things that the Air National Guard brings us is the experience level of having worked on one platform for the majority of their career. So I cannot tell you the number of times I go and I will find an Air National Guard crew chief and they can redesign the thing for you because they have been working all this time.

So in this budget, you will see that we are looking at putting in a second shift of maintenance at the Air National Guard locations so then be able to bring more pilots into the Air National Guard so they can experience a young pilot more in the Air National Guard where I have that volume of experience there. So we rely very heavily on them.

Senator HEINRICH. Well, I know there is a very active interest in the Air Guard in New Mexico in playing a strong role with regard to maintainers, and if we can help facilitate that, please do not be shy.

Obviously, we are seeing an increased amount of competition in space from Russia and China, as well as other threats in space. For either of you, do you believe that our satellite launch capabilities are responsive and resilient enough to meet these increasing threats?

Secretary WILSON. Senator, we had a huge problem in this country in the 1990s with access to space, and the country at that time made a significant investment in space capability and the ability to launch, and it paid off and is showing results. The benefit now is that we are seeing competition and it is bringing the price down for access to space.

One of the things that is in this budget—we faced a potential gap in weather coverage from satellites, and one of the things that is in this budget is using the Operationally Responsive Space force to do that satellite and get that satellite up as a gap-filler in coverage for weather.

Senator HEINRICH. I am very glad that you brought up Operationally Responsive Space, and I was incredibly pleased to see that this year's budget request included a significant increase in funds for ORS. Can you talk a little more about the Air Force's plans for the future of that program and how the office's rapid acquisition authorities can contribute to the Air Force's mission in space as we move forward?

Secretary WILSON. Senator, that office, as well as a couple of others, particularly with respect to space, have demonstrated the ability to rapidly acquire things and get things up and on orbit. I think this weather satellite is a good example of where it is filling a gap. By being able to move quickly to look at an opportunity and fill a gap, we are able to serve the needs of the warfighter.

Senator HEINRICH. I am very excited about the prospects for Operationally Responsive Space.

I also just want to take my last few seconds here and say I think there is the next generation of launch companies that are looking at small payloads, whether it is Virgin Galactic or Vulcan Aerospace or Orbital ATK [Alliant Tech Systems]. I really encourage you to look at some of those ideas too. I think the more distributed, the more responsive, the more flexible and the quicker we can field some of these things, the quicker we will be able to meet some of the gaps we have with our adversaries.

Secretary WILSON. Senator, I would say we have a couple of things here. One is this is the model of the X-37, which will be going up again. It is a reusable vehicle and it will be going up again on top of a SpaceX launcher in August. I think the Chief has a cube sat as well. So they are getting smaller, able to be put on multiple different platforms, and there are some very exciting things happening in commercial space that bring the opportunity for assured access to space at a very competitive price.

Senator HEINRICH. Fantastic.

Thank you, Chairman.

Chairman MCCAIN. Senator Cruz?

Senator CRUZ. Thank you, Mr. Chairman.

Secretary Wilson, General Goldfein, welcome. Good afternoon. Thank you for your service. Thank you for your testimony today.

I wanted to start by talking about the F-35. A number of military leaders have commented on the advantages of fifth generation fighters and the transformative impact that they are having on our fleet. In January, the Red Flag exercises—my understandings were that the performance of the F-35 was exceptional and there have been reports of kill ratios in the order of 20 to 1.

Can you explain to the committee the F-35's performance at Red Flag and also the impact it is having both on our ability to defend ourselves and our allies?

General GOLDFEIN. Yes, thanks, Senator. Let me just describe for you the mission that I witnessed out there at Red Flag on F-35's debut.

So the first thing is that the mission commander, who is a mission commander check ride—he is leading 100 aircraft into conflict, and it is what we call Big Dollar Night, which means that we put up the most adversary defenses we could both on the ground and in the air against him. He has got 100 aircraft. Before he climbs the ladder, the F-35 is already connected into the network and it is actually getting information fed to it on what is going on in the cyber war that is taken on with a full cyber mission team and a cyber protection team that are fighting in the cyber domain and actually taking out nodes that the mission commander, the F-35 pilot has assigned to the cyber teams there to take out.

While he is flying to the tanker to get gas, the space war is raging, and he is getting fed information into the cockpit on what is going on in the space war relative to actual techniques that are going on at 2 o'clock in the morning on the Nellis range. He is calling audibles for the formation as the quarterback as he goes in to take out enemy targets. In the middle of the fight, he gets information fed to him that he has got a high-value convoy that he has to go find, fix, and finish and assess in the middle of the fight while

he is taking out targets, and he does that through his means available.

While that is going on, he is told an F-16 was shot down and he has to coordinate an entire combat search and rescue in the middle of the fight. While that is going on, he has got to do a special ops insertion.

The fusion of information that allows him to be able to quarterback that formation and operate on a completely different level than we have enjoyed before is the networking capability that the F-35 brings. So we are no longer talking about F-35 versus J-20. We are talking about F-35 in a family of systems as the quarterback that can actually call audibles and move the formation as we go into conflict. That is the game changer that it brings.

Senator CRUZ. Last week, I had the opportunity to fly an F-35 simulator, and I will say the technology on the plane is remarkable, so much so that in the simulator I was able to land on a carrier which I could promise you I lack the skills to do remotely, which means it truly is made idiot-proof and that I did not crash into the carrier and kill a bunch of people in the simulator. So let me commend you on that.

The Air Force's budget submission for fiscal year 2018 would purchase 46 F-35A's, which is two less than fiscal year 2016 and one fewer than was enacted in the 2017 budget. But it appears that the Air Force believes that you require 60 F-35's based on an additional 14 that are listed in your unfunded requirements list. Can the both of you tell the committee if you think 46 F-35's is an accurate number and what you believe is necessary to meet our defense needs?

General GOLDFEIN. Sir, this is purely a function of resources available, given all the other competing priorities across all the other mission sets that we perform, not the least of which is a safe, secure, reliable nuclear deterrent, everything we are doing in space, everything we are doing in cyber. So 46 is essentially all we could get to in this particular budget, which is why you have seen us lean forward on the unfunded priority list with the additional ones.

While not part of your question, if I could just take one minute, just to honestly say thank you for your work on moving forward on the NASA strategic plan. It is really important to us because we partner with them on so many things in space. So thank you for that.

Secretary WILSON. Senator, I would say that the Air Force's objective is to try to get to 60 F-35's steady state production for the buy, and we are budget constrained.

Senator CRUZ. Thank you.

Let me ask one more on the topic General Goldfein just raised, which is space, and the Air Force is seeking a 20 percent increase for space systems, totaling \$7.7 billion in the 2018 budget. Do both of you feel that a 20 percent increase is sufficient, given the rapidly growing threats in space and the dependence that so many of our systems have on maintaining our capabilities in space?

Secretary WILSON. Senator, there are some items on the unfunded requirements list that are related to space, particularly space defense requirements. I think it is about \$200 million. This

budget is a significant increase in space. As you mentioned, it is about a 20 percent increase, and there are a lot of innovative new things in there, particularly secure, command, control, and communications, some additional things with ability to defend systems in space. So I think there is a lot of progress here, but there is no question there is much more to be done.

Senator CRUZ. Let me ask both of you to elaborate. This is a topic we have discussed in classified hearings as well. Just elaborate, to the extent you can in this open hearing, on the magnitude of the threats we face in space and what the impact could be if we are not prepared to deal with them.

Secretary WILSON. Senator, you are right, that this is difficult to talk about in an open hearing. But we are all familiar with the test that the Chinese did in 2007 to show that they could launch a telephone pole, if you will, and destroy a weather satellite that was one of their dead weather satellites. But the ability to launch and intercept an orbiting satellite—they demonstrated it for the world to see and put a lot of debris into space as a result. So the Chinese clearly have that capability. The capability is not just kinetic and from the ground, though. We are vulnerable with respect to jamming satellites, with respect to trying to disconnect satellites and communications systems, as well as other kinds of threats.

So we are very heavily dependent on space, and our adversaries know it. It is no longer a benign environment. We are going to have to fight for it.

Senator CRUZ. General?

General GOLDFEIN. Sir, I would just add that this is the primary focus for the Secretary and I as we look at this change from treating space historically as a benign domain from which you sense, monitor, and report to a domain from which we have to be prepared to fight and win and gain and maintain space superiority if a war extends into space or starts in space. I align with General John Hyten who has said there is no such thing as war in space. There is just war. But if it extends into space, we have got to be ready. So our focus is on making that shift not in terms of how we acquire but actually perhaps most importantly, the culture required for a warfighting element that actually treats space as a warfighting domain.

Senator CRUZ. Thank you very much.

With that, this hearing is concluded.

[Whereupon, at 12:15 p.m., the committee adjourned.]

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR JOHN MCCAIN

AIR FORCE FIGHTER AIRCRAFT

1. Senator MCCAIN. General Goldfein, what is your required total aircraft inventory level for fighter aircraft for fiscal year 2018?

General GOLDFEIN. Unconstrained by fiscal requirements and based on current strategy, the Air Force requires 2,500 total fighter aircraft.

2. Senator MCCAIN. General Goldfein, what is your projected total aircraft inventory level for fighter aircraft for fiscal year 2018?

General GOLDFEIN. Total fighter aircraft inventory for fiscal year 2018 is 2031.

3. Senator MCCAIN. General Goldfein, what is your required total aircraft inventory level for fighter aircraft for fiscal year 2028?

General GOLDFEIN. Unconstrained by fiscal requirements and based on current strategy, the AF needs 2,500 fighter aircraft to field 70 combat fighter squadrons.

4. Senator MCCAIN. General Goldfein, what is your projected total aircraft inventory level for fighter aircraft for fiscal year 2028?

General GOLDFEIN. Current plans support a total fighter force of 1,943 aircraft in 2028.

5. Senator MCCAIN. General Goldfein, what is your required primary mission aircraft inventory level for fighter aircraft for fiscal year 2018?

General GOLDFEIN. Unconstrained by fiscal requirements, the Air Force requires ~1,500 primary mission aircraft inventory designated fighter aircraft.

6. Senator MCCAIN. General Goldfein, what is your projected primary mission aircraft inventory level for fighter aircraft for fiscal year 2018?

General GOLDFEIN. By the end of fiscal year 2018 the Air Force is projected to have 1,135 primary mission aircraft inventory designated fighter aircraft.

7. Senator MCCAIN. General Goldfein, what is your required primary mission aircraft inventory level for fighter aircraft for fiscal year 2028?

General GOLDFEIN. Unconstrained by fiscal requirements, the Air Force requires ~1,500 primary mission aircraft inventory designated fighter aircraft.

8. Senator MCCAIN. General Goldfein, what is your projected primary mission aircraft inventory level for fighter aircraft for fiscal year 2028?

General GOLDFEIN. Current plans support a total of 1,204 PMAI aircraft in 2028.

9. Senator MCCAIN. General Goldfein, based on the differences, if any, between your required and projected primary mission aircraft inventory levels for fighter aircraft for fiscal year 2018, can you characterize the risk the Air Force will assume in meeting the requirements of the National Military Strategy?

General GOLDFEIN. At the unclassified level, the U.S. is currently assuming a significant level of increased risk based upon the current and projected Air Force fighter force structure.

10. Senator MCCAIN. General Goldfein, based on the differences, if any, between your required and projected primary mission aircraft inventory levels for fighter aircraft for fiscal year 2028, can you characterize the risk the Air Force may assume in meeting the requirements of the National Military Strategy?

General GOLDFEIN. At the unclassified level, the U.S. is currently assuming a significant level of increased risk based upon the current and projected Air Force fighter force structure. As we look toward the future, the risk only increases based upon current funding levels.

11. Senator MCCAIN. General Goldfein, can you itemize your current 55 combat fighter squadrons by component, mission design series, and primary assigned aircraft numbers?

General GOLDFEIN.

MWS	Component	Current		FY18 Prog	
		CC Sqs	PMAI	CC Sqs	PMAI
A-10	AD	4	75	4	75
	ANG	4	72	4	72
	AFRC	1	24	1	24
	Total	9	171	9	171
F-16	AD	13	282	11	249
	ANG	11	207	11	207
	AFRC	2	48	2	51
	Total	26	537	24	507
F-15C	AD	3	66	3	61
	ANG	5	90	5	85
	AFRC	0	0	0	0
	Total	8	156	8	146
F-15E	AD	6	138	6	138
	ANG	0	0	0	0
	AFRC	0	0	0	0
	Total	6	138	6	138
F-22	AD	5	105	5	105
	ANG	1	18	1	18
	AFRC	0	0	0	0
	Total	6	123	6	123
F-35	AD	0	22	2	50
	ANG	0	0	0	0
	AFRC	0	0	0	0
	Total	0	22	2	50
Total	AD	31	688	31	678
	ANG	21	387	21	382
	AFRC	3	72	3	75
Overall	Total	55	1,147	55	1,135

Two Active Duty F-16 Squadrons transition to FTUS to help pilot production.

AIR FORCE BOMBER AIRCRAFT

12. Senator MCCAIN. Secretary Wilson, can you detail the acquisitions activities you plan on executing in the B-21 Raider program's engineering and manufacturing development phase with the \$2 billion dollars you requested in the Fiscal Year 2018 President's Budget?

Secretary WILSON. The Fiscal Year 2018 President's Budget will support the B-21 Engineering and Manufacturing Development phase as the program continues to proceed through detailed design work, software development, and other activities associated with this stage of aircraft development. Additional details can be provided to those appropriately cleared at a higher classification level.

13. Senator MCCAIN. General Goldfein, what is your required total aircraft inventory level for bomber aircraft for fiscal year 2028?

General GOLDFEIN. The Air Force currently has 158 bombers (76 B-52s, 62 B-1, and 20 B-2). Based on current strategic guidance and the growing demand for long range strike airpower, the AF needs a minimum of 100 B-21 bombers, and a mix of legacy bombers, for a total inventory of 175 aircraft. General Rand from AF Global Strike Command is working to schedule a briefing with Senator McCain and Senator Reed on the need for 175 bombers, which is called the "AF Bomber Vector".

MANPOWER

14. Senator MCCAIN. General Goldfein, how many pilots short is the Air Force today, and of those, how many are fighter pilots? What are the projected numbers at the end of fiscal year 2018?

General GOLDFEIN. At the end of fiscal year 2016, the Air Force had an overall Total Force pilot shortage of 1,555 pilots of which 1,211 were fighter pilots. The projections (based on current dynamics) for the end of fiscal year 2018 indicates a Total Force pilot shortage of 2,121 pilots of which 1,335 are fighter pilots.

15. Senator MCCAIN. General Goldfein, how many space operators is the Air Force short?

General GOLDFEIN. The question of how many space operators we are short is nuanced. Technically speaking, the number of space operators we have is higher than the number of space positions we currently have on the books. However, two important details must be considered when evaluating this. First, in the past 2-3 years the Air Force has over-assessed space officers above the normal accession rate in order to replenish manning levels that were negatively affected by the Budget Control Act (BCA). The result is there are several hundred additional space personnel that have less than 3 years on Active Duty. Alternatively, BCA related manpower decisions are reflected in our more senior Field Grade Ranks (Majors and Lt Cols) where we are several hundred short and therefore understaffing our senior positions in the HQs, Combatant Commands, Joint Staff and Command and Control areas. Secondly, the space operations billet structure was designed before space became a contested environment and the work to reevaluate that structure has only recently begun in earnest. We are aggressively working to assess exactly how many more space operators are needed and in what kinds of units to effectively contest the space domain. In the very near future we will be in a better position to articulate the new space operator manpower requirement.

QUESTIONS SUBMITTED BY SENATOR DEB FISHER

LRSO / GBSD

16. Senator FISHER. Secretary Wilson and General Goldfein, is the Air Force committed to awarding the Technology Maturation and Risk Reduction (TMRR) contracts for both the Long Range Standoff missile (LSRO) and the Ground-Based Strategic Deterrent (GBSD) programs before the end of this fiscal year, and are you on track to do so?

Secretary WILSON and General GOLDFEIN. The Air Force is committed to awarding GBSD and LRSO TMRR contracts in the fourth quarter of fiscal year 2017. Both programs are on track to achieve this goal.

SPACE FORCE / CORPS

17. Senator FISHER. General Goldfein, during the recent hearing in the Strategic Forces subcommittee on space policy, you commented on the idea of a separate space force or corps and suggested that administratively separating space could re-

duce operational integration. Can you elaborate on how such an action could negatively affect operations or create problematic stovepipes?

General GOLDFEIN. The Air Force's priority is to ensure the nation has the capabilities so urgently needed to prevail against the threat. As the fielding of counter-space capabilities accelerates, the United States cannot afford the significant resource and time disruptions a separate space force would create. A separate space service would incur significant expense for Service-specific administration and dilutes funding needed to pursue space superiority initiatives. As the enterprise matures, with the involvement of each of the other Services, DOD is laying the foundation for a well-defined space culture with a warfighter mindset for the contested domain.

QUESTIONS SUBMITTED BY SENATOR DAVID PERDUE

JOINT SURVEILLANCE TARGET ATTACK RADAR SYSTEM (JSTARS)

18. Senator PERDUE. Secretary Wilson and General Goldfein, I was disappointed that in your written testimony, as you discussed procurement priorities, you failed to mention the recap for the JSTARS platform. Could you confirm to this committee that JSTARS still remains the number 4 acquisition priority for the Air Force?

Secretary WILSON and General GOLDFEIN. JSTARS Recap remains in the top tier of Air Force acquisition programs.

19. Senator PERDUE. Secretary Wilson and General Goldfein, what is being done to ensure there is not a JSTARS capability gap?

Secretary WILSON and General GOLDFEIN. To avoid a capability gap, the Air Force continues to make progress towards JSTARS Recap Initial Operational Capability in fiscal year 2024 or sooner. The Air Force will brief any potential options to the Congressional Defense Committees as directed in the Fiscal Year 2017 NDAA and Appropriations Act. In addition, the Air Force will continue to assess E-8C service life, operational availability, and sustainment costs in coordination with the JSTARS Recap fielding schedule to determine how and when to phase out the legacy fleet.

20. Senator PERDUE. Secretary Wilson and General Goldfein, is the Air Force currently pursuing a JSTARS recap on a faster timeline to ensure that there is not a capability gap? What type of resources would you need to do so?

Secretary WILSON and General GOLDFEIN. The Air Force established source selection criteria to emphasize meeting or beating a scheduled fiscal year 2024 IOC. Additionally, the program undertook a Radar Risk Reduction (RRR) effort to mitigate schedule and technical risk. If there are opportunities to accelerate after selecting the prime contractor and integrated solution, the Air Force will include this information as part of the brief/report to the Congressional Defense Committees as directed in the Fiscal Year 2017 NDAA and Appropriations Act.

21. Senator PERDUE. Secretary Wilson and General Goldfein, would you consider looking at an interim solution on a new frame?

Secretary WILSON and General GOLDFEIN. The Air Force considered a variety of options as part of the 2011 Analysis of Alternatives. However, recapitalizing the E-8C fleet on a commercial derivative aircraft with an enhanced radar, modern battle management command and control suite, and robust communications remains the best option. If a gap is unavoidable, the Air Force will consider all possible options to provide Combatant Commander's with some of the JSTARS unique capabilities until the fielding of JSTARS Recap.

22. Senator PERDUE. Secretary Wilson and General Goldfein, I'm concerned that keeping the legacy JSTARS fleet online for another decade will be costly, and increase aircraft time spent in depot maintenance. As we see the assessment from Boeing that the current fleet of JSTARS can be kept online longer, do the maintenance plans you've budgeted for ensure that there aren't lengthy depot backlogs to perform the overhauls needed to keep these planes flying longer than originally intended?

Secretary WILSON and General GOLDFEIN. The Air Force remains committed to improving E-8 depot maintenance outcomes. The Fiscal Year 2018 Presidents Budget request allows the Air Force to continue implementing needed improvements for reduction of the duration and cost for programmed depot maintenance.

23. Senator PERDUE. Secretary Wilson and General Goldfein, given the backlogs that have persisted at the Lake Charles facility, have you given any thought to making the depot maintenance of the recapped fleet organic? What savings could be achieved by co-locating the flying mission and maintenance in the future?

Secretary WILSON and General GOLDFEIN. The Air Force will consider potential cost savings as part of our assessment during the Engineering and Manufacturing Development phase to determine the best operating and depot maintenance location(s).

JSTARS AND THE COMING ACQUISITION BOW WAVE

24. Senator PERDUE. Secretary Wilson and General Goldfein, you mentioned in your written testimony that before 1991, the Air Force bought approximately 510 aircraft per year. But now, in the past 20 years, we have averaged only 96 per year. After fifteen years of sustained combat operations, sequestration, and continued high operational tempo, the Air Force is the smallest, oldest, and busiest it has been since its inception. The JSTARS recap is really just one example of how we're keeping current fleets of aircraft on the job much longer than they were ever intended. So many of our platforms are coming to the end of their useful service life all at once. How you plan to deal with this oncoming bow wave of acquisition, and how you plan to balance this with readiness and ongoing maintenance issues?

Secretary WILSON and General GOLDFEIN. The Air Force continues to sequence new capabilities and current capacities to reduce or minimize the bow wave. In fiscal year 2018, and in accordance with the direction of the new administration, the Air Force focused investments on readiness and maintenance shortfalls at the expense of modernization programs. Without increased total obligation authority and the ability to manage force structure, to include divesting legacy systems, the Air Force will be challenged to effectively develop the future force America needs. Tough decisions will have to be made and that will induce risk in certain areas. The future Air Force needs Congressional support today that provides increased and consistent funding along with the authorities to manage the oncoming bow wave of acquisition programs to effectively balance readiness, force structure, and modernization.

25. Senator PERDUE. Secretary Wilson and General Goldfein, what is the Air Force doing to get our acquisition process moving in a faster, more efficient way? Are there additional authorities or flexibility you need to achieve better acquisition speed?

Secretary WILSON and General GOLDFEIN. The Air Force is pushing authorities to the lowest appropriate level, leveraging commercial and government best practices, and removing unnecessary reporting and reviews to continue to improve the efficiency of the acquisition process. Air Force acquisition regularly conducts process improvement activities to effectuate changes that enhance the cost and speed of acquisition.

Reductions in statutory reporting and certification requirements that divert manpower, such as the acquisition scorecard 15 days following Milestone decisions and Secretary/CSAF certification of Selected Acquisition Report (SAR) reviews, would enable more efficient operations.

A-10 REPLACEMENT

26. Senator PERDUE. General Goldfein, I understand that your budget request for fiscal year 2018 calls for keeping the A-10 in service for at least 5 more years and includes funding for A-10 modifications in coming years. General Goldfein, you said last year in an interview that, "when we made the decision on retiring the A-10, we made those decisions prior to ISIS, we were not in Iraq, we were coming out of Afghanistan to a large extent, and we didn't have a resurgent Russia." Have the facts on the ground in the fight against ISIS changed the calculus of the Air Force in the retirement of the A-10?

General GOLDFEIN. Yes. The Air Force recently completed a year-long Combat Air Force Fighter Force Study focused on balancing capacity for today's fight while developing capabilities required to win against peer competitors. The results of the study include the necessity for 173 A-10s to provide one training unit, six combat squadrons, and associated test assets for capacity for the foreseeable future.

27. Senator PERDUE. General Goldfein, what are your plans for the future of the A-10 fleet and ensuring we have the right platform to perform its vital close air support mission?

General GOLDFEIN. With the resources allocated in the Fiscal Year 2018 President's Budget the entire fleet (283) is funded through fiscal year 2020. The F-35

& A-10 comparison is one component of the Initial Operational Test & Evaluation Block 3F scheduled for late fiscal year 2019. No decision is final until we have the final IOT&E report.

28. Senator PERDUE. Secretary Wilson and General Goldfein, if money weren't an issue, and we were budgeting based on threat and need—would you keep the A-10?

Secretary WILSON and General GOLDFEIN. Based on forecasted threats, the A-10 and other 4th generation aircraft face mission effectiveness challenges in the contested and highly contested environments. The A-10 is an early 1970's design that will be aged 56+ years by 2030 but still proves useful in the permissive environment but is becoming more expensive to operate. The Air Force will continue to face a capability gap in contested environment counter-land missions. The Air Force will need to keep some A-10s until a more appropriate capability can be delivered to mitigate contested environment counter-land capability gaps and additional aircraft are fielded to recapitalize our air-to-ground capabilities.

CURRENT AIR FORCE READINESS

29. Senator PERDUE. General Goldfein, you stated in your written testimony that "the Air Force is too small for the missions demanded of it, and it is unlikely that the need for air and space power will diminish significantly in the coming decade." How would you assess Air Force readiness today?

General GOLDFEIN. Today, we remain the finest Air Force in the world. We are a dominate force engaged across the world countering violent extremists, assuring allies and deterring foes. However, our relative advantage over potential adversaries is decreasing rapidly and in some cases it has closed. We must be prepared to win decisively, and that means we must ensure America's airmen are resourced and trained to fight alongside the Army, Navy, Marines, and Coast Guard—the joint military team—to meet national security obligations.

Twenty-six years of continuous combat operations combined with turbulent budgets have eroded Air Force readiness to less than 50 percent full-spectrum ready—predominantly due to insufficient manning. The USAF readiness recovery strategy focuses on disciplined, synchronized investment in readiness accounts in sequential order. The first priority is our longest-lead requirement: Active Duty end strength—up to 321,000 by the end of 2017—and eventually 350,000 over the next five to seven years. Next, investment in the training and sustainment enterprises, both of which require 3–5 years of lead time due to industrial and human processes. Finally, as global rotational demands permit, we will be ready to increase flying hour funding to facilitate more robust home-station training activities. In short, each readiness 'lever' must be engaged at the proper time and in coordination with the other levers.

30. Senator PERDUE. General Goldfein, how many of your squadrons are ready to conduct missions assigned to them?

General GOLDFEIN. Today, we remain the finest Air Force in the world. However, our relative advantage over potential adversaries is decreasing rapidly and in some cases it has closed. We must be prepared to win decisively, and that means we must ensure America's airmen are resourced and trained to fight alongside the Army, Navy, Marines, and Coast Guard—the joint military team—to meet national security obligations.

Squadrons are the basic building block of combat air power. Currently less than 50 percent of Air Force Combat squadrons are full-spectrum ready—predominantly due to insufficient manning. We consider 80 percent full spectrum ready to be a historically achievable goal. Our readiness recovery strategy focuses on disciplined, synchronized investment in readiness accounts in sequential order. The first priority is our longest-lead requirement: Active Duty end strength—up to 321,000 by the end of 2017—and eventually 350,000 over the next five-seven years. Next, investment in the training and sustainment enterprises, both of which require 3–5 years of lead time due to industrial and human processes. Finally, as global rotational demands permit, we will be ready to increase flying hour funding to facilitate more robust home-station training activities. In short, each readiness 'lever' must be engaged at the proper time and in coordination with the other levers.

31. Senator PERDUE. General Goldfein, when do you project the Air Force to achieve full spectrum readiness? What resources do you need to get there?

General GOLDFEIN. Given the time required to recruit and train airmen, the Air Force projects no substantial readiness improvement until fiscal year 2020 to 2021,

when conditions are expected to be set for readiness recovery. “Full-spectrum readiness” means units are fully trained and equipped to fight and win against near-peer adversaries in contested environments with advanced warfighting skills. Unit readiness assessments are constantly monitored against the requirements of the National Military Strategy (NMS) for major force elements. The Air Force’s goal will not likely be achieved by the end of the Future Years Defense Program (FYDP).

The USAF readiness recovery strategy focuses on disciplined, synchronized investment in readiness accounts in sequential order. The first priority is our longest-lead requirement: Active Duty end strength—up to 321,000 by the end of 2017—and eventually 350,000 over the next five-seven years. Next, investment in the training and sustainment enterprises, both of which require 3–5 years of lead time due to industrial and human processes. Finally, as global rotational demands permit, we will be ready to increase flying hour funding to facilitate more robust home-station training activities. In short, each readiness ‘lever’ must be engaged at the proper time and in coordination with the other levers. The Fiscal Year 2017 NDAA and Fiscal Year 2018 President’s s Budget begin to set the conditions for readiness recovery. With continued congressional support the Air Force will recover readiness.

F-15 RETIREMENT RUMORS

32. Senator PERDUE. Secretary Wilson, there have been reports that the Air Force is considering retiring the F-15C. The Air Force currently has a significant fighter capacity problem; retiring any fleet of fighters in the next decade would only exacerbate the capacity issue. America already has the smallest Air Force in history with only 303 combat coded air superiority fighters (F-15C and F-22). If the Air Force retires the F-15C fleet in 2025, only 123 of these unique fighters (F-22s) would remain. How would their retirement contribute to alleviating the Air Force’s fighter inventory shortfall?

Secretary WILSON. Air-to-air success hinges on 5th generation, or better, capabilities in the future air superiority fight. By the late 2020s the F-15C has significant survivability issues within a near-peer conflict with or without defensive modifications. The AF is leveraging the F-35’s low-observable characteristics in air-to-air and Suppression of Enemy Air Defenses missions. Therefore, we are considering the value of recapitalizing F-15Cs with F-35s to ensure sufficient survivability within the Counter-Air mission. Budget constraints and limits on how quickly AF manpower can grow dictate that the AF will struggle to grow much beyond 55 fighter squadrons in the near-term. The more survivable F-35 is being procured at a rate of 2.5 squadrons per year. That recapitalization should focus on replacing our highest cost, single mission, 4th generation fighter where future, mission specific, threats drive the need for enhanced survivability.

33. Senator PERDUE. Secretary Wilson, why would the Air Force be considering the retirement of the F-15C?

Secretary WILSON. Air-to-air success hinges on 5th generation, or better, capabilities in the future air superiority fight. Paired with the total cost of the fleet, and desired upgrades, the F-15C is less affordable than other options as the AF increases the ratio of 5th generation fighters and sustains a minimum of 55 combat squadrons. Additionally, the F-15C is nearing the end of its economic service life and the Service Life Extension Programs being considered offer limited return compared to the total cost of ownership. According to estimates, it is more affordable for the AF to maintain and upgrade F-16s to accomplish missions within future uncontested environments than it is to attempt to maintain an F-15C fleet for that need. The more survivable F-35 is being procured at a rate of 2.5 squadrons per year. That recapitalization should focus on our highest cost, single mission, 4th generation fighter where future mission specific threats drive the need for enhanced survivability.

AUDIT READINESS

34. Senator PERDUE. Secretary Wilson, the Department of Defense and all the Armed Services continue to fail in their ability to achieve a clean financial audit. What actions have you taken to ensure the Air Force can achieve a clean audit opinion by the end of fiscal year 2017, as is required by law?

Secretary WILSON. The Air Force is required to be ready to undergo an audit by an Independent Public Accounting Firm by the end of fiscal year 2017. The Air Force will be ready by that date and will undergo its first full financial statement audit in fiscal year 2018. We do not expect an unmodified (“clean”) opinion immediately, however, I am committed to addressing the findings raised by our auditors, and to strengthening our accounting systems environment. Consistent with other

federal agencies who have adopted this strategy, this will best position us for an unmodified opinion in the future.

35. Senator PERDUE. Secretary Wilson, will you have a clean audit opinion for the Air Force by the end of this fiscal year? If not, why?

Secretary WILSON. The Air Force is committed to achieving full financial statement audit readiness by the end of fiscal year 2017 and is on track to assert audit readiness in accordance with NDAA requirements. We do not expect to achieve an unmodified ("clean") audit opinion in this audit. The audit will identify issues we will need to address and remediation of audit findings will become standard practice. Our primary barrier to an immediate unmodified opinion is the nature of our systems environment that didn't adequately address audit requirements. However, we have made significant progress in improving the auditability of our budgetary accounts and the reconciliation of our Funds Balance with Treasury. To sustain this progress, the Air Force is implementing its Information Technology modernization roadmap to sunset legacy systems, to fully automate our business processes, and to strengthen our internal controls. These continued actions, combined with responsiveness to our audit findings, will continuously improve financial management.

QUESTIONS SUBMITTED BY SENATOR LUTHER STRANGE

AIR GUARD ISSUES

36. Senator STRANGE. Secretary Wilson and General Goldfein, I know you are aware that Montgomery, Alabama's Dannelly Field, home of the Alabama Air National Guard 187th Fighter Wing, is one of five installations around the country under consideration by the Air Force for operational bases for new F-35A aircraft. I enjoyed the opportunity to discuss this issue with you recently and, as you know, I feel strongly that Dannelly Field is your absolute best choice for home basing these new fighter aircraft.

That being said, my colleagues in the Senate from each of the five states in consideration sent a letter to the Air Force Chief of Staff and Acting Secretary of the Air Force just a few months back citing our unified support for the Air Force's Strategic Basing Process that has been used to determine which installations should receive the F-35. We commended the Air Force for the creation of this objective and transparent process, as a repeatable, dependable and public strategic basing process that is fair to all participating locations. Do you support the existing Air Force's strategic basing process and do you anticipate any changes to that process moving forward?

Secretary WILSON and General GOLDFEIN. Both General Goldfein and I support the Air Force strategic basing process and will maintain its core principles of transparency, repeatability, and mission driven selection. Additionally, we will continue to review the process to ensure we remain aligned to meet the warfighting demands of the Air Force as we make future basing decisions.

37. Senator STRANGE. Secretary Wilson and General Goldfein, will you hold to the Air Force's current timeline of late summer to early fall to identify and announce its next two bases for the F-35?

Secretary WILSON and General GOLDFEIN. The last site survey is scheduled for the end of July 2017 and we are on target to announce the Preferred and Reasonable Alternatives decision late this summer, culminating in a final basing decision summer 2019 after the completion of the environmental assessment process.

On November 15, 2016 the Air Force announced the five candidate locations for the next two operational F-35 locations which included: Truax Air Guard Station, Wisconsin; Gowen Field Air Guard Station, Idaho; Jacksonville Air Guard Station, Florida; Dannelly Field Air Guard Station, Alabama; and Selfridge Air National Guard Base, Michigan.

READINESS ISSUES

38. Senator STRANGE. Secretary Wilson and General Goldfein, our military has suffered from severe neglect and the stresses of war for the past 8 years. This first budget request of the Trump administration is a good start to turning that around, but more needs to be done rapidly as our fighting forces are in critical need of digging out of a readiness hole. I understand that many issues are demanding your attention. Can you speak specifically to how you plan to balance the management of Air Force end strength with the need for procurement and R&D?

Secretary WILSON and General GOLDFEIN. Given the current topline, our fiscal year 2018 budget balances capability, capacity and readiness. That includes balancing end strength with the need for procurement and R&D. Although the Air Force could use more topline as expressed in our unfunded requirements list, we are driving forward with the necessary balance. Permanent relief from the Budget Control Act will begin to improve readiness. Although we cannot instantly remove the stress on the force resulting from the last 26 years of continual conflict, our fiscal year 2018 budget begins to undo the damage.

39. Senator STRANGE. Secretary Wilson and General Goldfein, what is the current level of combat air forces readiness for full spectrum operations? What do you consider adequate readiness levels and when do you expect readiness levels achieve that mark?

Secretary WILSON and General GOLDFEIN. Currently the Air Force is less than 50 percent full spectrum ready predominantly due to insufficient manning. We consider 80 percent full spectrum ready to be a historically achievable goal. The readiness recovery strategy focuses on disciplined, synchronized investment in readiness accounts in sequential order. The first priority is our longest-lead requirement: Active Duty end strength—up to 321,000 by the end of 2017. Next, investment in the training and sustainment enterprises, both of which require 3–5 years of lead time due to industrial and human processes. Finally, as global rotational demands permit, we will be ready to increase flying hour funding to facilitate more robust home-station training activities. In short, each readiness ‘lever’ must be engaged at the proper time and in coordination with the other levers.

40. Senator STRANGE. Secretary Wilson and General Goldfein, if the current operational tempo were to increase, what would be the effect on readiness?

Secretary WILSON and General GOLDFEIN. If operational tempo increases, a further reduction in full-spectrum readiness will occur. High operational tempo substantially reduces the opportunity for units to train for their full mission set. The Air Force needs both time and resources to rebuild readiness. Currently, time available to train (generate readiness) is severely limited by ongoing rotational deployments. In short, after years of force reductions, we have a supply-demand mismatch. Two possible solutions exist: reduce the number/length of deployments to sustainable levels or increase the Air Force capacity to meet rotational demand to permit readiness growth.

41. Senator STRANGE. Secretary Wilson and General Goldfein, what about AF readiness when it comes to the nuclear enterprise and operating in a contested space environment? Should we have concerns there?

Secretary WILSON and General GOLDFEIN. Air Force space-based capabilities are key enablers for the Nation’s nuclear deterrent, providing missile warning and supporting nuclear command, control, and communications. The nuclear enterprise remains ready to meet combatant commander requirements in all environments through a combination of ground, airborne, and space-based capabilities.

42. Senator STRANGE. Secretary Wilson and General Goldfein, please list your priorities among personnel end strength, procurement and research and development.

Secretary WILSON and General GOLDFEIN. The fiscal year 2018 budget balances capability, capacity and readiness priorities between end strength, procurement, and research and development in an effort to undo the damage of the Budget Control Act (BCA) and sequestration. These priorities include increasing end strength to 325,100 Active Duty airmen, and 669,600 Total Force airmen, continuing to fund and support our top three acquisition priorities, F–35, KC–46, and B–21, as well as continuing to invest in our key mission areas including nuclear, space, cyber, ISR, and legacy fighter capability.

43. Senator STRANGE. Secretary Wilson and General Goldfein, how do you plan to overcome the deferred maintenance backlog that the Air Force has accumulated over the last few years?

Secretary WILSON and General GOLDFEIN. The Air Force will seek to minimize near-term risks to readiness by making tradeoffs within weapon system sustainment to minimize the impact to those readiness requirements. As was the case in previous fiscal years, the Air Force will make adjustments throughout the year to optimize funding to ensure availability of aircraft to meet mission requirements.

44. Senator STRANGE. Secretary Wilson and General Goldfein, in broad terms, what do you think the Air Force should look like in 25 years?

Secretary WILSON and General GOLDFEIN. Air and space superiority will continue to be paramount to national security. We must enable airmen to plan and direct forces for high velocity, operationally agile operations at a tempo no adversary can match. We must build the capacity for simultaneous operations, and recruit the right talent to operate in increasingly complex and contested environments. Enterprise efforts such as Air Superiority 2030 and Multi-domain Command and Control (MDC2) are in motion to test concepts. We are currently conducting Data-to-Decision experimentation to enhance how we leverage data to increase lethality. We are also learning from the efforts at the Consolidated Mission Control Center where they are pushing the envelope on common data standards, info sharing, and modern networks. The Space Enterprise Vision lays out a roadmap of future systems and capabilities that will provide a space force resilient to attack. From these initiatives we are driving new ways of acquiring our command and control systems so that leading edge technology is always in the hands of our command and control airmen. Robust networks will give the Joint Force the ability to sense the globe through the six domains of air, space, cyberspace, land, sea, and undersea, and merge data into decision-quality information for commanders. If the Air Force can achieve a networked military capability that reflects a common operating picture for the decision maker, we will reach decision speed our adversaries cannot match and produce effects the enemy will have difficulty countering.

SPACE/LIFT ISSUES

45. Senator STRANGE. Secretary Wilson and General Goldfein, the Air Force should be commended for fostering competition in the EELV program. Given that legacy launch providers operate under different FAR requirements, please explain how the Air Force is awarding launches on criteria other than Price?

Secretary WILSON and General GOLDFEIN. For EELV launch service competitions, all launch providers are proposing to the same FAR requirements under each Request for Proposal (RFP). In addition, the source selection evaluation criteria for each EELV launch service competition is based on specific mission requirements that take into account a wide array of mission unique factors. For EELV launch service competitions, the evaluation criteria has included a number of evaluation factors in addition to price. Those factors include technical performance (mass-to-orbit, orbital accuracy, launch CONOPS, etc.), schedule (integrated schedule and work closure plans), and past performance.

46. Senator STRANGE. Secretary Wilson and General Goldfein, if all providers are certified, is there weighted criteria being used to award launches and could you explain the weighted criteria (such as, reliability, schedule certainty and past performance)?

Secretary WILSON and General GOLDFEIN. Yes, the Air Force plan for future launch service competitions is to use a combination of source selection techniques from across the best value continuum that are tailored for each mission. The relative importance of the factors vary based on each mission's unique requirements. For EELV launch service competitions, the evaluation criteria has included a number of evaluation factors in addition to price. Those factors include technical performance (mass-to-orbit, orbital accuracy, launch CONOPS, etc.), schedule (integrated schedule and work closure plans), and past performance.

47. Senator STRANGE. Secretary Wilson and General Goldfein, there was an agreement reached in the EELV program law suit between the Air Force, Department of Justice and EELV new entrant Space X. The agreement appears to dictate the terms of a defense procurement, thereby favoring one competitor. Have you been read into that agreement? Could you please explain to the committee why Congress has been blocked from understanding the terms of this secret agreement?

Secretary WILSON and General GOLDFEIN. I have reviewed the acquisition strategy for upcoming EELV launch competitions and am confident that the terms of the EELV procurements will be fair and reasonable and will not provide an unfair competitive advantage to either certified provider. With respect to the mediation agreement that settled SpaceX's 2014 bid protest, that agreement is subject to a Court of Federal Claims nondisclosure order. The Air Force does not have the authority to release the mediation agreement to anyone not admitted to that order.

SPACE/LIFT ISSUES:

48. Senator STRANGE. Secretary Wilson and General Goldfein, it is important that we assess what authorizations are required for critical AF programs. It is the committee's understanding that the cost to develop a new rocket engine is somewhere between 1.5 and 2 billion dollars. Can you briefly outline the levels of private and U.S. Government investment in the two newest rocket engines being developed to replace the Russian RD-180 engine currently in use?

Secretary WILSON and General GOLDFEIN. The Air Force currently has four other transaction authority (OTA) agreements with industry for rocket propulsion systems, all of which require shared cost investment between the government and industry. These investments initiate the transition from the RD-180 by investing in critical Rocket Propulsion System technologies.

The OTA with SpaceX is for the development of the Raptor rocket propulsion system prototype. The total potential investment, including all options, is \$184.2 million. The total potential Government investment, including all options, is \$61 million. The total potential investment by SpaceX, including all options, is \$122.8 million.

The OTA with Orbital ATK is for the development of prototypes of the GEM 63XL strap-on solid rocket motor, the Common Booster Segment (CBS) solid rocket motor, and an Extendable Nozzle for Blue Origin's BE-3U upper stage engine, all intended for use on an Orbital ATK next generation launch vehicle. The total potential investment, including all options, is \$305.1 million. The total potential Government investment, including all options, is \$180.2 million. The total potential investment by Orbital ATK, including all options, is \$124.8 million.

The OTA with ULA is for the development of the Vulcan BE-4 and Advanced Cryogenic Evolved Stage (ACES) rocket propulsion system prototypes. The total potential investment, including all options, is \$335.9 million. The total potential government investment, including all options, is \$201.7 million. The total potential investment by ULA, including all options, is \$134.2 million.

The OTA with Aerojet Rocketdyne is for the development of the AR1 rocket propulsion system prototype. The total potential investment, including all options, is \$804,044,478. The total potential Government investment, including all options, is \$536,029,652. The total potential investment by Aerojet Rocketdyne, including all options, is \$268,014,826.

These Rocket Propulsion Systems were proposed by industry for commercial launch systems that can be enhanced to meet more stressing National Security Space requirements. The Air Force intends to release a Request for Proposal (RFP) later this summer for Launch Service Agreements to complete the development of the replacement launch systems continuing the shared industry/government investment approach.

 QUESTIONS SUBMITTED BY SENATOR BILL NELSON

ENCROACHMENT ON TEST AND TRAINING RANGES

49. Senator NELSON. Secretary Wilson and General Goldfein, encroachment of activities incompatible with military test and training operations on our bases and ranges remains a major problem. In 2006 Congress established the Military Mission Line, prohibiting oil and gas activities, and any activities conducted in preparation for oil and gas activities, in the Eastern Gulf in order to protect the test and training range there. The Department of Defense has said that the "vital importance of maintaining this moratorium cannot be overstated." Secretary Wilson and General Goldfein, how important is it to the Air Force's test mission as well as training and readiness to continue to protect the Eastern Gulf Test and Training Range from this kind of encroachment?

Secretary WILSON and General GOLDFEIN. Preserving the Military Mission Line from encroachment of oil and gas exploration and drilling is critical to the current and future combat success of the joint warfighter. The Eastern Gulf Test and Training Range supports force readiness with supersonic air combat training for frontline fighters like the F-22 and the F-35, live-fire air-to-air and air-to-surface training, air-to-air missile testing, electronic warfare, drone targeting, and Naval sub-surface, air-to-surface and surface-to-surface testing, including mine and counter-mine operations.

Safety footprints of our current weapons systems are growing with faster launch speeds and higher launch altitudes. Future systems with hypersonic speeds will increase the size of the safety footprint. Large cleared footprints are required to ensure debris, some extremely large, falls safely into the eastern Gulf of Mexico—with-

out any underlying oil or gas operations. Logistics support of the oil and gas infrastructure will require additional maritime and air traffic, as well as, the potential for spectrum encroachment placing an undue burden on military operations. Additionally, foreign national involvement in energy related activities creates an opportunity for international, covert monitoring and/or disruption of essential military testing and training.

Encroachment of the Eastern Gulf Test and Training Ranges for oil and gas exploration and drilling will interfere with the following test and training capabilities:

- AIM-120 and AIM-9 testing for F-15, F-16, F-22 and F-35
- Patriot Live-Fire training
- Airborne mine detection and neutralization test and training from helicopter towed systems
- Tomahawk cruise missile test and training
- Training for Air Force, Navy and Army aircraft to include the release of chaff and flares
- Naval Air Station Pensacola student pilot training
- Combined F-35 pilot training
- F-16 Follow-On Test and Evaluation
- F-15E Flight Test

Additionally, such encroachment will curtail system development and testing of the following warfighter required future capabilities:

- Joint Air-to-Surface Standoff Missile—Extended Range
- Long Range Standoff Weapon
- Long Range Anti-Ship Missile
- Patriot Testing
- Railgun Testing
- Hypersonic weapons testing

MAJOR RANGE AND TEST FACILITY BASES

50. Senator NELSON. Secretary Wilson and General Goldfein, last year's National Defense Authorization Act (NDAA) expressed my concern and the concern of this committee that our Major Range and Test Facility Bases are unable to maintain pace technologically with our advanced fifth and sixth generation weapons delivery systems and new hypersonic systems. Secretary Wilson and General Goldfein, how do you see high fidelity simulation upgrades at these ranges factoring into effective testing of our newest weapons delivery systems and munitions?

Secretary WILSON and General GOLDFEIN. The Air Force benefits from both open air testing and simulation data to inform the development and fielding decisions necessary to equip our force with advanced weapon systems. In the fiscal year 2017 President's Budget, the Air Force, in conjunction with the Office of the Secretary of Defense, allocated approximately \$700 million to new and ongoing critical investments over the Future Years Defense Program in facilities and capabilities within the Air Force Major Range and Test Facility Base. These investments directly address effective testing of 5th generation and beyond aircraft and weapon systems. Current and planned investments include the following:

- Guided Weapons Effects Facility
 - Fourth test lane expansion provides a 33 percent increase in test capacity for Infrared Countermeasures hardware-in-the-loop testing necessary for determining performance of IR aircraft self-protection systems.
- Gulf Test Range Upgrades
 - Gulf Range Test Expansion Package #2 doubles the width of Eglin instrumented water range (from 100 to 200 miles) necessary to evaluate large footprint air-to-air engagements.
 - Next Generation Munitions Test Environment continues upgrading gun and munitions test infrastructure, developed and procured common data instrumentation and acquisition systems, and replaced environmental test chambers/facilities supporting gun and arena test capabilities.
- Benefield Anechoic Chamber
 - Advanced Warfare Test and Evaluation Capability continues development, procurement, and integration of state-of-the-art simulators and threat signal generation capabilities.
 - Next-generation Electronic Warfare Environment Generator system allows the Services to replicate high-density, modern threat signals in controlled environments in both laboratories and open-air ranges, including Eglin AFB.
- Hypersonics Test Infrastructure Projects

- o Significant investment to develop and demonstrate a facility that closes the critical test and evaluation gaps by providing a clean air, variable speed up to Mach 7+ test facility with long runtime enabling the development and acquisition of future hypersonic systems and vehicle propulsion systems.
- o Upgrades the existing Arnold Engineering Development Center arc heater test facility to provide a materials testing environment for the glide/cruise and pullout phases of hypersonic systems in the mid-pressure range up to approximately Mach 18.
- o Develops airborne data collection system to support hypersonic testing.

Going forward the Air Force continues to pursue high fidelity simulation upgrades to supplement open air testing, provide high-end threat replication, and to provide best value to the taxpayer with additional government owned organic capabilities.

To effectively test newly developed long-range and/or hypersonic weapons, delivery systems, and munitions in an A2AD environment, along with our ability to defend against near-peer competitors with similar offensive capabilities, it is essential that Major Range and Test Facilities properly simulate likely wartime scenarios. This requires test ranges and airspace clearances sufficient to accommodate vast distances and hypersonic speeds of advanced weapons. Additionally, recapitalization is necessary to ensure that ranges and test facilities have emitters, sensors, and networks that can provide high fidelity simulations of various A2AD environments. Without modernization of Major Ranges and Test Facilities, our nation cannot be sure that taxpayer investment in capabilities development and weapon program requirements will yield systems that can effectively attack or defend against advanced near-peer threat capabilities.” The Air Force benefits from both open air testing and simulation data to inform the development and fielding decisions necessary to equip our force with advanced weapon systems.

SPACE RANGE INFRASTRUCTURE

51. Senator NELSON. Secretary Wilson and General Goldfein, in 2017 the Eastern Range in the Atlantic expects to support 35 space launches, with that number growing to 48 launches annually in the next few years. This represents tremendous growth from previous years, which saw 7 to 18 launches annually. Not only is launch tempo increasing, the number of launch vehicles is growing, fulfilling the national objective of a competitive domestic launch industry. Much of the Air Force’s range infrastructure on both the Eastern and Western Range is decades old. Secretary Wilson and General Goldfein, with assured access to space becoming increasingly important, what is the Air Force doing to keep pace with the growing need to replace and modernize space-based systems in terms of space launch infrastructure?

Secretary WILSON and General GOLDFEIN. The Air Force is continuing to incrementally modernize range infrastructure, safety systems, and tracking systems while investing in new scheduling and planning tools. These efforts have ensured a very high rate of Range system availability and performance to meet launch customer needs in the near term. The Eastern and Western Ranges are essential contributors to meeting our nation’s space superiority needs and the Air Force is refining a long-term strategy to support the Space Warfighting Construct.

THE SPACE DOMAIN IN CONFLICT

52. Senator NELSON. Secretary Wilson and General Goldfein, space is no longer a neutral domain. Secretary Wilson and General Goldfein, are we currently postured to be able to utilize our space-based capabilities in the event we are engaged in a conflict with an adversary capable of targeting or denying the use of these systems?

Secretary WILSON and General GOLDFEIN. In addition to important changes being implemented in the Space Mission Force (SMF) and Space Enterprise Vision (SEV), the Air Force is in the process of standing up a new Deputy Chief of Staff for Space Operations (AF/A11) and a supporting staff. This new organization will provide a new focus by providing a dedicated Lieutenant General-led organization to concentrate on the formulation, coordination, dissemination, implementation and execution of Air Force space strategy, plans, policy, guidance, requirements, integration and synchronization required to strengthen the advocacy for and stewardship of Air Force missions and capabilities. While these are important organizational steps, the overall United States space enterprise today is not currently resilient enough to survive a conflict extending into space. Our potential adversary’s capabilities are continually evolving and we must continue to invest in the technologies and personnel necessary to maintain our space superiority in this increasingly contested domain.

The Fiscal Year 2018 President's Budget addresses that reality, but more future investment is required in the face of advanced, demonstrated, and evolving threats.

QUESTIONS SUBMITTED BY SENATOR RICHARD BLUMENTHAL

HUEY REPLACEMENT

53. Senator BLUMENTHAL. Secretary Wilson and General Goldfein, the Air Force's unfunded request list includes a request for yet another mitigation effort for the current Huey fleet—\$8.5 million for a special mission aviator crashworthy seat. I'm concerned that we are forced to continue funneling funding into the ailing fleet of Hueys while the Air Force is delaying the procurement of new helicopters. What efforts are you taking to expedite the acquisition process? How is this year's budget working to achieve this?

Secretary WILSON and General GOLDFEIN. The Air Force is committed to a full and open competition to procure up to 84 UH-1N replacement helicopters as soon as possible. The Fiscal Year 2018 President's Budget fully supports this by requesting \$108.6 million for the UH-1N replacement program. Until the UH-1N Replacement is fielded in the fiscal year 2020/2021 timeframe, we must continue to address safety concerns of the current fleet. The fiscal year 2018 unfunded priority list requirement for crashworthy seats addresses the risk of serious injury or death in the event of a flight accident.

F-35

54. Senator BLUMENTHAL. Secretary Wilson and General Goldfein, your testimony states that the F-35A is the Air Force's top modernization program. How many F-35s would you ideally procure to meet our defense needs?

Secretary WILSON and General GOLDFEIN. A stable F-35A buy rate of 60 per year will give time for effective and efficient procurement, basing decisions and the requisite growth in manpower that operates and maintains those aircraft. The program of record is 1,763 and that has not changed. But total numbers is not as important right now as our rate of procurement. We are working toward 60 per year, but 80 per year would be better.

55. Senator BLUMENTHAL. Secretary Wilson and General Goldfein, the Future Years Defense Program (FYDP) shows another delay for the 60 F-35As per year procurement plan. Two years ago it was to begin in fiscal year 2018, last year it was pushed to fiscal year 2021, and now it has been delayed to an undetermined date beyond FYDP projections. How are we going to get to 60 F-35As per year when you continue delaying production increases?

Secretary WILSON and General GOLDFEIN. The Air Force is comfortable with the current glide slope to attain 60 F-35s per year (80 per year would certainly be better) in the out years. Investment at this rate provides a balanced future fighter force mix that recapitalizes the right 4th generation forces before Economic Service Life drives inefficient investment decisions. Any further delay to reaching the 60 aircraft per year goal will put additional stress on the readiness and capability of our existing 4th and 5th gen aircraft and their personnel. A delay would also impact our ability to deliver sufficient capacity and capability to meet national strategic objectives.

56. Senator BLUMENTHAL. Secretary Wilson and General Goldfein, I am concerned that if we delay procurement, it will negatively impact cost and affordability—for us and our allies invested in the program. Are you concerned about the adjustments made to the long-term planned procurement pace for the F-35?

Secretary WILSON and General GOLDFEIN. The Air Force is pursuing a buy rate of 60 aircraft per year as quickly as possible. However, for industry and the service to reach this number, we need sufficient funding and a supply chain that can meet the demand. We are working aggressively with our industry partners to ensure we drive unit price as low as possible while demonstrating required supply chain capacity, resulting in an affordable and sustainable production profile. Investment at this rate will provide a balanced future fighter force mix with sufficient capacity and capability to meet national strategic objectives.

PILOT SHORTAGE

57. Senator BLUMENTHAL. Secretary Wilson and General Goldfein, as discussed in the hearing, the shortage of pilots is not just a problem for the United States, but also our allies. Please provide a comprehensive list of allies that are experiencing

this same challenge, to what degree they are short pilots, and what they are doing to address and mitigate risk. What can we learn from our allies' efforts to address our own pilot shortage?

Secretary WILSON and General GOLDFEIN. The U.S. Air Force does not track readiness statistics with regard to other nations pilot readiness issues. Some Foreign Military Sales programs with partners are experiencing delays in training, such as the F-16, due to a limited number of USAF pilots available to support ally and partner training. USAF's other aviation sales with partners are being supported. In previous discussions with other Air Chiefs, we understand they are also facing budget issues, which has an impact to their aviation readiness. We are working with partners to improve integration of flight activities with coalition partners where mutually advantageous in support of national security strategies.

QUESTIONS SUBMITTED BY SENATOR KIRSTEN GILLIBRAND

NIAGARA FALLS AIR RESERVE STATION

58. Senator GILLIBRAND. Secretary Wilson and General Goldfein, I was so pleased that the 914th at Niagara Falls Air Reserve Station was chosen to convert to a KC-135 mission. I was there last year and was pleased with the progress. The one thing we need now is a KC-135 flight simulator, to serve both the 914th and other units. We currently have an empty building on the base, built to hold a C-130 simulator, making the basing of one that much easier for the Air Force. I have mentioned this to Air Force leadership before to express my belief that addressing this shortcoming will improve overall readiness for the Air Force and Air Reserves. Can you give me an update on any decisions about basing KC-135 simulators?

Secretary WILSON and General GOLDFEIN. The Air Force tanker enterprise is critical to our national security and the readiness of our Total Force tanker fleet is a high priority for the Air Force. The composition of our tanker force is changing as we anticipate deliveries of the KC-46A Pegasus in the coming years, but the KC-135 will remain the predominant element of the fleet for years to come.

As we plan for fielding of the KC-46, we are taking action to reposition KC-135s and their associated training devices and support equipment. The conversion of Niagara Falls from the C-130 to the KC-135 is one example.

As additional KC-135 units convert to the KC-46, we anticipate there could potentially be additional aircrew training devices that may be available for relocation to remaining KC-135 units. If and when these future training device decisions are made, our focus will remain on maximizing support to warfighter operational requirements while balancing KC-135 crew force training requirements.

LC-130 SKIBIRDS

59. Senator GILLIBRAND. Secretary Wilson and General Goldfein, the Arctic is becoming more and more important to our national security policy. New York is home to the only ski-equipped C-130s in the world. These four LC-130 "skibirds" perform vital missions on behalf of the National Science Foundation in Antarctica, as well as training in Greenland. They have also been part of joint training missions with Canada. However, these planes are aging, and are in need of modernization in order to continue their amazing work. To my understanding, there have been discussions as to whether the United States Air Force will take over responsibility for the four planes currently owned by the National Science Foundation. Can you please provide an update on these discussions concerning our LC-130s and whether the Air Force's proposed fiscal year 2018 budget reflects changes to ownership of the planes?

Secretary WILSON and General GOLDFEIN. The 109 AW in Schenectady, NY, has a total of 10 LC-130H aircraft; six are ANG-owned and four are National Science Foundation (NSF)-owned. Overall, there has been productive engagement with the NSF but a final decision regarding the transfer of the four NSF-owned LC-130Hs to the ANG has not been reached. Back in February, the Secretary of the Air Force Office of Manpower and Reserve Affairs (SAF/MR) received a formal request from the NSF to provide an estimate of the cost to transfer four NSF LC-130 aircraft to the ANG. The ANG provided a coordinated response back to SAF/MR and they had a follow-on meeting with the NSF in April to discuss the costing details. Based on those discussions, the NSF indicated that they needed more time to conduct research and determine a way forward. To-date, the NSF has not submitted any additional requests for information regarding the transfer of its four LC-130 aircraft to the ANG. Since a transfer decision is still pending, it is not included in the Fiscal Year 2018 President's Budget.

QUESTIONS SUBMITTED BY SENATOR JOE DONNELLY

NUCLEAR MODERNIZATION AND TRUSTED MICROELECTRONICS

60. Senator DONNELLY. General Goldfein, you have stated in the past that the Air Force will pursue commonality and collaboration on nuclear modernization when and where it makes sense. An area that makes sense to maximize collaboration between the Air Force and Navy are the unique radiation-hardened microelectronics required for elements of our nuclear deterrent. Beyond microelectronics, what other areas do you view as smart candidates for expanded collaboration across the services?

General GOLDFEIN. The joint Air Force-Navy commonality assessment completed in March 2016 identified 47 components as commonality candidates between the Ground Based Strategic Deterrent (GBSD) and Trident D5 programs. Four specific commonality areas were prescribed in the request for proposal package for the GBSD technology maturation and risk reduction phase. Specifically, 1) guidance subsystem architecture; 2) model-based systems engineering; 3) common electronic parts program; and 4) common test telemetry and termination systems.

61. Senator DONNELLY. General Goldfein, I am concerned about the long-term viability of our nation's fragile nuclear industrial base and our ability to buy trusted strategic parts in the future. How are the Air Force and Navy nuclear programs coordinating on acquisitions in order to synchronize future needs and sustain the industrial base?

General GOLDFEIN. The Air Force's ICBM demonstration and validation (Dem/Val) program ensures the infrastructure is in place to address both planned future efforts and emerging issues. The Navy, along with a significant number of our industry partners, is a participant in the Dem/Val program. Current Dem/Val efforts support legacy and future strategic system programs.

QUESTIONS SUBMITTED BY SENATOR MAZIE HIRONO

SPACE CAPABILITIES

62. Senator HIRONO. Secretary Wilson and General Goldfein, it is often said that the best defense is a good offense. Following this rhetoric, the U.S. would we be required to dismantle space capabilities of foreign actors in order to defend from attacks. Are we currently positioned to be able to continue to operate and utilize our space-based capabilities in the event we are engaged in a war that extends into space? If not what else needs to be done?

Secretary WILSON and General GOLDFEIN. Our priority is to ensure the Air Force continues to provide resilient space effects to all warfighters and to ensure we are fully prepared to fight and win a conflict that extends into space. To do this, we are adjusting how we organize, train, and equip through the Space Mission Force (SMF) and Space Enterprise Vision (SEV). The SMF is emphasizing advanced training of our space operators while also giving them time to develop new tactics, techniques, and procedures (TTPs) to protect our assets and mitigate adversary actions. This training and these TTPs will also drive the discussion of the rules of engagement and authority structure required to operate in a contested space environment. The SEV lays out a roadmap of future systems and capabilities that will provide a space force resilient to attack. We are also working to ensure acquisition authorities are held at the appropriate levels to ensure we can acquire appropriately resilient systems while limiting unnecessary duplication of effort. Finally, we have started national-level policy discussions to determine the messages we want to send to our allies and adversaries and to advance policies that allow tactical commanders the ability to operate in a real-time "battlefield" environment. While these are important first steps, we must continue to adjust from the paradigm of operating in a benign space environment to that of a contested arena through additional investment in resilient systems, operations training, and organizational design.

ERODING COMPETITIVE ADVANTAGE

63. Senator HIRONO. Secretary Wilson and General Goldfein, we have heard testimony from all of the combatant commanders that the technology and capability gap is closing as the computing power, nuclear weapons, cruise and theater ballistic missiles, and sophisticated air defense systems of our enemies are becoming more effective. How quickly is our competitive advantage eroding? What additional assets are required to prevent the gap from closing that are not currently included in the Fiscal Year 2018 Presidential Budget?

Secretary WILSON and General GOLDFEIN. Our competitive advantage is eroding at an alarming rate. In order to reverse this trend, we need to strike the right balance between capability and capacity in air, space and cyberspace domains. This will require a significant funding commitment to begin rebuilding the Combat Air Force and accelerate development of new concepts. The Air Force currently has a plan to balance capability and capacity for the Combat Air Force through 4th and 5th generation fighter modernization, and 5th generation fighter, long range bomber, and preferred munitions procurement.

Efforts that will require increased funding to maintain our competitive advantage include: 4th generation fighter service life extensions and modernization, 5th generation fighter capability development and procurement, multi-domain command and control, position navigation and timing, electromagnetic spectrum superiority, integrated air and missile defense, integrated intelligence, surveillance, and reconnaissance, airbase resilience, and adaptive basing.

CREATION OF A SPACE FORCE

64. Senator HIRONO. Secretary Wilson and General Goldfein, there has been renewed debate regarding the need to create a 'space force' separate from the Air Force, either stood up as a separate Service or aligned under the Department of the Air Force similar to the USMC relationship with the Department of the Navy. What is the Air Force's opinion of such proposals?

Secretary WILSON and General GOLDFEIN. As the fielding of counter-space capabilities accelerates, the United States cannot afford the significant resource and time disruptions a separate space force would create. A separate space service would incur significant expense for Service-specific administration and dilute funding needed to pursue space superiority initiatives now. Since the early 1990s, the Department has been integrating space support into joint operations. Now, with space becoming a contested domain, we must shift from a mindset of integrating support for terrestrial forces to integration of space into the multi-domain war fight. Creating a separate Space Corps or Space Force while transitioning from a benign to a warfighting domain would diffuse and distract from the efforts proposed and underway to address gaps and shortfalls in the space enterprise.

ENERGY SECURITY

65. Senator HIRONO. Secretary Wilson and General Goldfein, U.S. energy security is a vital component to our national security. The need to reduce energy consumption, use clean alternative energy sources, and increase U.S. security is closely tied to our overall national security and an important goal for all our branches of the military. How has the Air Force prioritized its long-term energy needs in this budget request? How does the request highlight efforts to increase U.S. energy security? Do you view these efforts as yielding long-term dividends in terms of budgetary savings and operational effectiveness?

Secretary WILSON and General GOLDFEIN. The Air Force considers energy security, efficiency and capability when we identify requirements and as we develop our budgets. In addition, we give favorable consideration to projects that improve energy resilience. Investments to enhance the efficiency and resiliency of aircraft platforms and critical facilities provide significant long-term benefits for the nation, and we will continue to pursue them.

The Air Force prioritizes energy investments to focus on mission assurance. For example, for installation energy, the Air Force takes a holistic approach that values resilience, cost effectiveness and cleanliness, while primarily relying on third party financing. As codified in our Energy Flight Plan (<http://www.safie.hq.af.mil/Programs/Energy/>), our approach translates into three lines of effort: defining our vulnerabilities, providing self-sufficient utility scale power on or near the installation, and leveraging investment in technologies to improve our resiliency.

We are working closely with utility commissions, utilities, energy service providers, communities, and other stakeholders to improve our energy resilience, and taking advantage of all the authorities provided to us by Congress. For example, the Air Force is looking at bi-directional microgrids to allow the Air Force to push excess power off base in support of civil authorities; using real estate and other authorities to offer utility companies battery storage opportunities on our installations; and developing mutually beneficial renewable and non-renewable on-base power generation capabilities that support both the defense mission and U.S. energy security.

With respect to aviation operations, we are concentrating on three lines of effort. We are focusing on identifying and incorporating new technologies (e.g., adaptive jet engines) while also better understanding how these investments affect the energy

posture of our operational plans. Additionally, we are integrating new sustainment techniques to improve weapons system efficiency and effectiveness. Finally, we are incorporating new tools and methods into operational processes to maximize combat capability and readiness of our forces.

Over the long-term, we are focusing on assured operational effectiveness so our installations continue to provide defense for the nation in the face of physical attack, cyber-attack, or natural disaster affecting our bases or the national electric grid. Additionally, we continuously pursue the most cost effective methods, which generally result in budget savings.

QUESTIONS SUBMITTED BY SENATOR TIM KAINE

MID-ATLANTIC REGIONAL SPACEPORT

66. Senator KAINE. Secretary Wilson, as you know, in addition to Air Force launch sites at Cape Canaveral and Vandenberg, State Spaceports like the Mid-Atlantic Regional Spaceport at Wallops in Virginia and the Pacific Spaceport Complex in Alaska are playing an increasingly important role in provide assured access to space for the Department of Defense. These State-owned and operated spaceports have provided second launch sites for the Air Force on the East and West Coasts, which provides a critical second point of access to key inclinations and orbits that are important to our national security. This ensures increased resiliency in the case of natural disasters or security threats to launch sites. They are also very affordable launch sites because the infrastructure development, maintenance and operations costs are largely covered by the state and other users. Both spaceports are currently working with the DOD on various missions and launches, but there is much more potential to take greater advantage of these assets to support of national launch infrastructure and access to space. As you look at ways to reduce launch costs and improve resiliency in space launch, how will the Air Force and other Defense launch customers make even greater use of spaceports like Wallops for small and medium launch opportunities, including a greater cadence of Operationally Responsive Space and other missions?

Secretary WILSON. The Air Force work will with other partners such as NASA, the intelligence and the missile defense communities to leverage the benefits of non-federal spaceports when it is appropriate to support National Security Space requirements.

While National Security Space launch requirements are largely met by EELV-class vehicles from the two federal launch sites Cape Canaveral Air Force Station and Vandenberg Air Force Base, state sponsored sites, including the Mid-Atlantic Regional Spaceport (MARS) at Wallops in Virginia and the Pacific Spaceport Complex in Alaska (PSCA), have supported launch operations and suborbital test missions for generally smaller classes of launch vehicles. Next summer, the Air Force plans to launch the NROL-111 mission on a Minotaur I, from MARS and the Missile Defense Agency plans to resume ballistic missile defense flight testing from PSCA beginning in the third quarter of fiscal year 2017. With the support of Congress, there are federally-funded efforts underway to improve Spaceport infrastructure at MARS (Wallops) and PSCA (Kodiak) to enhance the capabilities of these spaceports to provide resiliency options for small to medium-class launches.

67. Senator KAINE. Secretary Wilson, additionally, the fiscal year 2017 Omnibus contained a provision directing the Director of National Intelligence and the Department to put together a report on making greater access of these launch capabilities. Could you provide an update on the status of this report and when the Committee may expect to receive it?

Secretary WILSON. This report is currently being drafted by the National Reconnaissance Office's (NRO) Office of Space Launch (OSL). OSL is working closely with the Air Force's Space and Missile Systems Center's Launch Enterprise Directorate (SMC/LE) to draft this report and coordinate it through the Intelligence Community and the Air Force. The NRO and the Air Force will work to meet the 3 August suspense stipulated in the fiscal year 2017 Omnibus.

68. Senator KAINE. Secretary Wilson, given that the U.S. has only four spaceports (Cape Canaveral (FL), Vandenberg (CA), Wallops (VA), Kodiak (AK)) capable of launching national security, civil and commercial satellites to orbit—with only two launch sites on each coast—it's safe to say that these represent a critical element of our national infrastructure, resiliency and assured access to space.

Secretary WILSON. The Air Force continues to evaluate critical elements of our national security infrastructure as part of the Space Warfighting Construct. Current federal launch infrastructure requires continued sustainment but is sufficient to meet comprehensive national security launch needs in the near term. The Air Force will continue to work with other partners, such as the intelligence and missile defense communities, to leverage the benefits of non-federal spaceports where appropriate to support National Security Space requirements.

69. Senator KAINE. Secretary Wilson, given that all four of these launch sites, including the two State Spaceports in Virginia and Alaska, are used to launch DOD assets into orbit, do you consider these spaceports to be critical infrastructure for the United States? How does the Air Force and other DOD users ensure that these spaceports, especially the non-Federal spaceports, are maintained and upgraded to ensure that we maintain no less than these four points of access to space?

Secretary WILSON. The Air Force continues to evaluate critical elements of our national security infrastructure as part of the Space Warfighting Construct. The Air Force will continue to work with other partners, such as the intelligence and missile defense communities, to support and leverage the benefits of non-federal spaceports where appropriate to support National Security Space requirements.

QUESTIONS SUBMITTED BY SENATOR ELIZABETH WARREN

MIT LINCOLN LAB WEST LAB PROJECT

70. Senator WARREN. Secretary Wilson, MIT Lincoln Laboratory is the nation's preeminent Department of Defense research and development Federally Funded Research and Development Center (FFRDC) focused on critical national defense technology problems. The current facilities are in an accelerating decline and a great deal of the Lab's work is being done in obsolete 1950s-era buildings. Unless these facilities are modernized in the near term, their worsening condition will prevent MIT Lincoln Laboratory from effectively meeting Air Force and Defense Department requirements for advanced research and development. I was greatly encouraged that the Air Force and the Department of Defense committed to funding a facilities modernization plan at MIT/LL in the Future Year Defense Program (FYDP) released with the fiscal year 2017 Budget. That FYDP committed to constructing a Compound Semi-Conductor Laboratory—Microelectronics Integration Facility (CSL-MIF), currently programmed at \$225 million in the Air Force's fiscal year 2019 Military Construction budget, and an Engineering Prototype Facility (EPF) programmed for fiscal year 2022 at \$216 million. Secretary Wilson, can you give me your assurance that you will continue to support these critical projects as the Air Force builds the fiscal year 2019 Budget?

Secretary WILSON. I agree that modernizing research facilities, such as MIT's Lincoln Laboratory, are critical to maintaining our technological advantage over potential adversaries. I will continue to consider these priorities as we build the fiscal year 2019 budget.

FUNDING FOR SCIENCE & TECHNOLOGY

71. Senator WARREN. Secretary Wilson, while I was pleased to see a \$5.2 billion increase in your budget request for Research, Development, Test and Evaluation, I was disappointed to see that within that amount, Science & Technology funding is actually being cut relative to last year. Secretary Wilson, during your confirmation hearing, you expressed support for increasing Science & Technology funding. Do you continue to support those increases?

Secretary WILSON. The Air Force believes that cutting-edge science and technology research is a cornerstone of our Air Force, and is supported in the Fiscal Year 2018 President's Budget Request for Air Force Science and Technology (S&T), which is a \$97.4 million increase from the Fiscal Year 2017 President's Budget.

72. Senator WARREN. Secretary Wilson, why does basic and applied research funding matter, and what are your priorities for early-stage research?

Secretary WILSON. Air Force basic and applied research sits at the center of an innovation network that includes our partners in the other Military Services, DARPA, as well as those of the National Science Foundation, NASA, the Department of Energy and National Institute of Standards and Technology. Our Air Force S&T basic research needs to leverage these scientific results and transition innovative breakthroughs into applied research for military applications and then on to the acquisition community. While the Air Force identified some important research

thrusts some time ago, I expect the Air Force will review that strategic look over the next year in a broad effort that includes labs, academia, and industry.

**DEPARTMENT OF DEFENSE AUTHORIZATION
FOR APPROPRIATIONS FOR FISCAL YEAR
2018 AND THE FUTURE YEARS DEFENSE
PROGRAM**

TUESDAY, JUNE 13, 2017

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

DEPARTMENT OF DEFENSE BUDGET POSTURE

The committee met, pursuant to notice, at 9:29 a.m. in Room SD-G50, Dirksen Senate Office Building, Senator John McCain (chairman) presiding.

Committee members present: Senators McCain, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Perdue, Graham, Strange, Reed, Nelson, McCaskill, Shaheen, Gillibrand, Blumenthal, Donnelly, Hirono, Kaine, King, Heinrich, Warren, and Peters.

OPENING STATEMENT OF SENATOR JOHN MCCAIN, CHAIRMAN

Chairman MCCAIN. Good morning. The Senate Armed Services Committee meets this morning to receive testimony on the Department of Defense's [DOD] fiscal year 2018 budget request.

We welcome Secretary Mattis, Chairman Dunford, and Secretary Norquist, and thank you for your many years of distinguished service and your leadership of our men and women in uniform.

Before we begin, we all want to acknowledge the service and sacrifice of Sergeant Eric Houck, Sergeant William Bays, and Corporal Dillon Baldrige. These three soldiers from the Army's 101st Airborne Division were killed this weekend in Afghanistan. The thoughts and prayers of this committee are with their loved ones.

The sacrifice of these heroes is a painful reminder that America is still a nation at war. That is true in Afghanistan, where, after 15 years of war, we face a stalemate and urgently need a change in strategy and an increase in resources, if we are to turn the situation around.

We also remain engaged in a global campaign to defeat ISIS [Islamic State of Iraq and Syria] and related terrorist groups, from Libya and Yemen, to Iraq and Syria, where United States troops are helping to destroy ISIS and reclaim Mosul and Raqqa.

Meanwhile, threats around the world continue to grow more complex and severe. North Korea is closing in on the development of a nuclear-capable intercontinental ballistic missile [ICBM] that can

target our Homeland. Iran continues to destabilize the Middle East and seeks to drive the United States out of the region.

At the same time, we have entered a new era of great power competition. Russia and China, despite their many differences, are both modernizing their militaries, developing advanced capabilities to undermine our ability to project power globally, threatening their neighbors, and challenging the rules-based world order. Russia, in particular, continues to occupy Crimea, destabilize Ukraine, threaten our NATO allies, bolster the murderous Assad regime in Syria, and pursue a campaign of active measures to undermine the very integrity of Western democracies.

With thousands of our soldiers, sailors, airmen, and marines deployed in harm's way around the globe, those of us who are charged with the awesome responsibility of providing for the common defense must ask ourselves if we are doing everything possible to support our brave men and women in uniform to meet the challenges of an increasingly dangerous world and succeed in their mission.

I am sad to say that we are not. In response to rising threats, we have asked our military to do more and give more but have given less and less to them.

Our witnesses' opening statements are a harsh indictment of this failure, but they are right. I implore my colleagues to listen carefully to their testimony and heed their admonition to us.

Since 2011, spending caps mandated by the Budget Control Act [BCA] have led to a 23 percent cut to the defense budget. These reductions, compounded by growing fiscal uncertainty and continuing resolutions, have left our military with shrinking forces, depleted readiness, and aging equipment. This has put the lives of our men and women in uniform at greater risk, as this committee has heard in testimony for years from our civilian defense leaders and senior military officers.

The administration's fiscal year 2018 budget request, if enacted, could help to arrest the decline in our military's readiness. But ultimately, and unfortunately, it falls short of the President's commitment to rebuild our military. The proposed defense budget of \$603 billion is both arbitrary and inadequate—arbitrary because the topline is simply what was written into the Budget Control Act 6 years ago prior to the sequester cuts, and inadequate because it represents just a 3 percent increase over President Obama's defense plan.

It is hardly surprising, then, that this committee has received lists of unfunded requirements from the military services totaling over \$31 billion, all of which Secretary Mattis testified last night in the House Armed Services Committee that he supports. Our military service leaders have testified to this committee that this budget would stanch the bleeding, but we owe our men and women in uniform more than that.

It has been said that this budget request focuses on readiness, and it is true that the requested funding increases would make the current force more ready for the next year. But ultimately, readiness is more than training hours and time on the ranges. Real readiness requires sufficient capacity to enable our troops simultaneously to conduct operations, prepare for deployment, rest and

refit, and focus on the challenges of tomorrow. This budget delivers no growth in capacity, which means that the joint force will continue to consume readiness as quickly as it is produced. These increases in capacity are reflected in each service's unfunded requirements.

True readiness is also modernization, because if we mortgage future capability to pay for present commitments, we have achieved little, especially at a time when our adversaries are moving at an alarming rate to erode America's military technological advantage and call into question our ability to project power.

Here, too, unfortunately, this budget request poses the old false choice between readiness and modernization. The fact is that \$603 billion simply is not enough to pay for both priorities, which is why the services' unfunded requirements are heavy on the procurement of new and additional capabilities that are desperately needed.

All of this presents this committee, and this Congress, with a significant choice. The administration's budget request is just that—a request. Ultimately, it is our independent responsibility to authorize and appropriate funding for our military at levels and in ways that we believe sufficient to provide for the common defense. I believe that this budget request is a start, but we can and must do better.

This will not be possible, however, as long as the Budget Control Act remains the law of the land. This defense budget request and the additional funding that our military needs is literally illegal under the Budget Control Act. This law has done severe damage to our military. It has harmed the Department's ability to plan and execute budgets effectively and efficiently. It has ground the Congress' budget and appropriations processes to a halt. Worst of all, there are 4 more years of BCA caps to go.

We cannot go on like this. Our men and women in uniform deserve better. It is time for the Congress to reinvest in our military, restore readiness and capabilities, rebalance our joint force, and renew America's military advantage.

To do so, we must revise or repeal the Budget Control Act. We must give our troops what they need to succeed, today and in the future.

Will the politics of this be difficult? Yes. But the question all of us here must answer is: How much longer will we send our sons and daughters into harm's way unprepared before we get over our politics and do our jobs?

Senator Reed?

STATEMENT OF SENATOR JACK REED

Senator REED. Thank you very much, Mr. Chairman, for holding this hearing to consider funding levels for the Department of Defense to maintain our Nation's military.

I also want to welcome our distinguished witnesses this morning and thank them for their service to our Nation.

I want to join with the chairman in paying tribute to the soldiers of the 101st who gave their lives, and their families. They are examples of thousands and thousands of Americans who serve, and their families here at home who serve here with them.

Today, we consider the fiscal year 2018 Trump Administration budget that seeks \$574 billion in base funding and \$65 billion for Overseas Contingency Operations.

As we all know, the Budget Control Act, the BCA, of 2011, and the sequester, are still law of the land, and this budget request for DOD exceeds the BCA defense spending cap by \$52 billion. Rather than negotiate with Congress or propose an outright repeal of BCA and the sequester, President Trump proposed to offset an increase in defense spending with a \$52 billion cut in nondefense spending. But unless the BCA is changed, the offset will seriously harm non-defense spending and fail to prevent across-the-board cuts reclaiming the \$52 billion, leaving DOD in a worse position.

We have already held many hearings this year where senior civilian and military leaders have repeatedly urged us to remove the BCA caps and end sequestration. Like Chairman McCain, I believe it is time to repeal the BCA. Setting arbitrary thresholds on defense and nondefense spending has not made our country safer, and it has not fixed our broader fiscal problems, nor do these caps, which were set nearly 6 years ago, accurately reflect what our military needs in order to confront today's threats, or the kind of domestic investment we need to keep America competitive and strong.

Let me be clear. I am not opposed to increased military spending. Democrats have and will continue to support robust defense spending. But it is the duty of this committee to carefully review the budget proposals presented by the President to ensure that the funds are allocated properly so that our fighting men and women have what they need to complete their mission and return home safely. Every member, regardless of party, takes this duty seriously.

I also believe that our budget must reflect our Nation's core values and take care of Americans who remain at home. Our military personnel have a vision of the America they are fighting for, and it is our duty to protect that. I, therefore, have grave concerns about the President's Budget Request, because it robs from Peter to pay Paul. The President's proposal increases defense spending, but it also eliminates \$17.3 billion from the State Department's efforts to prevent wars and foster peace, which is the very kind of spending that Secretary Mattis has said is so crucial to our military efforts. It also slashes funding for health investments like the NIH [National Institute of Health] and CDC [Centers for Disease Control], and training for health care professionals to fight against global public health epidemics, such as Ebola, before they reached the U.S. This budget request also eliminates programs that help vulnerable Americans here at home.

Certainly, our military needs additional resources to climb out of the readiness hole it is in and, at the same time, deter conflict with near-peer competitors, but I do not believe we should do so at the expense of diplomacy and vulnerable Americans.

I would also note that for over the last 15 years, we have found it important enough to send our brave men and women to war, but we have not had the courage to raise revenues to pay for these wars, as this Nation has historically done. As we examine what funding requirements are necessary for the safety and security of

our country, we need to look at our federal budget in much more context. The BCA's delineation between defense and nondefense spending has had the unfortunate effect of pitting each category of funding against the other. Instead, we would be better served if we considered the needs of our Nation holistically.

I also believe that it would be best if we examined the President's Budget Request in the context of an overall National Security Strategy. Such a strategy, however, has not clearly emerged as we enter the sixth month of this administration.

We seem to careen from one foreign policy crisis to another, many of which are the administration's own making. This takes up valuable energy and attention at a time when there are several significant national security challenges on which we need to be focused.

Secretary Mattis and General Dunford, you have been consummate professionals and steady hands in a tumultuous time, but we face many difficult decisions, both strategic and budgetary, that demand the kind of leadership and engagement that only a grounded and focused President can provide. I look forward to working with you and my colleagues as we address these important issues. I am proud that this committee has always worked in a bipartisan fashion during this process. I look forward to working with the chairman and all the committee members to come to a reasonable agreement again this year.

Thank you very much, Mr. Chairman.

Chairman MCCAIN. Secretary Mattis, welcome back.

STATEMENT OF HONORABLE JAMES N. MATTIS, SECRETARY OF DEFENSE, ACCOMPANIED BY DAVID L. NORQUIST, UNDER SECRETARY OF DEFENSE, COMPTROLLER, CHIEF FINANCIAL OFFICER, U.S. DEPARTMENT OF DEFENSE

Secretary MATTIS. Thank you, Chairman McCain, Ranking Member Reed, and members of the committee. I appreciate the opportunity to testify in support of the President's Budget request for fiscal year 2018. Mr. Chairman, I request the committee except my written statement for the record.

I am joined by Chairman Dunford and the Department's new comptroller, Under Secretary of Defense David Norquist. Thank you, Mr. Chairman, and members of the committee for your swift consideration and the Senate's confirmation of Defense Department nominees.

This budget request holds me accountable to the men and women of the Department of Defense. Every day, more than 2 million servicemembers and nearly 1 million civilians do their duty, honoring previous generations of veterans and civil servants who have sacrificed for our country. It is my privilege to serve alongside them.

We in the Department of Defense are keenly aware of the sacrifices made by the American people to fund our military. Many times in the past we have looked reality in the eye, met challenges with the help of congressional leadership, and built the most capable warfighting force in the world. There is no room for complacency, and we have no God-given right to victory on the battlefield.

Each generation of Americans, from the halls of Congress to the battlefields, earn victory through commitment and sacrifice.

For 4 years, the Department of Defense has been subjected to or threatened by automatic, across-the-board cuts as a result of sequester, a mechanism meant to be so injurious to the military it would never go into effect. But it did go into effect, and as forecast by then-Secretary of Defense Panetta, the damage has been severe, hollowing out our force.

In addition, during 9 of the past 10 years, Congress has enacted 30 separate continuing resolutions to fund the Department of Defense, thus inhibiting our readiness and our adaptation to new challenges.

We need bipartisan support for this budget request. In the past, by failing to pass a budget on time or to eliminate the threat of sequestration, Congress sidelined itself from its active constitutional oversight role. Continuing resolutions coupled with sequestration blocked new programs, prevented service growth, stalled industry initiative, and placed troops at greater risk.

Despite the tremendous efforts of this committee, Congress, as a whole, has met the present challenge with lassitude, not leadership.

I retired from military service 3 months after sequestration took effect. Four years later, I returned to the Department, and I have been shocked by what I have seen about our readiness to fight. While nothing can compare to the heartache caused by the loss of our troops during these wars, no enemy in the field has done more to harm the combat readiness of our military than sequestration.

We have only sustained our ability to meet America's commitments abroad for our security because our troops have stoically shouldered a much greater burden. But our troops' stoic commitment cannot reduce the growing risk.

It took us years to get into this situation. It will require years of stable budgets and increased funding to get out of it.

I urge members of this committee and Congress to achieve three goals. First, fully fund our request, which requires an increase to the Defense budget caps. Second, pass a fiscal year 2018 budget in a timely manner to avoid yet another harmful continuing resolution. Third, eliminate the threat of future sequestration cuts to provide a stable budgetary planning horizon.

Stable budgets and increased funding are necessary because of four external factors acting on the Department at the same time.

The first force acting on us that we must recognize is 16 years of war. When Congress approved the all-volunteer force in 1973, our country never envisioned sending our military to war for more than a decade without pause or conscription. America's long war has placed a heavy burden on men and women in uniform and their families.

A second concurrent force acting on the Department is the worsening global security situation that the chairman spoke about. We must look reality in the eye. Russia and China are seeking veto power over the economic, diplomatic, and security decisions on their periphery. North Korea's reckless rhetoric and provocative actions continue, despite United Nations censure and sanctions, while Iran remains the largest long-term challenge to Mideast sta-

bility. All the while, terrorist groups murder the innocent and threaten peace in many regions while targeting us.

A third force is adversaries actively contesting America's capabilities. For decades, the United States enjoyed uncontested or dominant superiority in every operating domain or realm. We can generally deploy our forces when we wanted, assemble them where we wanted, and operate how we wanted. Today, every operating domain—outer space, air, sea, undersea, land, and cyberspace—is contested.

A fourth concurrent force is rapid technological change. Among the other forces noted thus far, technological change is one that necessitates new investment, innovative approaches, and new program starts that have been denied us by law when we have been forced to operate under continuing resolutions.

Each of these four forces—16 years of war, the worsening security environment, contested operations in multiple domains, and the rapid pace of technological change—require stable budgets and increased funding to provide for the protection of our citizens and for the survival of our freedoms.

I reiterate that security and solvency are my watchwords as Secretary of Defense. The fundamental responsibility of our government is to defend the American people providing for our security, and we cannot defend America and help others if our Nation is not both strong and solvent.

So we in the Department of Defense owe it to the American public to ensure we spend each dollar wisely. President Trump has nominated for Senate approval specific individuals who will bring proven skills to discipline our Department's fiscal processes to ensure we do so.

This first step to restoring readiness is underway thanks to Congress' willingness to support the administration's request for an additional \$21 billion in resources for fiscal year 2017 to address vital warfighting readiness shortfalls. Your support put more aircraft in the air, ships to sea, and troops in the field. However, we all recognize that it will take a number of years of higher funding delivered on time to restore readiness.

To strengthen the military, President Trump requested a \$639 billion topline for the fiscal year 2018 defense budget. This year's budget reflects five priorities.

The first priority is continuing to improve warfighter readiness begun in 2017, filling in the holes from tradeoffs made during 16 years of war and 9 years of continuing resolutions and Budget Control Act caps.

The second priority is increasing capacity and lethality while preparing for future investment driven by the results from the National Defense Strategy we are working on now. Our fiscal year 2018 budget request ensures the Nation's current nuclear deterrent will be sustained and supports continuation of its much-needed modernization process.

The third priority is reforming how the Department does business. I am devoted to gaining full value from every taxpayer dollar that is spent on defense, thereby earning the trust of Congress and the American people. We have begun implementation of a range of reform initiatives directed by the 2017 National Defense Authoriza-

tion Act [NDAA], and we are on track to enter into a full agency-wide financial statement audit, as required by statute.

I urge Congress to support the Department's request for authority to conduct a 2021 base realignment and closure, or BRAC, round. I recognize the careful deliberation that members must exercise in considering this, but BRAC is one of the most successful and significant efficiency programs we have. We forecast that a properly focused base closure effort will generate \$2 billion or more annually and, over a 5-year period, that would be enough to buy 300 Apache attack helicopters, 120 F-18 Super Hornets, or four *Virginia*-class submarines.

The fourth priority in the fiscal year 2018 budget request is keeping faith with servicemembers and families. Talented people are the Department's most valuable asset, but we must continually balance these requirements of investment in our people against other investments critical to readiness, equipping, and modernizing the force to ensure the military is the most capable warfighting force in the world. Investment in military compensation, blended retirement, the military health system, and family programs are essential to fielding the talent we need to sustain our competitive advantage on the battlefield.

Our fifth priority is support for Overseas Contingency Operations. The Fiscal Year 2018 President's Budget requests \$64.6 billion focusing on operations in Afghanistan, Iraq, and Syria; increasing efforts to sustain NATO's [North Atlantic Treaty Organization] defenses to deter aggression; and global counterterrorism operations. ISIS and other terrorist organizations represent a clear and present danger, and I am encouraged by the willingness of our allies and partners to share the burden of this campaign alongside us.

Moving forward, the fiscal year 2019 budget informed by the National Defense Strategy will have to make hard choices as we shape the 2019 to 2023 defense program. The Department will work with President Trump, Congress, and this committee to ensure future budget requests are both sustainable and provide the Commander in Chief with viable military options that support America's security.

In summation, first, I need the BCA caps lifted and a budget, not a continuing resolution, passed on time, and elimination of future sequestration cuts, so we can provide a stable and adequate way ahead on budgets.

For those who are concerned we are not asking for sufficient dollars, please consider the following. For 2017, as a supplemental, we asked for \$30 billion and the Congress provided \$21 billion for our administration to address readiness shortfalls.

Second, this fiscal year, President Trump has requested \$574 billion plus \$29 billion in the Department of Energy [DOE] budget, plus \$65 billion for Overseas Contingency Operations. This is a 5 percent growth over what the Department had for 2017.

This request is \$52 billion above the Budget Control Act defense caps. We have underway at this time a National Security Strategy review, and that will give us the analytic rigor to come back to you for the fiscal year 2019 to fiscal year 2023 budget request when we

will build up our military to confront the situation that the chairman and I have laid out in our written statements.

I am keenly aware that each of you understand the responsibility we share to ensure our military is ready to fight today and in the future. I need your help to inform your fellow Members of Congress about the reality facing our military and the need for Congress as a whole to pass the defense budget on time.

Thank you, members of the committee, for your strong support over many years and for ensuring our troops have the resources and equipment they need to fight and win on the battlefield. I pledge to collaborate closely with you for the defense of our Nation in our joint effort to keep our Armed Forces second to none.

Thank you, ladies and gentlemen. Chairman Dunford is prepared to discuss the military dimensions of the budget request.

[The prepared statement of Secretary Mattis follows:]

PREPARED STATEMENT BY SECRETARY OF DEFENSE JIM MATTIS

Chairman McCain, Ranking Member Reed, distinguished members of the committee, I appreciate the opportunity to testify in support of the President's budget request for fiscal year 2018.

I am pleased to be joined by Chairman Dunford and the Department's new Comptroller, Under Secretary of Defense David Norquist.

This budget request holds me accountable to the men and women of the Department of Defense. Every day, more than two million Service members and nearly one million civilians do their duty, honoring previous generations of veterans and civil servants who have sacrificed for our country. I am mindful of the privilege it is to serve alongside them.

We in the Department of Defense are keenly aware of the sacrifices made by the American people to fund our military. Many times in the past we have looked reality in the eye, met challenges with Congressional leadership, and built the most capable warfighting force in the world. There is no room for complacency and we have no God-given right to victory on the battlefield. Each generation of Americans, from the halls of Congress to the battlefields, earn victory through commitment and sacrifice.

And yet, for four years our military has been subject to or threatened by automatic, across-the-board cuts as a result of sequester—a mechanism meant to be so injurious to the military it would never go into effect. In addition, during nine of the past ten years, Congress has enacted 30 separate Continuing Resolutions to fund the Department of Defense, thus inhibiting our readiness and adaptation to new challenges.

I need bipartisan support for this budget request. In the past, by failing to pass a budget on time or eliminate the threat of sequestration, Congress sidelined itself from its active Constitutional oversight role. It has blocked new programs, prevented service growth, stalled industry initiative, and placed troops at greater risk. Despite the tremendous efforts of this committee, Congress as a whole has met the present challenge with lassitude, not leadership.

For much of the past decade, my predecessors and prior members of the Joint Chiefs of Staff testified that sequestration and the continued use of Continuing Resolutions would result in a steady erosion of military readiness. In 2013, then-Secretary of Defense Leon Panetta, former Chairman of the House Budget Committee and the former Director of the Office of Management and Budget, testified sequester was “guaranteed to hollow out the force.”

I retired from military service three months after sequestration took effect. Four years later, I returned to the Department and I have been shocked by what I've seen with our readiness to fight. For all the heartache caused by the loss of our troops during these wars, no enemy in the field has done more to harm the readiness of our military than sequestration. We have only sustained our ability to meet America's commitments abroad because our troops have stoically shouldered a much greater burden.

It took us years to get into this situation. It will require years of stable budgets and increased funding to get out of it. I urge members of this committee and Congress to achieve three goals:

- First, fully fund our request, which requires an increase to the Defense budget caps;
- Second, pass a fiscal year 2018 budget in a timely manner to avoid yet another harmful Continuing Resolution; and
- Third, eliminate the threat of future sequestration cuts to provide a stable budgetary planning horizon.

Stable budgets and increased funding are necessary because of four external forces acting on the Department at the same time.

The first force we must recognize is 16 years of war. This period represents the longest continuous stretch of armed conflict in our Nation's history. In more than a quarter century since the end of the Cold War, our country has deployed large-scale forces in active operations for more months than we have been at peace.

When Congress approved the All-Volunteer Force in 1973, our country never envisioned sending our military to war for more than a decade without pause or conscription. America's long war has placed a heavy burden on men and women in uniform and their families.

In recognition of these demands, Congress devoted more resources to recruiting and retaining members of the military. As a result, personnel costs as a fraction of the defense budget have risen over time.

Meanwhile, the war has exhausted our equipment faster than planned. Congress and the Department could not anticipate the accumulated wear and tear of years of continuous combat use. We have had to procure replacement gear and spend more money to keep gear serviceable and extend its service life. Due to this extensive use of our equipment across the force, operations and maintenance costs have also increased, rising faster than the rate of inflation during the past 16 years.

Worn equipment and constrained supplies have forced our personnel to work overtime while deployed or preparing to deploy. That too has placed an added burden on the men and women who serve and on their families. This further degrades readiness in a negative spiral, for those not in the fight are at a standstill, unable to train as their equipment is sent forward to cover shortfalls or returned for extensive rework.

My predecessor, Secretary Gates, stated annualized real defense budget increases and efficiencies of two to three percent above inflation are needed to sustain the All-Volunteer Force in a way that keeps personnel, modernization, and readiness accounts in balance. In the six years since the passage of the Budget Control Act, a period of declining, flat, or modestly increasing budgets, we have not kept this balance.

Not long ago we convinced ourselves that when we pulled out of Iraq and ceased combat operations in Afghanistan, we would take two or three years to "reset and reconstitute" the force. Today's operations dictate the best we can do is "reset and reconstitute in stride," a reality that imposes its own stress on the Force.

A second concurrent force acting on the Department is the worsening global security situation. Our challenge is characterized by a decline in the long-standing rules-based international order, bringing with it a more volatile security environment than any I have experienced during my four decades of military service.

The most urgent and dangerous threat to peace and security is North Korea. North Korea's continued pursuit of nuclear weapons and the means to deliver them has increased in pace and scope. The regime's nuclear weapons program is a clear and present danger to all, and the regime's provocative actions, manifestly illegal under international law, have not abated despite United Nations' censure and sanctions.

We also look on the prospect of a new era, one governed by today's economic realities and returning once again to a balance of powers. A return to Great Power competition, marked by a resurgent and more aggressive Russian Federation and a rising, more confident, and assertive China, places the international order under assault. Both Russia and China object to key aspects of the international order so painstakingly built since the end of World War II. Both countries are making their objections known by challenging established international norms, such as freedom of the seas and the sovereignty of nations on their periphery.

Moreover, the breakdown of the broader Mideast order has given rise to terrorist groups, including Al-Qaeda and the Islamic State of Iraq and Syria (ISIS). Security vacuums have allowed a revolutionary Iranian regime to sow violence, provoke wider Sunni-Shia confrontation, and pursue regional hegemony. More broadly, this need to preserve our security also requires us to sustain the international presence in Afghanistan to help stabilize the South Asia region and deny terrorists a safe haven.

Instability in the Middle East spills over into other regions. Extremists and extremist ideologies have spread to Europe, Africa, and Asia. Numerous countries are dealing with forced migration of people seeking to escape violence and despair, reminding us that problems originating in ungoverned or combat torn areas don't remain there. The United States is engaged in the Middle East to help restore order and give the people who live there a more hopeful future, building a better security situation for Americans who want a safer and more prosperous world for our future.

As one observer of the world has noted, we are "faced with two problems: first, how to reduce regional chaos; second, how to create a coherent world order based on agreed-upon principles that are necessary for the operation of the entire system." That observer, Dr. Henry Kissinger, and his fellow members of the Greatest Generation witnessed first-hand the costs of military unpreparedness. They learned the paramount need to prevent hostile states from gaining dominance. And they understood that while there is no way to guarantee peace, the surest way to prevent war is to be prepared to win one.

Under any circumstances, however, reducing regional chaos in tandem with our interagency partners and international allies to help foster a coherent order requires adequate diplomatic and military resources.

Adversaries contesting the United States constitute a third force impacting the Department. For decades the United States enjoyed uncontested or dominant superiority in every operating domain or realm. We could generally deploy our forces when we wanted, assemble them where we wanted, and operate how we wanted. Today, every operating domain is contested.

Outer space, long considered a sanctuary, is now contested. This creates the need to develop capabilities and capacities for more resilient satellites designed to withstand persistent kinetic and non-kinetic attack.

Our dominance of the air is challenged by the proliferation of advanced integrated air defense networks and 5th-generation aircraft. The F-35 Joint Strike Fighter program, longer range weapons, and unmanned systems will help us impose our will on potential adversaries while preserving our aircraft and crews in combat.

Our command of the seas is threatened by long-range, land-based guided munitions battle networks designed to attack our ships at increasingly longer ranges. Our undersea superiority, unquestioned since the end of the Cold War, and a key competitive advantage, is challenged by both Russia and China.

Our dominance on land in conventional, high-end combined arms maneuver is threatened by the introduction of long-range air-to-surface and surface-to-surface guided weapons, advanced armored vehicles and anti-tank weapons, and tactical electronic warfare systems.

Cyberspace is now a contested operating realm at the strategic, operational, and tactical levels of war.

Finally, our air, naval, ground and logistics bases are all under threat of accurate, all-weather, day-night guided munitions bombardment. This will complicate our operations and make passive and active base defenses more necessary and urgent.

A fourth concurrent force acting on the Department is rapid technological change. Among the other forces noted thus far, technological change is one that necessitates new investment, innovative approaches, and when necessary, new program starts that have been denied us by law when we have been forced to operate under Continuing Resolutions.

Rapid technological change includes developments in advanced computing, big data analytics, artificial intelligence, autonomy, robotics, miniaturization, additive manufacturing, meta-materials, directed energy, and hypersonics—the very technologies that ensure we will be able to fight and win the wars of the future.

Many of these advances are driven by commercial sector demands and research and development. New commercial technologies will change society, and ultimately, they will change the character of war. The fact that many of these technological developments will come from the commercial sector means that state competitors and non-state actors will also have access to them, a fact that will continue to erode the conventional overmatch our Nation has grown so accustomed to.

In this competitive environment, the Department must pay much more attention to future readiness, and regaining our Joint Force conventional overmatch over time. We must be willing and able to tap into commercial research, recognize its military potential, and develop new capabilities and the operational and organizational constructs to employ them faster than our competitors.

We must also be prepared to deal with technological, operational, and tactical surprise, which requires changes to the way we train and educate our leaders and our forces, and how we organize for improved Departmental agility.

Improving our future readiness, rapid adoption of off the shelf technologies, and preparing to deal with surprise are critical to modernization efforts, but constrained

budgets and acquisition regulations have limited our ability to keep pace with rapid changes and sustain our competitive advantage.

In response to these realities, the Department must develop new weapons and capabilities, adjust concepts of operations, adapt our training, and spend more time war-gaming and exercising to improve our ability to fight and win.

Each of these four forces—16 years of war, the worsening security environment, contested operations in multiple domains, and the rapid pace of technological change—require stable budgets and increased funding to provide for the protection of our citizens and for the survival of our freedoms. Because as expensive as it is for the American people to fund the military, it is far less costly in lives and treasure than a conventional war that we are unable to deter because we are seen as weak.

I reiterate that security and solvency are my watchwords as Secretary of Defense. The fundamental responsibility of our government is to defend the American people, providing for our security—and we cannot defend America and help others if our Nation is not both strong and solvent. So we in the Department of Defense owe it to the American public to ensure we spend each dollar wisely. President Trump has nominated for Senate approval specific individuals who will bring proven skills to discipline our Department's fiscal processes to ensure we do so.

This first step to restoring readiness is underway thanks to Congress' willingness to support the Administration's request for additional resources in fiscal year 2017 to rebuild our most urgent needs. Your support of \$21 billion in additional resources allowed the Department to address immediate warfighting readiness shortfalls and to help fund the acceleration of the fight against ISIS.

This additional fiscal year 2017 funding addresses vital warfighting readiness shortfalls, a necessary investment to ensure our military is ready to fight today, by putting more aircraft in the air, ships to sea, and troops in the field. Additionally, the funding provided for more maintenance, spare parts, training time, flying hours, munition stocks, and manpower.

We all recognize that it will take a number of years of higher funding delivered on time to restore readiness. To strengthen the military, President Trump requested a \$639.1 billion topline for the fiscal year 2018 defense budget. Of this topline, \$574.5 billion supports Department of Defense base budget requirements—warfighting readiness and critical program requirements, including intelligence community requirements. The balance, \$64.6 billion, supports Overseas Contingency Operations (OCO) requirements.

The Department's fiscal year 2018 base budget with its \$52 billion increase above the National Defense Budget Control Act cap is the next step to building a larger, more capable, and more lethal joint force. The fiscal year 2018 budget reflects five priorities: restoring and improving warfighter readiness, increasing capacity and lethality, reforming how the Department does business, keeping the faith with Service members and their families, and supporting Overseas Contingency Operations.

The first priority is continuing to improve warfighter readiness begun in fiscal year 2017, filling in the holes from trade-offs made during 16 years of war, and six years of continuing resolutions and Budget Control Act caps. This budget request, as directed by the National Security Presidential Memorandum "Rebuilding the U.S. Armed Forces" issued on January 27, 2017, identifies and improves shortfalls in readiness, specifically in training, equipment, maintenance, munitions, modernization, and infrastructure.

The 30-Day Readiness Review, completed as part of the development of the fiscal year 2017 Request for Additional Appropriations, identified significant challenges to recovering readiness, including budget uncertainty, high operational tempo, and the time required to rebuild readiness properly. As a result of this review, the Department submitted the fiscal year 2018 budget request to enable the Joint Force to counter national security threats, fulfill steady-state demand, and implement readiness recovery plans.

The Army remains globally engaged with more than 180,000 Soldiers committed to combatant command deterrence and counterterrorism operations. The fiscal year 2018 budget will restore a larger, more capable and lethal modernized force to defeat emerging regional and global near-peer adversaries. Combat Training Center rotations and home station training will help the Army develop capabilities for full-spectrum warfare. Additional Soldiers, training, and equipment will enable the Army to make significant progress towards restoring and sustaining readiness longer.

The Navy will continue implementation of its Optimized Fleet Response Plan, reduce the long-term maintenance backlog, and train to ensure the Fleet is ready to fight. Requested funding provides stable and predictable maintenance and modernization plans, and forces trained to a single full-mission readiness standard. Pre-

dictably building readiness with continued implementation of the Optimized Fleet Response Plan will increase aircraft carrier availability, fund ship operations to the anticipated level of required operational days, and improve quality of work and quality of life for sailors.

The Air Force will restore funding to its Flying Hour Program, increase aircraft sustainment, and grow training resource availability. These steps will enable personnel to regain proficiency in critical skill areas. Investments into training ranges will increase capacity and modernize the simulated threats our young men and women need to overcome to counter adversaries. The Air Force will also invest in home station high-end training, reducing the requirement to deploy for training.

The Marine Corps is committed to remaining capable of responding to crises anywhere around the globe. Fiscal year 2018 investments emphasize readiness for deployed and next-to-deploy forces, maintenance for aging platforms, and funding to maintain critical modernization programs. Fully integrated Combined Arms Exercises for all elements of the Marine Air Ground Task Forces will help recover full-spectrum readiness.

The *second priority is increasing capacity and lethality* while preparing for future investment in the fiscal year 2019 budget, driven by results from the National Defense Strategy. The fiscal year 2018 budget request addresses resource gaps in the capabilities, readiness, and capacity needed to project power globally in contested environments, while emphasizing preparedness for future high-end security challenges. The budget request supports this priority through investment in advanced capabilities to reassert our technological edge over potential future adversaries, while having more units ready to fight.

The fiscal year 2018 budget request seeks to fill the holes and achieve program balance before beginning to significantly grow capacity in future years. Part of achieving a more capable force involves pursuing innovative ways to develop the force and concepts of operation to reverse unfavorable cost ratios adversaries would seek to impose on the United States in future warfighting environments. The fiscal year 2018 investments include power projection capabilities, nuclear modernization, a stronger missile defense, space-based systems, and cyberspace operations. Several of these options will expand the competitive space to our advantage vice allowing an adversary to define a conflict. Our budget request also ensures that the nation's current nuclear deterrent will be sustained, and supports continuation of its much needed modernization process.

The *third priority is reforming how the department does business*. I am devoted to gaining full value from every taxpayer dollar spent on defense, thereby earning the trust of Congress and the American people.

The Department is committed to reforming the acquisition enterprise to improve its ability to be innovative, responsive, and cost effective. The Department has begun implementation of a range of reform initiatives directed by the 2017 NDAA, to include disestablishment of the Under Secretary of Defense for Acquisition, Technology and Logistics, and the establishment of the Under Secretaries for Research and Engineering, and for Acquisition and Sustainment. Consistent with section 901 of the National Defense Authorization Act for fiscal year 2017, this change will be in effect by February 1, 2018, or sooner if I'm able to set the necessary conditions.

The fiscal year 2018 budget request includes notable reform efforts. I urge Congress to support the Department's request for authority to conduct a 2021 Base Realignment and Closure (BRAC) round, a cornerstone of our efficiencies program. The Department currently has more infrastructure capacity than required for operations—and foreseeable growth scenarios won't appreciably change this. I recognize the severity of BRAC's impact on communities and the careful consideration that members must exercise in considering it. In order to ensure we do not waste taxpayer dollars I would therefore greatly appreciate Congress' willingness to discuss BRAC authorization as an efficiency measure. That authorization is essential to improving our readiness by minimizing wasted resources and accommodating force adjustments. Waste reduction is fundamental to keeping the trust of the American people and is a key element of the efficiency/reform efforts that Congress and the Administration expect of us. Of all the efficiency measures the Department has undertaken over the years, BRAC is one of the most successful and significant—we forecast that a properly focused base closure effort will generate \$2 billion or more annually—enough to buy 300 Apache attack helicopters, 120 F/A-18E/F Super Hornets, or four *Virginia*-class submarines.

During fiscal year 2018 the Department is on track to enter into a full, agency-wide financial statement audit as required by statute. As part of this effort, the Department has established a Cost Decision Framework that leverages commercial best practices. This initiative will give decision makers the information they need to make a fully informed, cost-based decision.

The fourth priority is keeping faith with Service members and families. Military and civilian personnel are the foundation of the Department of Defense. The Nation's commitment to these patriots willing to serve our country is built into the fiscal year 2018 budget request and is demonstrated by the number of initiatives and programs to support their professional development and their personal and family lives.

Comprising roughly one-third of the Department of Defense budget, military pay and benefits are the single largest expense category for the Department. I believe providing competitive pay and benefits is a necessity to attract and retain the highly qualified people needed in today's military. The right people are the Department's most valuable asset, but we must continually balance these requirements against other investments critical to readiness, equipment, and modernization to ensure the military is the most capable warfighting force in the world. Balancing resources is particularly important as the Department reshapes the force needed to remain effective in an uncertain future. Investment in military compensation, Blended Retirement, the Military Health System, and family programs are essential to fielding the talent we need to sustain our competitive advantage on the battlefield.

The fifth priority is support for Overseas Contingency Operations. The Fiscal Year 2018 President's Budget requests \$64.6 billion, focusing on Operations in Afghanistan, Iraq, and Syria, increasing efforts to sustain NATO's defenses to deter aggression, and global counterterrorism operations. Specifically, ISIS and other terrorist organizations represent a clear and present danger. The United States remains united and committed with the 66 nations of the Defeat-ISIS Coalition—plus the European Union, NATO, Arab League, and Interpol—to destroy ISIS. We will continue to support partner nations' diplomatic and military efforts through a security cooperation approach. I am encouraged by the willingness of our allies and partners to share the burden of this campaign.

The fiscal year 2019 budget, informed by the National Defense Strategy, will grow the All-Volunteer Force. The Department will work with President Trump, Congress, and this committee to ensure the budget request we present for fiscal year 2019–2023 is sustainable and that it provides the Commander-in-Chief with viable military options in support of America's security.

Judicious spending of America's public money is critical to ensuring security while maintaining solvency. We already know we face a dilemma between increasing personnel end strength and force structure on the one hand, and investing in equipment as well as research and development on the other hand. These challenges are compounded by the pressing need to recapitalize the nuclear triad and the sealift fleet in the 2020s. The President's Nuclear Posture Review will look at all elements of U.S. nuclear forces to ensure that our nuclear deterrent, including our command, control, and communication systems, are appropriately tailored to deter emerging 21st Century threats.

I know we will have to make hard choices as we develop our new defense strategy and shape the fiscal year 2019–2023 defense program. With the help of Congress, I am confident we can build a force that is necessarily more lethal without placing an undue burden on the American economy.

I am keenly aware members of this committee understand the responsibility each of us has to ensuring our military is ready to fight today and in the future. I need your help to inform your fellow members of Congress about the reality facing our military—and the need for Congress as a whole to pass a budget on time.

Thank you for your strong support and for ensuring our troops have the resources and equipment they need to fight and win on the battlefield. I pledge to collaborate closely with you for the defense of our Nation in our joint effort to keep our Armed Forces second-to-none.

Chairman Dunford is prepared to discuss the military dimensions of the budget request.

Chairman MCCAIN. General Dunford?

**STATEMENT OF GENERAL JOSEPH F. DUNFORD, JR., U.S.
MARINE CORPS, CHAIRMAN OF THE JOINT CHIEFS OF STAFF**

General DUNFORD. Chairman McCain, Ranking Member Reed, distinguished members of this committee, thank you for the opportunity to join Secretary Mattis and Under Secretary Norquist with you today.

I am honored to represent your men and women in uniform, and it is because of them that I can begin by saying, with confidence, that your Armed Forces remain the most capable in the world.

However, the competitive advantage that the United States military has long enjoyed is eroding. A number of factors have contributed to the erosion. Chairman McCain, you mentioned several of these in your opening comments.

Since 9/11, an extraordinarily high level of operational tempo has accelerated the wear and tear of our weapons and equipment. Meanwhile, budget instability and the Budget Control Act have forced the Department to operate with far fewer resources than required for the strategy of record.

As a consequence, we prioritize near-term readiness at the expense of replacing aging equipment and capability development. We also maintain a force that consumes readiness as fast as we build it. We lack sufficient capacity to meet our current operational requirements while rebuilding and maintaining full spectrum readiness.

The Secretary and the Service Chiefs have addressed the dynamic in their testimonies, and I fully concur with their assessments. But beyond current readiness, we are confronted with another significant challenge that I assess to be now near term. While we have been primarily focused on the threat of violent extremism, our adversaries and potential adversaries have developed advanced capabilities and operational approaches specifically designed to limit our ability to project power. They recognize that our ability to project power is a critical capability necessary to defend the Homeland, advance our interests, and meet our alliance commitments.

As Secretary Mattis alluded to, Russia, China, and Iran have fielded a wide range of cyber, space, aviation, maritime, and land capabilities specifically designed to limit our ability to deploy, employ, and sustain our forces. Russia and China have also modernized their nuclear arsenal while North Korea has been on a relentless path to field a nuclear-armed ICBM that can reach the United States.

In just a few years, if we do not change the trajectory, we will lose our qualitative and our quantitative competitive advantage. The consequences will be profound. It will affect our nuclear deterrence, our conventional deterrence, and our ability to respond, if deterrence fails.

Alternatively, we can maintain our competitive advantage with sustained, sufficient, and predictable funding. To that end, the fiscal year 2018 budget is an essential step. However, this request alone will not fully restore readiness or arrest the erosion of our competitive advantage. Doing that is going to require sustained investment beyond fiscal year 2018.

Specific recommendations for fiscal year 2019 and beyond will be informed by the forthcoming National Defense Strategy. However, we know now that continued growth in the base budget of at least 3 percent above inflation is the floor necessary to preserve just the competitive advantage we have today, and we cannot assume that our adversaries will stand still.

As we ask for your support, we recognize the responsibility to maintain the trust of the American taxpayer. We take this responsibility seriously, and we continue to eliminate redundancies and achieve efficiencies where possible.

Thank you again for the opportunity to appear before you this morning, and, more importantly, thank you for ensuring that America's sons and daughters never find themselves in a fair fight.

With that, Chairman, I am prepared to take questions.

[The prepared statement of General Dunford follows:]

PREPARED STATEMENT BY GENERAL JOSEPH F. DUNFORD, JR.

Chairman McCain, Ranking Member Reed, distinguished members of this committee, thank you for the opportunity to join Secretary Mattis in appearing before you today.

The U.S. military's competitive advantage against potential adversaries is eroding. Over the last decade, sustained operational commitments, budgetary instability, and advances by our adversaries have threatened our ability to project power and we have lost our advantage in key warfighting areas. The Fiscal Year 2018 Budget Request will allow the Armed Forces to meet operational requirements, continue rebuilding warfighting readiness, and place the military on a path to balancing the Defense program. However, without sustained, sufficient, and predictable funding, I assess that within 5 years we will lose our ability to project power; the basis of how we defend the Homeland, advance U.S. interests, and meet our alliance commitments.

STRATEGIC ENVIRONMENT

In today's strategic environment, five key challenges—Russia, China, Iran, North Korea, and Violent Extremist Organizations—most clearly represent the challenges facing the United States military. They serve as a benchmark for our global posture, the size of the force, capability development, and risk management.

Over the past several decades, each of these state actors have developed capabilities and operational approaches to counter our strategic and operational centers of gravity. The United States' decisive victory in Desert Storm in 1991 was a wake-up call for our adversaries. For Russia and China, specifically, the lessons-learned spurred dramatic tactical, operational, and strategic adaptations. Observing the power and efficacy of precision guided munitions and combined arms maneuver, both countries accelerated modernization programs to asymmetrically counter U.S. advantages. They adapted operational constructs to incorporate anti-access technology and employed new doctrines to leverage high-tech weaponry across all domains. These efforts sought to limit U.S. freedom of navigation, deny our ability to gain and maintain air-superiority, negate the capability of our precision munitions, and limit our ability to employ sophisticated command and control systems.

Today, Russia continues to invest in a full-range of capabilities designed to limit our ability to project power into Europe and meet our alliance commitments to NATO. These capabilities include long-range conventional strike, cyber, space, electronic warfare, ground force and naval capabilities. Russia is also modernizing all elements of its nuclear triad and its non-strategic nuclear weapons. These capabilities are intended to enable Russia to counter United States and NATO power projection and undermine the integrity of the NATO alliance.

Similarly, China has embarked on a significant program to modernize and expand strategic and conventional military capabilities. They have expanded their nuclear enterprise and made investments in power projection, space, cyber, hypersonic weapons, cruise missiles, and ballistic missiles—even as they continue to build out their physical presence in the South China Sea. China is also investing heavily in 5th generation fighters, air-to-air missiles, air defense systems, and sea and under-sea anti-access technologies to limit our ability to project power, operate freely, and meet our alliance commitments in the Pacific.

Russia and China are not alone in these pursuits. North Korea's nuclear weapons development, combined with efforts to develop a nuclear-capable ballistic missile capability, is specifically intended to threaten the security of the Homeland and our Allies in the Pacific. Over the past year, North Korea conducted an unprecedented number of missile tests. Moreover, North Korea has demonstrated a willingness to use malicious cyber tools against governments and industry. These actions destabilize the region and pose an increasing threat to U.S. and our allies.

Iran seeks to assert itself as the dominant regional power in the Middle East. They continue to support international terrorist organizations like Hezbollah, and support proxies in Syria, Iraq, and Yemen to assert influence and counter the influence of the United States and our Allies. They actively seek to destabilize their neighbors, and employ naval capabilities that threaten freedom of navigation. At the same time, they are modernizing an array of ballistic missiles, missile defense, space, cyber, maritime, and cruise missile capabilities.

Finally, Violent Extremist Organizations such as ISIS and al Qaida remain a threat to the Homeland, our Allies, and our way of life. Violent extremism is fundamentally a transregional threat and a generational struggle that requires our military to work with interagency and coalition partners to disrupt external attacks, and dismantle their capabilities wherever they emerge. Even with the success of our continued efforts to defeat the Islamic State in Iraq and Syria, the threat of Islamic terrorism will remain.

A review of these five challenges demonstrates that the U.S. military requires a balanced inventory of advanced capabilities and sufficient capacity to act decisively across the range of military operations. As a nation that both thinks and acts globally, we cannot choose between a force that can address ISIS and other Violent Extremist Organizations, and one that can deter and defeat state actors with a full range of capabilities. Nor do we have the luxury of choosing between meeting our current operational requirements and developing capabilities that we will need to meet tomorrow's challenges.

However, as a result of sustained operational tempo and budget instability, today the military is challenged to meet operational requirements and sustain investment in capabilities required to preserve—or in some cases restore—our competitive advantage.

Sustained operational tempo and demand have forced the Department to prioritize near-term readiness at the expense of modernization. Additionally, a conscious choice was made to limit the size of the force in order to preserve scarce resources necessary for essential investments in immediate upgrades to critical capabilities. As a result, today, demand for high-demand/low-density specialties often outpaces supply. Particular stress is felt in specialties such as ISR, missile defense systems, naval expeditionary forces, special operations forces, global precision strike units, and cyber forces. Additionally, over the past 2 years, munitions expenditures in ongoing operations against Violent Extremist Organizations exacerbated existing shortfalls.

Making matters worse, for the past five years, the Budget Control Act (BCA) has forced the Department of Defense (DOD) to operate with about \$450 billion less than planned and required. These reductions have been aggravated by repeated Continuing Resolutions (CR) which hamper long-term investment and often result in increased costs. For nine of the last ten years, the Department of Defense has operated under some type of CR, delaying critical new starts, deferring installation and infrastructure modernization, and canceling major training events. A year-long fiscal year 2018 CR would cut \$33 billion from the Department's request, further exacerbating these problems.

Based on these factors, the Army has been forced to prioritize near-term readiness and now faces a shortage of critical capabilities and capacities in armor, air defense, artillery, and aviation. These deficiencies are made worse by manpower shortfalls in critical military specialties and training resource constraints. Consequently, the Army is limited in its ability to man, train, and equip fully-ready Brigade Combat Teams (BCT) and other critical enablers required to deploy, sustain, and protect servicemembers operating around the world.

For similar reasons, the Navy faces readiness challenges in both ships and aircraft. Operational requirements and capacity constraints in shipyards and aircraft depots have increased the time and cost required to conduct major repairs. Maintenance delays, low stocks of spare parts, lack of training ordnance, and aging infrastructure impair the Navy's ability to conduct integrated training. As a result, the Navy is limited in its ability to meet operational demand for maritime capability and power projection, especially in contested environments.

The Air Force is also challenged to balance operational demands and invest for the future. Today, the Air Force is short almost 1,500 pilots, including 800 fighter pilots, and more than 3,400 maintainers across all components. They lack sufficient resources to adequately support both 4th and 5th generation training. And they have delayed investment in 4th generation aircraft modifications while limiting the fielding of 5th generation strike-fighters. The result is fewer trained pilots available to deploy, over-tasked and aging aircraft, and delays in modernization programs required to defeat near-peer adversaries.

Over the last several years, the Marine Corps has been forced to delay planned investments in infrastructure, Command and Control, and ground systems required to build, train, and launch combat ready forces. Today, the Marine Corps lacks sufficient Ready Basic Aircraft for training and deployments and has delayed procurement of the F-35, CH-53K, MV-22, and KC-130J aircraft. These delayed investments limit the Marine Corps' strategic flexibility and inhibit its ability to meet operational demands.

If these trends continue, and the constraints of sequestration are not lifted, the Department will have to cut force structure, as the tradeoffs required to maintain the capability and capacity of the current force are no longer sustainable. Going forward, the Department of Defense requires sustained, sufficient, and predictable funding to meet current operational requirements, restore readiness shortfalls, and place us on a path toward restoring our eroded competitive advantage.

IMPACT OF FISCAL YEAR 2017 REQUEST FOR ADDITIONAL APPROPRIATIONS (RAA).

Congress' willingness to support the Administration's request for additional resources in fiscal year 2017 was a necessary first step to reverse the impacts of under-investment over the last five years. The fiscal year 2017 appropriation yielded improvements in immediate warfighting readiness by providing funding for modest increases to end strength that primarily filled holes in existing units, funding full spectrum training, beginning to replenish depleted ammunition stocks, and continuing the restoration and modernization of critical systems.

However, the fiscal year 2017 Appropriations Bill did not fully address the Department's modernization and procurement requirements and significant, long-term readiness challenges remain. The Services' inability to fully fund procurement of key platforms continues to hamper readiness by limiting the number and types of platforms available for initial entry training, individual proficiency, and collective training. Because of this, the military begins the fiscal year 2018 budget cycle in a less healthy position than if the fiscal year 2017 RAA was fully funded, making full and on-time funding of this budget even more critical.

INTENT OF THE FISCAL YEAR 2018 BUDGET: WHAT DOES IT DO?

The Fiscal Year 2018 Budget Request builds on the readiness recovery started in fiscal year 2017, starts to fill the holes created by the BCA, and begins to balance the program. It enables the Department to meet operational requirements, begin rebuilding mid- and long-term readiness, and begin restoring capability and capacity necessary to improve lethality. These are essential first steps in arresting the erosion of the military's competitive advantage.

In Afghanistan, fiscal year 2018 investments will reinforce improvements in the Afghan National Defense and Security Forces. In Iraq and Syria, the Budget Request funds emerging requirements and provides sufficient funding and authority for the defeat-ISIS train and equip fund. In Europe, the Budget Request provides a 40 percent increase in funding for the European Reassurance Initiative (ERI) that sustains ongoing assurance efforts, and improve the capability of the United States forces and our Allies to deter potential Russian aggression.

To rebuild warfighting readiness, the Army will fully man its combat formation, fund 19 Combat Training Center rotations in fiscal year 2018, and increase resources for home-station training to ensure units maximize full spectrum readiness. The Navy will provide flying hours and increase depot maintenance to enable integrated air/sea training. The Air Force will invest in training required to improve 4th and 5th generation warfighting capability. The Marines will increase funding for flying hours, logistics, and engineering units, and focus training resources on amphibious and combined arms operations.

Maintenance resources included in the Fiscal Year 2018 Budget Request also improve readiness. The Army will prioritize maintenance for equipment coming out of theater in order to prepare it for unit training and refill prepositioned stocks in Europe and the Pacific. The Navy will add critical workforce capacity that reduces ship and aviation depot maintenance backlogs. The Air Force will conduct overdue weapons system sustainment, increase maintenance for inter-theater airlift, and execute recapitalization of critical systems. The Marines will prioritize maintenance for MV-22, rotary wing, and fighter aviation to improve its survivability, mobility, and lethality.

To begin restoring capacity and lethality across the force, the Fiscal Year 2018 Budget makes critical investments in Tactical Air (TACAIR), ships, space, and cyberspace, and begins essential nuclear recapitalization efforts. Investments in TACAIR enable the Air Force, Navy, and Marine Corps to continue procurement of 5th generation fighters and fund upgrades to 4th generation fighters that fill short-

falls and begin to grow capacity. The Air Force will procure 46 F-35As and begin upgrades to F-16s. The Navy will procure 4 F-35Cs and 14 F/A-18E/Fs to mitigate its strike fighter shortfall. The Marines will procure 20 F-35Bs. These investments, coupled with investments in modernization of depot maintenance facilities, allow us to begin reversing the impact of delays in TACAIR modernization over the past five years.

The Fiscal Year 2018 Budget Request supports the Navy's growth by supporting the procurement of 9 ships and continuing necessary investments to upgrade and modernize nuclear aircraft carriers, destroyers, littoral combat ships, *Ticonderoga*-class cruisers, amphibious assault ships, and submarines. These investments are essential to enabling the Navy to project power, ensure forward presence and deterrence, ensure access to the global commons, and provide ballistic missile defense.

Continued improvement in space-based systems enables us to better protect satellites, improve tracking/discrimination capabilities, and continue domestic launch development. Cyberspace investments prioritize hardening information networks, defending against cyber-attacks, and continuing to build, train, and equip cyber mission forces and maturing cyberspace command and control. These advances improve both offensive and defense space and cyberspace capabilities and enhance the resiliency of our systems and networks.

The Fiscal Year 2018 Budget Request also invests in upgrades to the nuclear enterprise, including inter-continental ballistic missiles, nuclear submarines, strategic bombers, and command and control systems. Continuing to maintain a secure and effective nuclear deterrent is essential to defending the Homeland.

However, the Fiscal Year 2018 Budget Request alone will not fully restore readiness or arrest the military's eroding competitive advantage. Reversing the impact of the past five years of sustained operational tempo and budget instability requires sustained investment beyond fiscal year 2018.

WHAT FISCAL YEAR 2018 BUDGET REQUEST DOESN'T DO: AREAS FOR CONTINUED INVESTMENT.

Specific recommendations for fiscal year 2019, and beyond, will be informed by the results of the National Defense Strategy. Today, however, we know that continued investment is needed to execute responsible growth in capacity, build advanced capabilities, and restore the long-term readiness. These investments are essential to ensuring our ability to project power and maintain a credible strategic deterrent.

We continue to consume readiness as fast as we build it and lack sufficient capacity to both meet today's operational requirements and rebuild the competencies necessary to defeat near-peer adversaries. As a result, our units are training to meet their assigned missions at the expense of training for their designed mission. To break this cycle, we must increase capacity in critical areas such as C4ISR, fighter aircraft, armored BCTs, amphibious ships, and special operations forces. This additional capacity will allow us to meet today's requirements and prepare for tomorrow's.

We must also invest in advanced capabilities required to defeat near-peer adversaries. As we have prioritized readiness for ongoing operations, our adversaries have prioritized investment in technologies that exploit our vulnerabilities and limit our ability to project power. To ensure our competitive advantage, we must accelerate investments in systems that defeat adversary anti-access capabilities at sea and under the sea, improve our ISR resiliency, guarantee access to space and cyber, and enable us to defeat integrated air defenses. These advanced capabilities are vital to maintaining the U.S. military's competitive advantage in all environments and across all domains.

It is also essential that we restore Comprehensive Joint Readiness, the ability of the U.S. military to deploy, employ, and sustain itself anywhere in the world, while maintaining the flexibility to transition from one crisis to another, across the range of military options. This requires sufficient capacity, the necessary capabilities, and iterative training. Our Air Force must possess the right mix of 4th and 5th generation aircraft and have sufficient capacity to conduct integrated training. Our Navy must grow and modernize while preserving a globally-present fleet, capable of sailing and operating anywhere in the world. The Army and Marine Corps must fill unit short-falls and upgrade ground tactical vehicles while expanding full spectrum training. These investments are essential to projecting power in contested environments against any adversary and operating across the spectrum of conflict.

Additionally, we must invest in maintaining a credible strategic deterrent. Due to fiscal constraints, we have delayed modernization of all three legs of the nuclear triad and are now approaching decision points with no remaining schedule margins. Over the coming decades we must recapitalize our inter-continental ballistic mis-

siles, ballistic missile submarines, strategic bombers, and many of our command, control, and communication systems. Recapitalization costs will be significant and can no longer be delayed if the United States wants to maintain a safe, secure, and effective nuclear deterrent.

CONCLUSION

Today, despite the challenges facing us, our military is the most capable military in the world. We need sustained, sufficient, and predictable funding to grow sufficient capacity, develop the correct mix of advanced capabilities, and ensure a ready force. These investments are necessary to ensure our ability to defend the Homeland and project power when and where required. With your help and commitment, we can preserve our competitive advantage and ensure that we never send America's sons and daughters in to a fair fight.

Chairman MCCAIN. Secretary Norquist?

Secretary NORQUIST. Mr. Chairman, I have no separate opening remarks.

Chairman MCCAIN. Thank you.

Secretary MATTIS, the committee received unfunded requirement lists from each of the military services that amounted to more than \$31 billion. Have you reviewed those unfunded requirements lists?

Secretary MATTIS. I have, Chairman.

Chairman MCCAIN. Do you agree these are military requirements that should be funded?

Secretary MATTIS. Chairman, I think we have our priorities right in the base budget, but I have reviewed the unfunded requirements. I believe it is \$33 billion, and I think if we were to receive more money, those requests are appropriate.

Chairman MCCAIN. I guess my question is, is it your request that we give you \$31 billion more?

Secretary MATTIS. Chairman, I am here to defend the budget as it stands because I can defend every priority there. If the Congress were to allocate additional funds to national defense, I believe the unfunded priorities lists give good priorities.

Chairman MCCAIN. So you are satisfied with what is basically a 3 percent increase in budgetary requirements?

Secretary MATTIS. Chairman, when it comes to defense, sir, at this point, I think that the President's Budget is allocated appropriate to the priorities. The priorities listed by the Service Chiefs, as we go more deeply into the readiness challenge, are certainly well-tuned to what we need.

I would be happy to see more money, if the Congress was to allocate additional funds along the lines of the unfunded priorities lists.

Chairman MCCAIN. Well, I appreciate your willingness to cooperate. But a lot of times, we depend on your recommendations in shaping our authorization and appropriations.

Secretary MATTIS. Yes, sir. I cannot think of any priorities I would put in place of the unfunded priorities list, if we are given additional money, sir. That would be a decision by you. I have to represent the President's Budget, since he is having to deal with a wider portfolio than just defense.

Chairman MCCAIN. Let me put it this way, will this 3 percent increase give you the confidence that we need that we are doing everything we can to make sure that our men and women serving in uniform are adequately equipped and trained and ready to fight?

Secretary MATTIS. Chairman, it took a good many years to get into the hole we are in. It will not be enough in itself to take us where we need to go. It is going to be a campaign, as I laid out, that started with our request for an additional \$30 billion during this fiscal year, the growth that we have in the 2018 budget. When I get done with the defense strategy and review that, we will be coming back to you for more and probably along the lines of close to 5 percent growth, 3 to 5 percent growth for 2019 to 2023.

But, no, it will not take us the whole way. It is in the right direction.

Chairman MCCAIN. It is now mid-June. Congress has not passed a fiscal year 2018 budget, something that should embarrass every Member of the Senate and House. Neither the House nor the Senate has started drafting or considering appropriations bills, because there is no resolution of the topline.

This body knows what needs to be done, a bipartisan budget deal to set the budget levels, but it has refused to begin such work. If we do not begin negotiating today, it is very likely the military once again will begin the fiscal year on a continuing resolution.

What would be the impacts of starting this year on a continuing resolution at the Budget Control Act levels, or \$52 billion less than your request?

Secretary MATTIS. Chairman, it can only worsen the readiness situation we face now, which has been laid out starkly, I believe, by the Service Chiefs, if we go in with a continuing resolution.

Chairman MCCAIN. The first conversation that you and I had was about a strategy for Afghanistan. We are now 6 months into this administration. We still have not got a strategy for Afghanistan.

It makes it hard for us to support you when we do not have a strategy. We know what the strategy was for the last 8 years: Do not lose.

That has not worked. I just mentioned in my opening statement that we just lost three brave Americans.

When can we expect the Congress of the United States to get a strategy for Afghanistan that is a departure from last 8 years which is, do not lose?

Secretary MATTIS. I believe by mid-July we will be able to brief you in detail, sir. We are putting it together now, and there are actions being taken to make certain that we do not pay a price for the delay. But we recognize the need for urgency, and your criticism is fair, sir.

Chairman MCCAIN. Well, I am a great admirer of yours, Mr. Secretary, and so are those men and women who have had the honor of serving under you. But we just cannot keep going like this. You cannot expect us to fulfill the three requirements that you gave—funding increase, pass a budget, present a stable budget—if you do not give us a strategy.

I hope you understand that I am not criticizing you, but there are problems within this administration. I was confident that within the first 30 to 60 days we would have a strategy from which to start working. So all I can tell you is that, unless we get a strategy from you, you are going to get a strategy from us. I appreciate our wisdom and knowledge and information and all of the great things,

with the exception of some to my left here, but the fact is, it is not our job. It is not our job. It is yours.

I have to tell you, the frustration that I feel is obviously palpable because it is hard for us to act when you do not give us a strategy, which then leads to policy, which then leads to authorization, which is our job. So I hope you understand that we are going to start getting more vocal in our criticism of not having a strategy for Afghanistan.

Do you agree that we are not winning Afghanistan?

Secretary MATTIS. Sir, I understand the urgency. I understand it is my responsibility. We are not winning in Afghanistan right now, and we will correct this as soon as possible.

I believe the three things we are asking for stand on their own merit, however, as we look more broadly at the protection of the country. But in no way does that relieve me of the need to deliver that strategy to you, sir.

Chairman MCCAIN. I thank you, General, and I understand very well, as do members of this committee, that some of this is beyond your control. But at some point, we have to say, look, the Congress owes the American people a strategy which will then lead to success in Afghanistan. I am sure that the three names that I just mentioned in my opening statement, their parents and their wives and their husbands and their families, members of their family, are very aware that we have no strategy.

So let's not ask these families to sacrifice any further without a strategy which we can then take and implement and help you. I am fighting as hard as I can to increase defense spending. It is hard when we have no strategy to pursue. So I hope you understand the dilemma that you are presenting to us.

Secretary MATTIS. I do, sir.

Chairman MCCAIN. Senator Reed?

Senator REED. Thank you very much, Mr. Chairman.

Mr. Secretary, as we discussed in your testimony, and in the chairman's and in my testimony, even if you get the additional \$52 billion, with sequestration in place, you would essentially have to turn around and forfeit that in across-the-board cuts. Is that your understanding?

Secretary MATTIS. Yes, sir.

Senator REED. Those across-the-board cuts would be more disruptive than anything I could conceive, because there would be no prioritization. It would just be taking from the most sensitive program and, in fact, leaving money in programs that might not even need it. Is that correct?

Secretary MATTIS. That is correct, sir. It would be injurious. Again, it would sideline both this committee and myself in making wise decisions.

Senator REED. Did you make that point to the President, in terms of the ultimate consultation about this budget, in his role as Commander in Chief?

Secretary MATTIS. I assure you, sir, President Trump is keenly aware of this situation.

Senator REED. What is his position on sequestration?

Secretary MATTIS. I would prefer to speak to mine, sir, because I can speak most authoritatively there. The bottom line is the ad-

ministration believes that the Congress has to repeal the Budget Control Act and the sequestration that follows.

Senator REED. But wouldn't it be not only appropriate but essential that that be incorporated in the President's Budget because the ramifications of sequestration are clearly played out in every aspect of the budget? Remaining silent, as I believe he did in the budget, leaves a lot of people wondering what is his real position or does he even understand what is going on?

Secretary MATTIS. Senator Reed, we are part of the executive branch and Article One of the Constitution gives you that authority to deal with that very situation. I think we all know what needs to be done. I have heard it from Republicans and Democrats on this committee for a long time.

Senator REED. But the interesting thing is I have not heard a clarion call from the President and also a practical response and solution as to how we not only undo the BCA but how do you then allocate resources between defense spending, domestic spending, and other spending. Without that, again, it goes in the same trajectory of no strategy.

There is no budgetary strategy here either. It is just, "Congress do something." I thank the chairman's point is, it is very late in the game, and the ability for us just institutionally to rewrite a budget, to reallocate resources between defense and nondefense, to increase defense spending without any guideline or framework from the administration, it is not impossible, it is very difficult.

Do you sense that?

Secretary MATTIS. Senator Reed, we have submitted a presidential budget for the Department of Defense. We believe that is guidance. We have submitted the unfunded priorities list from the Pentagon, in accordance with the will of Congress, and we believe that is guidance for what we need.

Senator REED. Just a final point, Mr. Secretary. I do, like all my colleagues, respect you immensely. But the budget that is submitted will not work. If nothing is done to change the BCA, sideline the BCA, the \$52 billion we give you, we will take back, in fact in a more harmful fashion even if we did not give it to you. If we just left the BCA levels, at least you could prioritize.

So let me just change gears for a moment. Have you received direction, you and your colleagues in the national security agencies, from the President to begin intense planning and preparation for what appears to be an inevitable renewal of cyberattacks by Russia against the United States, particularly in the context of elections? Have you received any guidance?

Secretary MATTIS. We are in constant contact with the national security staff on this, and we are engaged not just in discussing the guidance but in actual defensive measures, sir.

Senator REED. That guidance, the President has clearly laid out, in some type of authoritative way, the mission to protect the country in this respect? Or is it something just collateral to your discussions?

Secretary MATTIS. Senator, I am under no confusion whatsoever of my responsibilities in the organizations I have, the National Security Agency and Cyber Command, about what we are supposed

to be doing right now. We are taking active steps that I can brief you on in a closed hearing.

Senator REED. So, General Dunford, I think you testified previously that Russia represents the most significant threat to the United States, not only in their new area denial systems that I think you alluded to, but also in their cyber operations. Is that still your position?

General DUNFORD. It is, Senator. I included their nuclear capability as well as their behavior.

Senator REED. Again, finally, in my last few seconds, do you believe that is the position of the President of the United States, that Russia, particularly in all these new dimensions, is the most significant threat to the United States, Mr. Secretary?

Secretary MATTIS. Sir, I prefer to let him speak for himself on that. I can assure you that, from law enforcement to the intelligence agencies, and all that information is available and briefed to the President, we are recognizing the strategic threat that Russia has provided by its misbehavior.

Senator REED. But you recognize it. The question is, does he recognize it?

Secretary MATTIS. Sir, I have had full support, for example, for the European Reassurance Initiative [ERI], where we are sending more troops to Europe. They are not being sent there for any reason other than to temper Russia's designs. I have had full support on the things that we have had to do in order to address Russia's choices.

Senator REED. Thank you, Mr. Secretary.

Thank you, General Dunford.

Chairman MCCAIN. Senator Wicker?

Senator WICKER. Thank you, gentlemen. Thank you for your service.

Let me just say this about sequestration. When I think about the failure of this Congress and this government to deal with this, I look in the mirror and I take my share of the responsibility. One thing that has not been said is that the reason we got to sequestration to start with is that there is two-thirds of American spending that is on autopilot. It is very popular programs, the entitlement programs, Medicare, Medicaid, Social Security, and, of course, interest on the debt. Sequestration was meant to focus us on that two-thirds of the budget that we do not deal with every year.

We have been unwilling politically to do that on both sides of the aisle. Until we do that, we are not going to really be able to get back to the problem that got us to sequestration to start with.

But let me talk about something, Secretary Mattis, that might save us a good deal of money, and that is multiyear procurement authority, which is assumed in your budget proposals for destroyers, fast attack submarines, and V-22 aircraft.

It is my understanding that the Cost Assessment and Program Evaluation office, or CAPE, that the Navy and OMB all agree that savings would be significant if we go with multiyear procurement authority, but we lack at this point a preliminary determination to begin to implement this. A final determination can come later, but we need the preliminary determination.

So are you aware of this situation, Secretary Mattis? Do you agree that the assumption in your budget is correct, that this will save money? Can you help us on this?

Secretary MATTIS. Senator, I have no doubt it would save money to have multiyear procurement, especially of things that take a lot of steel, a lot of equipment to build. The economies of scale allow for enormous savings. We would have to have a repeal of the BCA Act in order to give the confidence to industry that they can buy that stuff and it will not sit in the shipyard when funding dries up the next year.

So again, we come right back around to the very thing the chairman and the ranking member have been discussing about what BCA does to us. It removes the chance for even wise investment of the money you give us, sir.

Senator WICKER. Okay, but at this point, the immediate situation is that I need you to commit to this committee that you will intervene to ensure that we get the preliminary determination necessary to move us forward at that point. We do not need to repeal BCA to get that done. Will you help us on that?

Secretary MATTIS. We will help you. Yes, sir.

Senator WICKER. All right. Thank you very much.

Now let me ask you, in the remaining time, I appreciate what has been said about winning in Afghanistan. Now I noticed, over the last few days, a group of my colleagues have advocated just, "It has been too long. We need to look at the timetable. A decade and a half is too much. We just need to pull out and let Afghanistan take care of itself."

Let me just say I think that would be a massive mistake which would affect the security of Americans. I hope you agree with that.

So if you could comment on that, but also define for us what winning in Afghanistan means. If we are successful there and have a follow-on force that is not involved in combat, much as we have had for 70 years in Europe and a long, long time in South Korea, that would be certainly something that I could live with.

But if you would comment on that in my time remaining?

Secretary MATTIS. I believe you are correct that to walk away from this, we have already seen what can come out of these kinds of spaces, these ungoverned spaces. The problems that originate there do not stay there. They come out. They threaten all of us. They threaten the world order. They threaten our economy. They threaten our very country.

As far as what does winning look like, the Afghan Government, with international help, will be able to handle the violence, drive it down to a level that local security forces can handle it. With our allies, it would probably require a residual force doing training and maintaining the high-end capability so that the threats, should they mature, we can take them down and keep this at a level of threat that the local government and the local security forces can handle.

It is going to be an era of frequent skirmishing, and it is going to require a change in our approach from the last several years, if we were to get it to that position.

Senator WICKER. Do the people of Afghanistan want us there?

Secretary MATTIS. There is no doubt the majority do, sir. The reason the Taliban and Haqqani use bombs is because they cannot win at the ballot box, and they know that.

The people do want us there, and that is based on loya jirga outcome. That is the rather large assembly of local and provincial and national level leaders. Plus, it is based on polls not run by the United States but by other organizations.

I have no doubt the majority want us there. Not all of them do, but the ones who do not are not the ones who are looking forward to Afghanistan's future as we think it ought to look, we and the Afghan people.

Senator WICKER. Thank you, sir.

Chairman MCCAIN. Senator Gillibrand?

Senator GILLIBRAND. Thank you, Mr. Chairman.

I want to continue the line of questioning started by the ranking member.

I am deeply concerned about the success of Russian information warfare efforts in influencing the course of the 2016 elections here in the United States, as well as its efforts to destabilize democracies across the globe.

How is the Department working with other Federal agencies to counter Russian information warfare in the United States and the hacking of our electoral systems? How are you working with our partners and allies to fight these efforts? Secretary Mattis?

Secretary MATTIS. First of all, ma'am, there is constant information flow defining the problem as critical, because they try to do it in a deniable manner. So we work inside our interagency effort, law enforcement, everything from FBI [the Federal Bureau of Investigation] and any other police organization that gets information on this, but it mostly has been FBI. Our intelligence agencies work together, too.

We have good sharing of information, and we also work with our allies, sharing information back and forth. You have seen some of that. Some of it can be released. You will see it in the newspaper, about what is going on in other nations' elections right now, for example, in Europe.

Senator GILLIBRAND. This morning, Bloomberg reported that Russia managed to hack 39 States' electoral systems and attempted to alter data, though it was not successful.

Last week, a leaked NSA [National Security Agency] document suggested that GRU [the Main Intelligence Directorate], Russia's military intelligence agency, attacked a company that provides software to manage voter rolls in eight States, including New York. The attackers then used that information they stole to launch targeted attacks against 122 local election officials just 12 days before the election.

This information highlights the urgent need to protect our election infrastructure from cyberattack going forward to protect our democratic process. During the last election, several National Guard units assessed the States' election systems from these types of intrusions.

Senator GILLIBRAND. Do you think there is a role for the National Guard, with its unique authorities, in assisting and securing election systems?

Secretary MATTIS. There may be, ma'am. I think our organization right now is still adapting to this new domain. One of the reasons we do not want continuing resolutions [CR] is because we have to do new things. I also assume in something like this that what you just outlined is not the whole problem. It is worse.

Senator GILLIBRAND. Do you think we should consider a 9/11-style commission to just do a deep dive on where are our cyber vulnerabilities, what are the 10 things we need to do to prevent cyberattack in the future, in the same way the 9/11 commission made recommendations that, frankly, have subverted terror attacks, certainly in New York State, over the last decade, because those recommendations really did have an impact on how to protect against future terrorism?

Secretary MATTIS. Senator, I would have to look at what is the problem we are trying to solve. I think reorganization of Cyber Command [CYBERCOM] and NSA along the lines that have been proposed by the Congress, I think that also is part of defining the problem and defining the defensive measures that we need to take.

But I would not be against something like that. I would have to look at what the specific problem is it would be assigned to do, but I am not against that.

Senator GILLIBRAND. It would just make recommendations to prevent another cyber hack of our elections, just the same way the 9/11 commission did it, basically impaneling nonpartisan experts in cyber to just come up with the 10 things we need to do.

Secretary MATTIS. Yes, I will just tell you we have efforts underway to do these very things right now. But at the same time, I am not against what you are proposing.

Senator GILLIBRAND. Okay. I want to talk a little bit about sort of the world order, in my last 1.5 minutes.

President Trump's decision to withdraw from the Paris Climate Agreement was just one of the several signals to the world that the administration is repositioning the United States not as a global leader but as a country focused exclusively on its interests. Upon his return, National Security Adviser H.R. McMaster and Gary Cohn wrote in the Wall Street Journal, "The President embarked on his first foreign trip with a clear-eyed outlook that the world is not a 'global community' but an arena where nations, nongovernmental actors, and businesses engage and compete for advantage."

Our defense strategy has been predicated on working with allies to maintain the stability of different regions of the world, and yet this op-ed suggests that we would only work with allies and partners when it suits us. Is the Department redrawing its defense strategy around this new paradigm?

Secretary MATTIS. We do work by, with, and through allies. We have alliances. We have bilateral agreements. I think that we will continue to be working alongside others.

The Greatest Generation came home from World War II and said, like it or not, we are part of the world. That is a philosophy that guides our foreign policy, as well as our military policy.

Senator GILLIBRAND. Admiral Mike Mullen, former Chairman of the Joint Chiefs, and former National Security Adviser Jim Jones just wrote an opinion piece on the same topic, and you said some-

thing similar several years ago, that the less we invest in diplomacy, the more we invest in bullets.

Do you still agree with that analysis?

Secretary MATTIS. Yes, ma'am. It has to be a whole-of-government approach to the world. Absolutely.

Senator GILLIBRAND. Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Fischer?

Senator FISCHER. Thank you, Mr. Chairman.

Good morning, gentlemen. I would like to thank you both for your service and for being here today.

First, I would like to note my appreciation for this budget's strong support for nuclear modernization and the comments that both of you made on this issue in your prepared comments. I know, Mr. Secretary, you alluded to that in your opening statement as well. I was pleased to see the Department's request reflect the necessary prioritization for that nuclear modernization, so thank you for that.

General, in your opening statement, you said that you assess that, within 5 years, we will lose our ability to project power. Can you put that in context? What does being unable to project power do to our ability to protect our Homeland and deter conflict, meet our obligations to our allies, article 5 under NATO, for example?

General DUNFORD. I can, Senator. From my perspective, really since the 1990s, China, Russia, other countries, have studied United States capabilities from precision munitions to our ability to project power. We identify that as—we call it our center of gravity, but our source of strength, the ability to project power when and where necessary to advance our interests, to meet our alliance commitments.

We think that plays an important role in deterrence. It plays an important role in assuring our allies that we can meet our alliance commitments.

In the specific areas where they have invested in—anti-ship cruise missiles, anti-ship ballistic missiles, electronic warfare capabilities, cyber capabilities—all focus to prevent us from projecting power when and where necessary to accomplish our objectives. So they want to keep us from getting into the area. This is both the case with Russia with regard to our NATO alliances and China with regard to meeting our commitments in the Pacific. They want to keep us from being able to deploy forces into the area and to operate freely within the area.

So when I talk about competitive advantage, in my judgment, the problem that we are trying to solve is to continue to be able to do what we have historically been able to do, and that is simply to project power when and where necessary.

Again, I mentioned the role it plays in assuring our allies and meeting our commitments. I also believe that source of strength plays a very, very important role in deterring potential adversaries from initiating provocation or conflict.

Senator FISCHER. You mentioned that 5-year period. Do you believe that it is in doubt now?

General DUNFORD. It is eroding now. We have historically had the ability to do that, not uncontested but in a decisive way. I think our competitive advantage has eroded right now.

We would be challenged in projecting power today. We have done some very careful analysis at a classified level looking function by function at our current capabilities, our adversaries' current capabilities, the path of capability development that we are on, the path of capability development that our adversaries are on. What we have seen is an erosion over the past 10 years.

In our judgment, we will get to the point where we would suffer significant casualties and significant time delays in meeting our objectives and projecting power in 5 years.

Senator FISCHER. In 5 years. Do you think now that, regardless of our intent, we do not have the capability to act unless we change the path we are on?

General DUNFORD. Senator, I do not think there is any question that, unless we change the path we are on, we are going to be at a competitive disadvantage, qualitatively and quantitatively.

Senator FISCHER. So that is pretty consequential, isn't it?

General DUNFORD. Senator, to me, it affects our ability to deter conflict. It affects the confidence that our allies have in our ability to meet our commitments. At the end of the day, it makes it a more dangerous world, because both nuclear deterrence and conventional deterrence would be affected.

Senator FISCHER. If we are unable to meet the needs of the force that we have now, that they are incapable or that they are not ready, do you believe that any leader will send that force into the battle?

General DUNFORD. I think it would be very difficult for a leader to send a force in battle when his military leadership would articulate the risk associated with doing that.

I do want to make it clear, I believe we have a competitive advantage over any potential adversary today. What I am doing now is projecting into the future based on a trend line that we have seen over the past decade where we will be if we do not turn it around.

Senator FISCHER. Thank you.

Secretary Mattis, in the last 4 weeks, the United States has conducted three strikes against pro-regime forces that threaten coalition soldiers in Syria. Do I have your assurance that we are going to take any and all measures necessary to protect our forces in that area?

Secretary MATTIS. Absolutely, Senator. Those are self-defense strikes, and the commander on the ground has the authority to take whatever action necessary, and I support that.

Senator FISCHER. Okay. During your confirmation hearing, you talked about how Russia had chosen to be a strategic competitor. With respect to engagement with Russia, you stated, "I am all for engagement, but we also have to recognize reality and what Russia is up to. There is a decreasing number of areas where we can engage cooperatively and an increasing number of areas where we are going to have to confront Russia."

Do you believe this is still an accurate characterization of Russia's behavior?

Secretary MATTIS. I think there are very modest expectations for finding areas of cooperation right now with Russia until they change their behavior.

Senator FISCHER. Thank you, sir.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Heinrich?

Senator HEINRICH. Thank you.

Mr. Chair, first, I want to associate myself with the views of 16 former senior military leaders who submitted a letter today in support of foreign assistance. Specifically, they made the following point. "Proactive conflict prevention strategies are far less expensive in terms of resources and lives expended than reactive use of our Armed Forces."

This is signed by a number of folks we will all recognize, from General Breedlove to Admiral Mullen to General Petraeus to General McChrystal. I think we should keep that in mind when we review the President's Budget, which I believe is particularly short-sighted with regard to foreign assistance.

I want to move now, Secretary Mattis, to something you said at your confirmation hearing in January. I asked you for your assessment of the key threats to our vital interests and at what priority level. You said that the principal threats start with Russia.

Do you still view Russia as a significant threat to the United States?

Secretary MATTIS. Yes, Senator, I do.

Senator HEINRICH. Can you walk us through a little bit how this year's budget request invests in the resource areas, the programs, and the initiatives that can help counter those threats posed by Russia?

Secretary MATTIS. Senator, I think the European Reassurance Initiative [ERI] alone of \$4.8 billion is designed with one target in mind. That is to dissuade Russia from thinking that this is a time when they want to test NATO or the Americans.

I would also point out that, in terms of technology, we are looking at specific technologies that address some of the maturing threats that they have—air, space, underwater, that sort of thing.

I think, too, that the investment in pre-positioned equipment that allows us to move forces quickly into an area would cause a change in their strategic calculus, as far as the risk from their behavior, from their perspective, would go up.

There is also a fair amount of ground munitions and airfield enhancements that are going on specifically targeted to your concerns, Senator.

Senator HEINRICH. I want to thank you for that. I think those are all very important investments.

One of my concerns is that the Russians employed a set of hostile, highly asymmetrical tools during our election last year, and that for the cost of a fraction of a single ship, they were able to use very low-cost tools like hackers, trolls, and social media bots to manipulate our media and even penetrate our political and election structures.

Do we have an overall strategy to meet that threat either in CYBERCOM or as a whole-of-government approach?

Secretary MATTIS. Sir, we have vulnerability assessments and analyses going on that cause us to buttress our defenses in different areas to shift our filtering of information and to shift our

focus or intelligence services to define the problems to a level that we can figure out what to do about them.

So is there an overall strategy? We are working on a broader strategy that this would be part of. But right now, we have enough definition that we do not have to delay taking steps at this time intel-wise and defenses-wise against the Russian threat.

Senator HEINRICH. Should there be consequences when Russia does this kind of thing?

Secretary MATTIS. Absolutely. I mean, that is a decision that has to be taken by the Commander in Chief and certainly with the Congress' support, involvement. I think that this sort of misbehavior has got to face consequences and not just by the United States but more broadly.

Senator HEINRICH. I could not agree more.

I want to shift gears a little bit in my last 40 seconds or so.

You know my interest in directed energy weapons systems. They have enormous potential to be a game-changer, the kind of thing that we have seen change asymmetry in the past for our warfighters.

Section 219 of last year's defense bill instructs the Secretary of Defense to designate a senior official at the Pentagon to have principal responsibility for the development and transition of directed energy weapons systems. As of today, it is my understanding that this position remains unfilled.

Secretary, can I have your commitment today to meet this requirement and to assign someone this critical responsibility at the Pentagon?

Secretary MATTIS. Yes, sir. Thank you for bringing it up. I did not know I had that responsibility. I am learning more every day. If that is a responsibility you have assigned, it will be done. I will tell you that, right now, I have been briefed on directed energy R&D [research and development] and advances, so I know people are working it right now. But if we have not filled that line number, that assignment, I will get onto it.

Senator HEINRICH. I appreciate that very much.

Thank you, Mr. Chair.

Chairman MCCAIN. Senator Cotton?

Senator COTTON. Thank you, gentlemen.

I want to associate myself with the remarks about our budget picture that Secretary Mattis had and Chairman McCain had. I will say that I agree with Chairman McCain. I think the President's Budget is inadequate to the threats that we face.

But the more fundamental problem is the Budget Control Act, and the simple solution, colleagues, is to repeal the Budget Control Act. From Senator Fischer all the way down to my right, and Senator Donnelly all the way down to Senator Peters, not a single one of us was here in the summer of 2011 and voted for that bill.

The Budget Control Act is not the Constitution, and the 112th Congress was not the Constitutional Convention. We should simply repeal it.

Now some people say it is going to increase the deficit, but it is not going to go into effect. We know that. We know exactly what will happen. We will have a continuing resolution in September. We will have some kind of 2-year budget in October, November. We

will have an omnibus in December 2017, an omnibus in December 2018. Then we will do it all again in 2019.

Let's simply repeal the Budget Control Act and take our responsibilities seriously and own up for our annual budgeting cycle. I would urge all the Democrats and all the Republicans on this committee to work together to do so in the Senate itself.

Now, off my soapbox.

Mr. Secretary, the Open Skies Treaty allows for aerial surveillance of military forces. United States and Russia are both parties. However, according to the State Department, Russia has not been playing ball lately. They are denying the United States overflight of certain parts of their territory.

I know that we have sought resolution with Russia on these matters. My understanding is those efforts have come up empty.

Does the United States believe that Russia is in violation of the Open Skies Treaty?

Secretary MATTIS. We are meeting on that issue. I have been briefed on it, and we will be meeting with the State Department and the national security staff here in the very near future. There certainly appears to be violations of it, but I have to go into the meeting and figure out that I have all the information.

Senator COTTON. Would you care to elaborate in a classified manner, in this setting, on the nature of those violations?

Secretary MATTIS. There are areas that we have been prevented from overflying. I think some of the other aspects of it, I would prefer to talk privately with you. But that is one of the clear, to me, violations.

Senator COTTON. Could we get your commitment to submit a response on the record, classified or unclassified, as appropriate, once you have had those consultations?

Secretary MATTIS. I would prefer to do it even before I had the consultation. I can get it to you right away. I can tell you what we know right now, what we believe right now, and then we can update you later, sir.

Senator COTTON. That is fine, if we can get that on the record in writing.

[The information referred to follows:]

Secretary MATTIS. The Administration has determined that Russia is in violation of certain provisions of the Open Skies Treaty. First, it has established a limit of 500 kilometers over the Kaliningrad Oblast for all Open Skies flights originating from Kubinka airfield (rather than any portion of the 5,500 kilometer distance that Open Skies flights should be able to fly). Second, Russia has refused to allow Open Skies flights within a 10-kilometer corridor along its border with the Georgian regions of South Ossetia and Abkhazia. Third, Russia has failed to provide air traffic control facilitation during certain Open Skies flights and improperly invoked the doctrine of force majeure to require deviations from agreed flight plans. These actions violate Russia's obligations under provisions of articles VI, VIII, and Open Skies Consultative Commission Decision 3/04 of the Treaty on Open Skies.

General Dunford, while we are on the topic of Russian treaty violations, our EUCOM [European Command] commander, General Scaparrotti, testified in March, saying, Russia has repeatedly violated international agreements and treaties that underpin European peace and stability, including the Treaty on Intermediate-Range Nuclear Forces and the Treaty on Conventional Armed Forces in Europe.

Do you agree that Russia is in violation of both those treaties?

General DUNFORD. I do, Senator.

Senator COTTON. So let's put this plainly then. If Vladimir Putin wanted, he could hold United States troops in Europe at risk with nuclear-armed cruise missiles, and our only choices would be, one, we send 30-year-old F-16s with 30-year-old weapons against state-of-the-art Russian defenses, or we have a choice to escalate a tactical crisis to a strategic one by responding with long-range bombers or intercontinental missiles or submarine-launched ballistic missiles. Is that the situation we face in EUCOM right now?

General DUNFORD. Senator, that is a good reason why we have argued to modernize our nuclear enterprise and make sure we have an effective deterrent, an effective response.

Senator COTTON. One of the modernization priorities is the air-launched cruise missile, which is going on 40 years now. General Selva said, "A decade from now, ALCMs [air-launched cruise missiles] will not be able to penetrate Russian air defenses, and, therefore, there is an urgency to their replacement."

Given Russia's treaty violations and the imbalance between American and Russian nuclear forces, and the age of ALCM, do you agree that it is an urgent priority to replace the ALCM with the long-range standoff cruise missile?

General DUNFORD. Senator, as you know, we are going through a Nuclear Posture Review right now.

What I would say is this, the third leg of the triad, the bomber, needs to be able to penetrate. It needs to be able to achieve effects. That is the criteria that we should have going into the Nuclear Posture Review.

Senator COTTON. Thank you.

To conclude, we had Admiral Harris from PACOM [Pacific Command] in a few weeks ago as well. He pointed out that although China is obviously not a party to the INF [Intermediate-Range Nuclear Forces] Treaty, if they were, over 90 percent of their missiles would be banned by it. So the situation that we face is the INF Treaty gives China a lethal advantage over American forces in the Pacific. Russia is out-right ignoring the INF Treaty in Europe. We have no matching response to either of those threats. Even if we did, it would be illegal because we are literally the only Nation in the world that restrains itself from developing intermediate-range cruise missiles.

Is that right?

General DUNFORD. Senator, it is. I think what is important about the Chinese capability is that is in that category of anti-access/area denial that we discussed earlier, where the large number of missiles and rockets that they have do present a challenge to us as we try to project power.

Senator COTTON. It seems a critical strategic problem that we face. I know that you gentlemen are working to address it. I hope that we can do everything possible to help you. Thank you.

General DUNFORD. Senator, there is a wide range in the fiscal year 2018 budget. Frankly, we started in 2017, a wide range of capability areas, where we requested resources designed specifically for those challenges that you have articulated.

Chairman MCCAIN. Senator Warren?

Senator WARREN. Thank you, Mr. Chairman.

Thank you to our witnesses for being here today.

I want to ask about what is happening between Qatar and its neighbors. Last week, Saudi Arabia severed all diplomatic and economic ties with Qatar. Almost immediately, Bahrain, the UAE [United Arab Emirates], Egypt, and Yemen did the same.

This crisis began in part because it was reported that the leader of Qatar gave a speech praising Iran and criticizing other countries in the region. Now it appears that that was fake news and that the leader of Qatar gave no such speech. Now the media has reported that the FBI believes that it was actually the Russians who planted the story.

I do not want to ask a question that depends on classified information, so let me ask this question instead. If the news reports are accurate, what motive would the Russians have had for doing something like that?

Mr. Secretary, might you be able to answer that?

Secretary MATTIS. I think a disruption of the international order is something that Russia, in a shortsighted way, thinks works to their benefit. I think it does not, but I cannot speak for them.

I think what you are seeing here, though, is the continued prevalence of threats not just to our own country, not just to Western Europe democracies, but they are trying to break any kind of multilateral alliance, I think, that is a stabilizing influence in the world.

Senator WARREN. Good. Good, in terms of your description. This is very helpful, and I hope we are going to be able to get to the bottom of this.

Our intelligence agencies have told us that the Russians conducted a successful cyberattack against our 2016 elections. A few months later, the Russians tried to do the same thing in France. Now it appears they are trying to take this to a whole new level.

So I also, though, would like to ask for your help to clarify the U.S. policy on this current dispute. After the Saudis cut off diplomatic and economic ties, the President immediately tweeted his support for the move, saying, and I am going to quote here, "So good to see the Saudi Arabia visit with the King and 50 countries already paying off."

But soon afterward, Secretary of State Tillerson called on those countries to ease the Qatar blockade, saying it was, "hindering United States military operations in the region and the campaign against ISIS."

Then, in testimony to this committee, the Air Force Secretary contradicted Secretary Tillerson and said that the dispute was, in fact, not impacting air operations at Al Udeid, our base in Qatar.

Secretary Mattis, can you please clarify? What is the policy of the United States Government toward the current dispute among gulf countries in the Middle East?

Secretary MATTIS. Yes, ma'am.

Senator, the Secretary of the Air Force was referring to the operations at that one airbase. There is more than that going on in the region. So she was quite correct in what she was saying about that.

Secretary Tillerson was nonetheless correct as he looked more broadly at the situation where we have to work with many of what we call Gulf Cooperation Council states together.

We have friends in the region, Senator, who have problems. They admit it. One of the issues that came up when President Trump visited Saudi Arabia was their effort to turn off the spread of rabid ideologies that undercut stability and create the kind of the ocean in which the terrorists swim, that sort of thing.

So we have friends out there. We have to work with them. Our policy is to try to reduce this problem. But at the same time, we have to make certain that we are all working together and there is no funding, whether it be from a state or from individuals in the state, who can get away with it because there is a lack of oversight or law or that sort of thing.

So there are a lot of passions at play here. It is not tidy as we deal with it.

Senator WARREN. I understand that Qatar needs to do more to fight terrorism in the field. I just want to make sure I clarified the point and understood it correctly.

General Dunford, is the Qatar blockade affecting United States military operations?

General DUNFORD. Senator, it is not.

Senator WARREN. Okay.

General DUNFORD. We are watching that very, very closely, but we have had good cooperation from all the parties to make sure that we can continue to move freely in and out of Qatar where we have both an important airbase as well as the headquarters forward of the United States Central Command.

Senator WARREN. Good. Thank you very much.

I just want to say this cyberthreat appears to be getting bigger and bigger, more and more dangerous, taking on multiple permutations. I think that means it is really important, and I am going to ask you later for an update on the status of trying to implement our Cyber Command elevation. But this is something we have to fight back against.

Secretary MATTIS. We are on track with elevation.

Senator WARREN. Good.

Secretary MATTIS. It is going fine. I do not see any issues there. There are some other things about splitting them that we are working through, but we will work through it.

Senator WARREN. Good. Powerfully important.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Rounds?

Senator ROUNDS. Thank you, Mr. Chairman.

Gentlemen, thank you for your service to our country.

General Mattis, Secretary Mattis, do you see any way that the current budget could be operational with the Budget Control Act still in existence?

Secretary MATTIS. I believe Congress is going to have to remove the Budget Control Act in order for that to happen, so for this budget to go through.

Senator ROUNDS. Would it be fair to say that a continuing resolution has never saved money with regard to any of the defense programs?

Secretary MATTIS. Sir, I guarantee you continuing resolutions cost us more money for less capability.

Senator ROUNDS. Last week, Dr. Wilson and General Goldfein talked about the B-21 program and reiterated the importance that it stay on time and on budget.

The program ramps up next year from \$1.3 billion to \$2 billion requested for 2018. I also understand that a CR or a return to BCA funding levels could jeopardize funding for this and ultimately affect the timely fielding of this critical component of our future national security.

General Dunford, you just mentioned the fact that we absolutely have to have the long-range strike bomber with regards to our plans for delivering any type of weapons against the upgraded threats of our peer competitors. Would you care to comment on the need for the continuation on a timely basis of the development of the B-21?

General DUNFORD. Senator, I cannot comment on the timing. What I can tell you is we have done three Nuclear Posture Reviews since 2010 that I am aware of. All of them have validated the need for triad and emphasized the need for a bomber that had assured access.

So completely supportive of that, and I know that General Goldfein and the Secretary of the Air Force have testified as to the challenges with the timing of the B-21. I think that they have assured the committee that their leadership will be decisive in that program.

Senator ROUNDS. Thank you.

Secretary Mattis, for more than a year now, we have talked about cyber and about the need to define policy with regards to cyberattacks within the United States. We have put within the NDAA, the 2017 NDAA, a directive that the administration deliver a policy or a proposed policy back to Congress by December of this year. I believe that since this is coming through the NDAA, it is going to fall under your purview to see that it gets done. This would not necessarily identify an act of war, but rather those acts of aggression which are of sufficient duration, similar to what a kinetic attack would be, that it would impact our country.

Do you know if that study or that planning is ongoing at this time or if there is specific direction for individuals within the administration to comply with that NDAA directive?

Secretary MATTIS. Sir, I want to get back to you with a detailed answer on that one. I understand the question. I am not prepared to answer it right now.

[The information referred to follows:]

Secretary MATTIS. The recently signed Cybersecurity Executive Order, dated May 11, 2017, requires the Department of Defense to work with the other Executive Branch departments and agencies to develop strategic options for deterrence. Completion and consideration of this additional work will result in a more responsive and comprehensive report. I anticipate delivering this report to Congress by late summer 2017. The report requested in section 1654 subsection (b) of the 2017 National Defense Authorization Act will be provided to Congress 6 months thereafter.

I know that we have an awful lot of work going on. We are engaged in the operations. But the specific answer to your question I do not have right now. But I will get back to you.

Senator ROUNDS. Thank you, sir.

General Dunford, the need for cyber superiority, I think sometimes when we talk about air, land, and sea, and space, sometimes we forget to add in the fact that cyber is connected in all sequences. They are all connected.

Could you just share a little bit with the committee about the need to upgrade the cyber capabilities and our ability not only for defense but to be able to attribute the attacks, to defend against them but then to go back and respond? One step farther on that is to be able to survive the attack in such a fashion that we actually can respond afterwards.

General DUNFORD. Senator, thanks.

First, I would tell you that as we have analyzed today's conflicts and future conflicts, I would agree with you completely. We used to talk about multidomain. Now we talk about all domain. You refer to all of them: sea, land, air, space, and cyberspace. So we do expect cyberspace to be integral to any campaign that we would conduct in the future.

The requirements start with making sure that our own network is protected. We provide support to the rest of government but our own network is defended, to include our command and control systems. We talked earlier about nuclear, our nuclear command-and-control systems.

But our mission of defense in the Department also requires us to be able to take the fight to the enemy, which is an integral part of any campaign that we would wage. That requires us, as you suggested, one, to be able to attribute attacks and then provide the President with viable options in response.

Although I would tell you the one thing that we emphasize is that just because the enemy chooses to fight in cyberspace does not mean our response has to be limited to cyberspace. In other words, we may experience a cyberattack, but we will take advantage of the full range of capabilities that we have in the Department to respond.

Senator ROUNDS. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Kaine?

Senator KAINE. Thank you, Mr. Chairman.

Thank you to the witnesses for your testimony and for your service.

In March, you each testified before the Defense Subcommittee of Senate Appropriations on a topic that I care deeply about, which is Authorization for Use of Military Force [AUMF] in the ongoing military effort against ISIS. The record would reflect, Secretary Mattis, you stated, "I would take no issue with the Congress stepping forward with an AUMF. I think it would be a statement of the American people's resolve, if you did so. I thought the same thing for the next several years, I might add, and have not understood why the Congress has not come forward with this, at least to debate, because I believe ISIS is a clear and present danger we face."

The testimony of General Dunford on March 22nd, the same hearing, "I agree with the Secretary. I think not only would it be a sign of the American people's resolve but, truly, I think our men and women would benefit from an Authorization for Use of Military

Force that would let them know that the American people, in the form of their Congress, were fully supportive of what they are doing out there every day as they put their lives in harm's way."

Is that still an accurate reflection of both your views sitting here today in June?

Secretary MATTIS. Yes, it is, Senator, for me.

General DUNFORD. Absolutely, Senator.

Senator Kaine. Senator Flake and I are members of the Senate Foreign Relations Committee and have introduced an authorization trying to square some difficult circles dealing with these nonstate actors—ISIS, the Taliban, Al Qaeda—trying to appropriately exercise congressional oversight without micromanaging functions that are functions for the Commander in Chief and his staff, and I would appreciate very much both of you individually but also the administration generally trying to work with us.

The head of Senate Foreign Relations, Chairman Corker, has indicated a desire to move on this, and we would very much like to work in tandem with you to hopefully get this to a place that will express the congressional resolve that you discussed in this testimony.

Secretary MATTIS. Happy to work in concert with you, sir.

Senator Kaine. Great.

General DUNFORD. Absolutely, Senator. Thank you.

Senator Kaine. Great. Thank you. I do not have any other questions.

Thank you, Mr. Chair.

Chairman McCain. Senator Perdue?

Senator PERDUE. Thank you, Chair.

I want to clear one thing up. First of all, I have the utmost respect for you guys, and, God help us, we have to have you be successful. But there is zero chance, zero—I am on the Budget Committee. There is zero chance that the budget process is going to work. The best this year, the best we can hope for, is that we will—there are 43 working days left before the end of this fiscal year. We are headed for another CR, unless we have an omnibus. So the best we can hope for today is an omnibus.

The budget process is broken. It is why we are sitting here today. It is why we are at a historic low in terms of spending on our military.

We will not fix this long term. We can argue about \$20 billion, \$30 billion, \$50 billion. I am going to tell you in a second I think the number is much bigger than that.

I need help on two things.

One, help us with an audit. You have my full support. We are going to try to get the money for you, but we have to have an audit.

Second, we need a bottom-up analysis of mission-based need. We are going to hypothesize about how much you need. You have answered questions about it. But I want to give a little history today.

In my lifetime, we have disinvested in the military three times—this is significant—once in the 1970s, once in the 1990s, and once just recently in the last 8 years, such that, today, we are spending 3.1 percent of our GDP [Gross Domestic Product] on our military. The low point was 2.6 percent in 2000. A lot of people refer back

to 2000. That was prior to 9/11, prior to ISIS, prior to all the things that have changed our world in the last 15 years.

But we recapped only one time in my lifetime, and that is in the 1980s. We called ourselves recapping in the 2000s, but we chewed that up in 16 years of war, as you just said, Secretary. We have not built new aircraft carriers or submarines or airplanes.

Here we are, where most of our major platforms are maturing at exactly the same time that we have to rebuild and recap. It is estimated that, by 2000, Russia will have—70 percent of their nuclear triad will be absolutely new technology. It is estimated it will take us 30 years to get to just 70 percent there.

So we have an estimate here that says that, based on the historical average of 4.1 percent, that is the redline there, the difference between where we were last year at 3.1 percent and 4.1 percent, that 100 basis points on our economy is \$200 billion.

The other way to triangulate about need is Bob Gates in 2011 put a 5-year mission-based need requirement out. In 2016, estimated, his estimate for 2016 is \$130 billion more than what we have.

Then the last one I want to give you is this, and that is, General, you said our mission is to make sure our sons and daughters never have to fight in a fair fight. I agree 100 percent with that. Historically, though, the country with the biggest economy is always the 800-pound gorilla. Today, China has reached us in purchasing power parity. Their economy is the same size as ours.

There is every reason to believe that they are going to continue to outpace us with a population that is four times our size. There is no reason to believe that will not continue to happen.

My problem is this, is that China this year will spend \$826 billion in equivalent money compared to our \$677 billion. That is if we get everything you want. So already, they are spending more in equivalent terms than we are, significantly more.

So when I triangulate this, we are somewhere between—this is this year—\$130 billion to \$200 billion. That does not count the real full recap that we are talking about. By the way, Gates did that before ISIS, Crimea, Ukraine, before a lot of the things that we know today.

So what we are really looking at here is a situation where, over the next 30 years, just the Navy alone, just to rebuild—this is not operations—CBO estimates it is \$26 billion.

So, Secretary, my question to you is, I know you are a historian, how do we, not just this year, how do we develop a long-term plan to make sure, in an environment where every dollar, where every dime we are already spending on the military, the VA [Department of Veterans Affairs], and all domestic programs is borrowed—that is our discretionary spending. That is 25 percent of what we spend. Every dime of that is borrowed, because in the last 8 years, we borrowed 35 percent of what we spent. In the next 10 years, projected, we will borrow another 30 percent of what we are going to spend.

In that environment, how do we develop a long-term strategic plan that helps us achieve what the general has said that our mission is? I agree with that mission, by the way.

Secretary MARTIS. Sir, we need to have a strategic dialogue with the Congress and determine what you can do. At that point, we

will have to adapt the strategy to whatever level of resources you can give us to avoid a strategic mismatch and protect the country.

Senator PERDUE. Sir, with due respect, you mentioned one time before that you are working on a mission-based estimate now. It is going to take some time to come together, for that to come together. Is that correct?

Secretary MATTIS. There is a strategy review underway, sir, yes.

Senator PERDUE. General Dunford?

General DUNFORD. Senator, there are really two pieces to this. We have been involved over the last 18 months in doing a comprehensive analysis of what we are using as benchmarks for the joint force. So we have looked carefully at China, Russia, North Korea, Iran, and then violent extremism, as not predictive as that being the only threats we will face but with the key assumption being that, if we benchmark our capabilities and capacities against one or combinations there of those challenges, we will have the right force.

We have carefully gone through and done a functional analysis that we are going to share with the committee at the top secret level that basically takes a look at our relative competitive advantage or disadvantage by functional area against each one of those challenges and the aggregate effect of those competitive areas and our ability to meet our objectives in a conflict.

Regardless of where the Secretary goes with the defense strategy, what we intend to do is provide the Secretary with very clear—you asked for a bottoms-up, needs-based prioritization. I believe we are in a position right now to provide the Secretary recommendations for bottom-up, needs-based requirements.

Again, what we have done is we have taken all the analytic work that has been done against each one of those problems sets and dissected it so we can make clear recommendations maintaining our competitive advantage. We have identified where we need to be 5 years from now and what specific programs will help us get there. Obviously, the latter part of that is a work in progress. We will continue to review that constantly.

But I feel like for the first time in many years, as a result of an emphasis on that assessment, so over the last 18 months, we are going to be in a position to have a very good, constructive dialogue with the Secretary, and the Secretary will be better empowered to have a good, constructive dialogue with the Congress and be able to outline our requirements, and, more importantly, the specific impact of either meeting or not meeting those requirements and our ability to achieve our objectives against those states that we are using as a benchmark.

Senator PERDUE. When can we expect that?

General DUNFORD. It is available right now. We have started to talk to the committee about that, Senator. We are informed now by some detail work that has already been done on a couple of those problems sets. The work is actually reflected in this year's budget recommendations.

Secretary MATTIS. The briefs, Senator, allowed me to come forward with the degree of confidence I have about what it is we are asking for and to support the unfunded priorities lists that were

submitted. This is where I got the background, the rigor, to understand the need for it, sir.

Senator PERDUE. I thank the chair.

Chairman MCCAIN. Let me point out again, Mr. Secretary, and I am not without sympathy, but unless we have a strategy, it is hard for us to implement a policy. It is now 6 months. Members of this committee, particularly Senator Reed and I, but everybody, we want a strategy. I do not think that is a hell of a lot to ask.

I know that there are problems within the administration. But, honestly, what you just said is fine. But what is the strategy? I do not think that the last 8 years are exactly what we have in mind. So right now, we have a "don't lose" strategy, which is not winning.

General Dunford, I appreciate very much what you are doing. I remember 2 years ago going over to the Pentagon and you telling me about all these studies that are going on. That is fine. Where is it?

I understand that one of the problems is within the administration itself. But please do not tell us that we have a strategy when we do not.

Secretary MATTIS. Chairman, we have entered a strategy-free time, and we are scrambling to put it together. But anyone who thinks a strategy, an integrated, interagency, whole-of-government strategy can be done rapidly is probably someone who has not dealt with it. It is, according to Dr. Kissinger, the most complex series of threats that he has ever seen in his lifetime, and he is a master of dealing with these kinds of issues.

We are working it. As far as the strategy for Afghanistan, it is coming very shortly. We have broader strategies that we are building on, having to do with NATO and allies in the Pacific. You have seen us engage with those people as we make certain that we are drawing strength from allies, too. We are not putting this all on the backs of the American taxpayer, the American military.

But it does take a lot of effort to walk into the level of strategic thinking that we found and try to create something that is sustainable.

Chairman MCCAIN. Senator Shaheen?

Senator SHAHEEN. Thank you, Mr. Chairman.

Thank you Secretary Mattis, General Dunford, Under Secretary Norquist, for being here this morning.

I would like to continue to pursue the question of strategy. My question is about strategy in Syria. The map that everyone has at their place and that we just put up on the board is a map that was produced by the Washington Institute for Near East Policy. This weekend, the Russian Ministry of Defense announced that pro-regime forces have reached the Iraqi border.

This comes as Russia-backed forces encircle United States troops and their partners in al-Tanf and seemed to raise questions about our strategy to clear ISIS along the Euphrates River Valley.

So my question is, were we expecting the Russians to come down and make the move that they did around al-Tanf and to encircle our troops? What is our next move because of that?

Secretary MATTIS. Senator, as you know, we are in Syria in a defeat-ISIS campaign based on the President's decision of about a month ago now when he met with President Erdogan. We have

chosen to arm the Syrian Democratic Forces. We had taken out already the Manbij area, which is where the attacks on Brussels and Istanbul and Paris originated. That was taken down. The next move is against Raqqa.

We have shifted the operational arc to first invest or surround the locations where the enemy is located, so that their foreign fighters cannot escape and get home to Europe, to America, to Southeast Asia. That fight, they crossed the line of departure about a week ago, a little bit less than a week ago, going into Raqqa, and the fighting is now deep inside the city.

As far as the al-Tanf situation, that was another operating area that we had. I did not anticipate that the Russians would move there. We knew it was a possibility. I did not anticipate it at that time, but it was not a surprise to our intelligence people who saw the potential for them to move out in that direction.

The Middle Euphrates River Valley, clearly Assad, thanks to the Russians and Iranian support, is flexing his muscle. He is starting to feel a little more optimistic about his strategic situation. Certainly, they are moving to break through to their garrison that is surrounded at Deir Al-Zour.

Senator SHAHEEN. I appreciate that. I guess the second question I had was, does that compromise our strategy for clearing ISIS in the Euphrates River Valley?

Secretary MATTIS. It certainly is complicated. Let me have the chairman talk about the military situation on the ground there.

Senator SHAHEEN. Can I also ask you, General Dunford, if you would talk about, deconfliction aside, how we are or are not working with the Russians in Syria?

General DUNFORD. I can, Senator.

First, without splitting hairs, the media reports of us being encircled are not accurate. We still had freedom of movement outside of al-Tanf area, and we are not limited from moving up toward the Euphrates River Valley at this time.

I talk to, as the Secretary does, our commander at the United States Central Command, if not daily, multiple times each day. So there are not large numbers of forces, pro-regime forces, out there. They have, in fact, moved to the border. But they have not restricted our movement.

To that point, our deconfliction mechanism with the regime via the Russians is still effective in allowing us to prosecute the campaign.

Senator SHAHEEN. I guess I was asking not about the deconfliction but about the other ways in which we are or are not working with the Russians. So I understand that deconfliction efforts are going on.

General DUNFORD. Sure. The only thing that we are doing, Senator, with the Russians is communicating with them to deconflict to ensure the safety of our aircrews and our personnel on the ground at the military-to-military level.

Meanwhile, Secretary Tillerson is leading an effort dealing with the Foreign Minister of Russia to take a look at what might be done to address Syria as a whole to include the political solution.

But today, on a day-to-day basis, we have three main mechanisms to communicate with the Russians. We have a direct commu-

nication between our Air Operations Center and the Russians on the ground in Syria. We have a three-star channel that is on the joint staff. It is my J5 that communicates with his counterpart on the Russian general staff. Then I speak routinely to the chief of defense, General Gerasimov. In fact, I have spoken to him twice in the past week to ensure that we address the safety of our personnel and our ability to continue to prosecute the campaign against ISIS.

So to the extent that we are doing more than deconfliction, that is a political dialogue taking place led by Secretary Tillerson. But right now, we are completely informed by the NDAA language that restricts any kind of mil-to-mil cooperation with the Russians limited to deconfliction in Syria. So we are compliant with the law at this time.

If there is a need to do something more than that, my understanding is that the Secretary of Defense, for national security interests, purposes, can waive the requirement and allow us to do more with the Russians, if that meets our interests inside of Syria.

Senator SHAHEEN. Thank you.

Can I ask a follow-up question, Mr. Chairman?

Chairman MCCAIN. Yes.

Senator SHAHEEN. Thank you.

There have been reports about the political efforts that Secretary Tillerson is undertaking through Tom Shannon to go to St. Petersburg, and the news reports have suggested that that could involve our exchanging sanctions, the removal of the Russian dachas, the facilities that we seized back in December, in the United States.

Secretary Mattis, have you been consulted about what is being proposed there? Are you troubled by the idea that we are going to do these exchanges without having any proof that Russia is changing their behavior?

Secretary MATTIS. I have not talked to Secretary Tillerson about that, ma'am. We have extensive talks every week, mostly every day. That has not been one of the issues that I have brought up with him or he has brought up with me. I stay more on the military factors, like what your map lays out here, that sort of thing.

Senator SHAHEEN. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Inhofe?

Senator INHOFE. Thank you, Mr. Chairman.

I am sure it did not go unnoticed the people coming and leaving. We have three hearings going on at the same time, so I will be very brief.

I was here for your opening statement, Secretary Mattis. You said that you came back out of retirement and you were shocked at what you saw. You have been very upfront. You made the statement that, for decades, America has been uncontested, and that is no longer the case now.

So times are different now. I do think it is great, very effective for the uniforms to be talking about this. You know, I cannot do that. Those of us up here do not have the credibility that you have when you are speaking from your vast experience.

We are facing, in my opinion, the greatest threat this country has ever faced. So when we talk about that, and we look at the at-

tention that our military has been getting, I go back to 1965 when 52 percent of the total Federal spending was on defense, and then that slowly degraded down to today when it is 15 percent.

So when it gets right down to it, is a lot of this the fact that we have just not prioritized the military budget? I mean, we are faced with something, the threat is great. When you have people like General Milley coming out and saying, as he did at the Army posture hearing last month, he said we are outranged and outgunned. We are being very honest with the American people.

But do you think we have just gotten to the point over a period of time where we are not giving the proper priorities to defending America?

Secretary MATTIS. Senator, I know there were a lot of contributing factors, but I do not know how we can restore the strength that we all know that we need if we do not start with repeal of the BCA and at least open the door to effective action by the Congress oversight and funding. Right now, it is like we have tied ourselves up in a knot.

Senator INHOFE. Do you agree with that, General?

General DUNFORD. Senator, I do. I mean, we have to benchmark our military capabilities against our national interests and the threats that we face. I think what we tried to do is paint a picture where we have a disconnect. We are on a trend where the military capabilities and capacities we have are insufficient to meet our national interests in the context of the threat that has grown.

As Secretary Mattis said, Secretary Kissinger, and I have used this expression many times, describes this as the most volatile and complex period since World War II.

Certainly, sitting where I sit, I could not agree more with that assessment.

Senator INHOFE. If you just single out end-strength, and I was looking at a chart that you may have in front of you, I do not know, but you take out the Reserve and the National Guard, just take the Army Active, the Air Force Active, the Navy Active, and the Marine Active, you have made statements, or the administration has made statements, for example, that the Army Active needs to be at about 540,000, and yet this budget is coming up with 476,000, a steady figure from fiscal year 2017. Then the same thing is true with the Air Force. We talked about the necessity for having 361, and it is at 325, and the same with Navy, and the same with Marines.

So I would just ask, we have talked about how adequate the budget is. Do you really think it is adequate, in terms of end-strength? We are not meeting the goals that—apparently, you were in on the decisions. Both of you were somewhat in on the decisions as to where we should be in the four services on just end-strength alone.

What am I overlooking here?

Secretary MATTIS. Senator, I believe what we face right now is the reality that we are already asking you to bust the BCA cap by \$52 billion. We are trying to be informed by the reality of what the law says. But, at the same time, we are not being shy telling you where we are really at, in terms of what we need.

But I think we need to work together and come up with a solution here, because I do not know how I would bring something to you that laid out a budget for what you pointed out here, when the BCA—I would have to completely ignore this, and I am ignoring it already to the tune of \$52 billion. Well, the President is, with the budget that he submitted.

It just seems to me that we have to have the kind of discussion that Senator Perdue, Chairman McCain, Senator Reed have brought up, and get a grip on reality here, because it is like we are all walking around like we are victims.

Senator INHOFE. Yes, you are right. I appreciate the answer. We have to do all we can. I still think it is back to priorities, and a lot of people out there in the real world agree with me.

Thank you, Mr. Chairman.

Chairman MCCAIN. Let me just point out again, Mr. Secretary, a 3 percent increase over the Obama proposed budget is not enough. So whether we do away with BCA or not, and that is our problem, our problem with you is that it is a 3 percent increase over the Obama administration. Everybody agrees that that is not enough.

So if we are going to bust the BCA, then why don't we bust it to what we really need rather than come forward here and complain all about the BCA when what you are asking for is not sufficient? At least, that is the view of the military commanders that I have talked to.

Senator Donnelly?

Senator DONNELLY. Thank you, Mr. Chairman.

I want to thank our witnesses for being here with us.

As leaders, you both made a strong commitment to improve the mental health and resiliency of our servicemembers and their families. I appreciate your leadership on this issue.

As we discussed before, in section 701 of the fiscal year 2015 NDAA, Congress passed what we call the Sexton Act requirement, which requires every servicemember, Active, guard, or Reserve, receive a robust mental health assessment every year.

The Department has said in the past that the Sexton Act requirement would be fully implemented across all services by October 2017.

Secretary Mattis, will this be fully implemented by October 2017?

Secretary MATTIS. I do not know right now, Senator. I will get back to you with the best estimate I can give you. As you are no doubt aware, that is a significant requirement. It is a very labor-intensive requirement for the number of mental health professionals that would be needed to do that. But let me get back to you and tell you where we are at on meeting that deadline date.

[The information referred to follows:]

Secretary MATTIS. The Department's Periodic Health Assessment (PHA) memo tasked the Services to implement the new annual PHA, which includes the mandated mental health assessment by September 30, 2017. The current status shows that most locations will complete implementation by September 30, 2017. However, complete Service-wide implementation will be delayed until early 2018 due to information technology issues being worked by Navy Afloat, and some Navy Reserve and Marine Corps units.

Senator DONNELLY. That would be great. It is critically important.

Also, Secretary Mattis, we discussed one time the challenges with a proper transition. General Chiarelli has worked on this extensively, on the handoff from Active Duty to the VA in regard to the formulary and in regard to making sure that it is a smooth transition.

Are the Department and the VA working closely on this? Do you think progress is being made at this time? What has happened sometimes, not to get too off-script or whatever, is a lot of Active Duty, when they become vets, medicines that they are dependent on, that are critically important, are not available when it flips over to the VA side, or a different one is handed off, which causes significant problems. I want to make sure that, in the transition, that the DOD and the VA are working tightly together to get this done properly.

Secretary MATTIS. Sir, I believe that both the committees will be briefed very soon, both VA and this one will be briefed very soon. We have made significant progress on electronic health records. That is actually one of the contributing factors to how we will do this right.

We have, I believe, right now, according to people who have been involved in this for many years, in one case over 2 decades, we have never had a closer relationship between DOD and VA, targeted right at this transition, the records and the formularies.

Senator DONNELLY. I want to ask a little bit about Afghanistan, to follow up on what the chairman was asking. You both have done extraordinary work there over the years.

Some years ago, I was with the Marine MEU [Marine Expeditionary Unit] out in Helmand Province and tried to figure out the strategy. They were doing an extraordinary job, but it almost seemed like a place put down in the middle of Taliban Highway in every other direction.

As we look at this, I know we are waiting for the plan, but what does success look like a year from now, in your view? What, in your mind, makes the situation better?

Secretary MATTIS. Sir, I believe that the violence will be reduced significantly, especially in the population centers where most of the people live, that the Afghan Government has a degree of integrity in what it is contributing to its people, the government services, the corruption has been driven down. But most of all, that the Taliban no longer has the freedom of movement that we are seeing right now, that it has been rolled back.

Senator DONNELLY. General?

General DUNFORD. Senator, I probably would add to that to the mitigation of Afghan casualties. That has been a great concern in 2015 and 2016, the number of casualties the Afghan forces have experienced. I think one of the ways that we get after that is by more effectively assisting them both in planning operations and delivering combined arms, more specifically the aviation capability. So continuing to grow their aviation capability and providing them support while they grow their aviation capability will be a key piece of mitigating casualties.

Senator DONNELLY. Do you think we are in better shape now than we were last year at this time? Or do you think it has gone backwards?

General DUNFORD. I do not assess that we are in better shape than we were last year, Senator.

Senator DONNELLY. General Mattis?

Secretary MATTIS. I think Taliban had a good year last year, and they are trying to have a good one this year, sir. I think we may be able to, by a change in some of our concepts of operations, help them with air support and fire support. That will put the enemy on their back foot.

Right now, I believe that the enemy is surging right now.

Senator DONNELLY. Well, we look forward to the report, and I would still love to talk to both of you or one of you or your team about Raqqa and some of the situations about some of the Indiana folks there.

Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Ernst?

Senator ERNST. Thank you, Mr. Chair.

Gentlemen, thank you very much for being here today. We appreciate your advice to this committee and your service to our great United States.

Secretary Mattis, open invitation to ruck march with Team Ernst at any time—any time. The Vice Chief of Army and I solved most of the world's problems this morning. We just need you to fill in the gaps. So you are welcome at any point.

Gentlemen, a counter-ISIS strategy in Southeast Asia is something that I have continued to push for, which was why I was excited to hear this weekend United States special operation forces were assisting the Government of the Philippines in taking back the ISIS-held town of Marawi.

Until 2014, we used to have a sizable counterterrorism mission in the Philippines, and we have known about this threat for a very long time. Unfortunately, we have not returned to that area in order to counter some of ISIS's bad deeds.

So, General Dunford, as we target a terrorist enemy that wishes to strike our Homeland, how does our counterterrorism commitment in the region also help ward off other adversaries like China and Russia?

General DUNFORD. Senator, do you want me to hit those two separately?

Senator ERNST. Absolutely.

General DUNFORD. First of all, with Southeast Asia, in addition to our presence in the Philippines with counterterrorism, the Congress funded what is called the Maritime Domain Awareness Initiative. That helps countries in the region, specifically Indonesia and Malaysia in the Philippines, to have a common understanding of the maritime domain, particularly the flow of foreign fighters, criminals, and those kinds of things.

The other thing that we have done is we have incorporated Southeast Asian nations into what we call Operation Gallant Phoenix. That is our intelligence and information-sharing architecture,

which allows us to take a transregional approach to violent extremism.

Separately, our forward presence in the Pacific, to include the fielding of our most modern capabilities, the P-8, the F-22, F-35, and our routine Pacific presence operations, are designed to deter conventional conflict and specifically conventional conflict with China and North Korea in the region.

Senator ERNST. Do you see that as being effective also in the areas of Malaysia and Indonesia?

General DUNFORD. In terms of deterring conventional conflict, I do. I view the most dangerous threats in Malaysia and Indonesia to be the threat of violent extremism.

Senator ERNST. Okay, so ISIS or—

Secretary MATTIS. Senator, if I could just add one point here. We have talked about the lack of strategy earlier.

In 2014, we canceled the named operation that we had down there, perhaps of a premature view that we were gaining success. Without that, we lost some of the funding lines that we would have otherwise been able to offer.

So what the chairman has brought up is completely correct, but it again shows the lack of strategy that we inherited there. I just got back from Shangri-La where the chairman and other Members of the Congress were. This came up, and we are working closely with the Philippines right now, for example, with both manned and unmanned aircraft as they try to retake Marawi there in Mindanao.

So this is an ongoing issue. What you are bringing up I think is going to loom larger, if we were having this hearing a couple months from now. So we have to take steps to get this back under control and support Indonesia, Malaysia, and Philippines, along the lines that your questioning leads us to.

Senator ERNST. Yes. Thank you for bringing up the Shangri-La Dialogue, Mr. Secretary.

While you were there, the other countries that participate in that dialogue, what type of support are they looking at coming from the United States? What can we offer them?

Secretary MATTIS. Yes, ma'am. Much of it is along the lines of what the chairman just mentioned with Operation Gallant Phoenix. It is getting the intelligence and sharing the information, where everything from Interpol to all the secret services of various nations work together, so that transnational threats are tracked when they go over the nation's borders, when they flee from one to another. Gallant Phoenix is critical. Also, other intelligence helps.

I would add there that is where our strategy of working by, with, and through allies helps take the load off us. For example, Singapore has offered ISR [intelligence, surveillance, and reconnaissance] surveillance aircraft to the Philippines. That is the way we need to get everybody working together out there against this threat and not carrying the full load ourselves.

Senator ERNST. Thank you.

Just very briefly, because I am nearly out of time, our special operators have a dwell time of about a 1:1 ratio. This was mentioned by General Votel in one of our conversations recently.

What can we do?

I will tell you it is because they want that. I mean, they will not say no when they are given a mission, and I think that is incredibly important, that they stand up to their obligations. But what can we do to increase their dwell time beyond expanding their forces? Is there a way we can push their talents out to the conventional forces?

Secretary MATTIS. Some of these missions, due to our conventional forces capability today compared to 2001, we have now Army infantry, Army brigades, Marine battalions that can pick up some of these missions, take the load off, take the work off of the special operators and that sort of thing. Where you want relationships, we still want to use the special operations forces.

Chairman, do you have anything to add?

General DUNFORD. The only thing I would say, Senator, is the Secretary actually directed me several weeks ago to do an analysis of all of our special operations requirements today and look for opportunities to substitute with conventional forces for exactly the reason you are talking about. We are concerned about the deployment to dwell ratio, which is not only a factor from a human perspective, and families. It also precludes them from training for the full range of missions that we may require them for. We do not want them, as you know, to be singularly focused on the current fight. We want them to be prepared, just like the rest of the force, to be prepared to support us across the spectrum.

Senator ERNST. Absolutely. Thank you, gentlemen.

Thank you, Mr. Chair.

Chairman MCCAIN. Senator Blumenthal?

Senator BLUMENTHAL. Thanks, Mr. Chairman.

Thank you both for your extraordinary service to our Nation, and all the men and women under your command. Thank you for being so forthright and helpful in your answers today to our questions.

I want to ask about the F-35s, which are on the unfunded priorities list. I believe there are 24 of them.

Would you support including them, assuming that you receive additional funds from the Congress?

Secretary MATTIS. Do you mean the support that goes with the aircraft to make them fully capable?

Senator BLUMENTHAL. Correct, and the additional aircraft as well.

Secretary MATTIS. Yes, sir.

Senator BLUMENTHAL. Thank you.

As to helicopters, I have written a bipartisan letter along with a number of my colleagues to the appropriators, asking for an additional \$327 million to fully fund the 60 helicopters that are necessary to reach the state of readiness for our National Guard that they have asked to be. Would you support that as well, assuming that the Congress provides funding?

Secretary MATTIS. I would have to look at the priorities we place more broadly. But I mean, it sounds reasonable, sir. I would have to look at it, in particular.

Senator BLUMENTHAL. Thank you.

Secretary MATTIS. Yes, sir.

[The information referred to follows:]

Secretary MATTIS. The fiscal year 2018 budget request supports my priorities to continue to improve warfighting readiness and increase capacity and lethality, and includes twenty-four Blackhawks at a cost of \$493 million. While sixty additional helicopters might be executable, they do not represent my highest priority nor were they included in the Army's or National Guard's most recent unfunded requirements submission. The fiscal year 2018 budget request reflects my highest, balanced priorities, which allow the Department to continue to rebuild readiness while repairing damage from five years of unstable budgets and budget caps in preparation for future investments. Ultimately, the power of the purse is invested with Congress, and we will responsibly execute the funding that Congress approves.

Senator BLUMENTHAL. A number of our military leaders, past and present, have characterized the greatest threat to this Nation as being cyber warfare. There was a report in the Washington Post just yesterday, as a matter of fact, that hackers allied with the Russian Government, you may have seen the report, have devised a cyber weapon that essentially has the potential to disrupt our electronic grid, completely cause chaos in our electric systems that are vital to daily life in this country—an alarming report.

Have you seen it? Do you agree that it is accurate?

Secretary MATTIS. I have seen it. I believe that this threat is real, and none of us are ignoring this threat at all. There is a lot more going on in this regard, sir, that I can discuss in a private setting.

Senator BLUMENTHAL. I would appreciate that opportunity.

Would you agree with me and with others that cyber is one of the greatest threats, perhaps the greatest threat, in terms of warfare today?

Secretary MATTIS. It is certainly one of the tops, sir, because it cuts across all domains, air, surface. It impacts our nuclear command-and-control. Certainly, our very institutions, whether it be democratic or banking or whatever, are vulnerable to this sort of attack.

Senator BLUMENTHAL. Would you agree that the Russian hacking and cyberattack on our systems during the last election was an act of war?

Secretary MATTIS. I would leave the—I know it was a hostile act. Whether or not it crosses the threshold for war, sir, I am not a lawyer. But there is no doubt it was a hostile act directed against our country.

Senator BLUMENTHAL. Would you agree with me that we need a better definition and a policy? It may involve lawyers or others. I am not sure lawyers are the best to define it. But wouldn't you agree that we need a better policy defining what is an act of war in the cyber domain?

Secretary MATTIS. I think clarity in this regard would help in terms of deterrence and response. Absolutely.

Senator BLUMENTHAL. I want to, in my remaining time, focus on an area that is extraordinarily important to our Nation, even though it is not the kind of glamorous, shiny toy area that attracts most attention.

President Trump's budget cuts the Department of Labor's worker training budget by 36 percent. At a time when we are working to modernize our military with particular emphasis on the nuclear triad, the Department of Defense will be relying on the defense industrial base to recruit and hire and train thousands of workers across the country: in my own State of Connecticut at Pratt &

Whitney, thousands of workers to build the engines that are necessary for the Joint Strike Fighter; at Electric Boat, thousands of workers necessary to build the submarines that are so essential to our national security.

Yet, we are cutting the funding necessary for training those workers, the welders, the pipefitters, the engineers, designers, people with real skills that are essential to our national defense.

Would you agree with me that our national security really requires that funding be restored?

Secretary MATTIS. Sir, I believe there is a need for the kind of people you are referring to. There is an apprenticeship program I know the Department of Labor is starting. I do not know the details of it. But it is directed exactly at the skills that you have just been citing, but I cannot tell you more about it other than to say that would probably be the best place to get information about what is actually in the President's Budget to address this.

Senator BLUMENTHAL. I know the Labor Department budget is out of your direct jurisdiction, but it affects our military capability.

My time has expired, but this subject is intensely important to the future of our Nation, and I hope that you will support efforts to increase the funding necessary for apprenticeship and training and other such skill-enhancement programs.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Graham?

Senator GRAHAM. Thank you, Mr. Chairman.

Senator GRAHAM. Secretary Mattis, you famously said, as a Marine Corps commander, that if you cut the State Department's budget, you need to buy me more ammo. Do you still stand behind that idea?

Secretary MATTIS. That was probably a rather simplistic way to point out that we have to engage with whole-of-government, and yes, sir, I still stand by the theory.

Senator GRAHAM. So you believe soft power is an essential ingredient to winning the war on terror?

Secretary MATTIS. I think America has two powers, fundamental power, sir, the power of inspiration, the power of intimidation. You have to work together, and the State Department represents inspiration overseas.

Senator GRAHAM. Do you agree with that General Dunford?

General DUNFORD. I do, Senator.

Senator GRAHAM. Mr. Norquist, has anybody asked you a question yet?

Secretary NORQUIST. Senator Perdue made a reference to the audit, but I think the time ran out before—

Senator GRAHAM. I am going to give you a question, but you have to be quick.

Secretary NORQUIST. Okay.

Senator GRAHAM. Where will TRICARE costs be in terms of DOD spending in the next decade?

Secretary NORQUIST. Where will which costs be?

Senator GRAHAM. TRICARE costs.

Secretary NORQUIST. I do not have those numbers at my fingertips, sir, but I know that the overall is \$51 billion for all of the defense health costs.

Senator GRAHAM. Well, look at it, because I think you are going to find it to be really encroaching on the defense budget. We need TRICARE reform.

Secretary NORQUIST. Correct. The health care costs of defense have gone up significantly year after year.

Senator GRAHAM. All right. Thank you.

General Dunford, when we liberate Mosul, and I am sure we will, would you recommend a residual force to stay behind, of Americans?

General DUNFORD. Senator, I do believe the Iraqis are going to need support after Mosul, but I would also point out that the end of Mosul is not the end of combat operations in Iraq. There is much more work to be done.

Senator GRAHAM. Absolutely right. So the day that we get to the end of combat operations, is it your testimony, as Chairman of the Joint Chiefs, that we would be wise as a Nation to leave a residual force to prevent ISIL and other radical groups from coming back?

General DUNFORD. My assessment is that that support for the Iraqis would be strategically important.

Senator GRAHAM. To the United States.

General DUNFORD. To the United States.

Senator GRAHAM. Do you agree with that, Mr. Secretary?

Secretary MATTIS. I do, sir.

Senator GRAHAM. Do you agree that, from a Homeland security point of view, the outcome in Afghanistan matters, in terms of whether it is a failed state or a stable country?

Secretary MATTIS. Yes, Senator, I do.

Senator GRAHAM. Do you believe that every soldier serving in Afghanistan today, American soldier, is an insurance policy against another 9/11?

Secretary MATTIS. An insurance policy?

Senator GRAHAM. Against another 9/11 coming from Afghanistan?

Secretary MATTIS. Oh, yes, absolutely, sir.

Senator GRAHAM. Do you agree with that, General Dunford?

General DUNFORD. I do. I do, Senator.

Senator GRAHAM. If anybody falls in the service of the country in Afghanistan, they died to protect the Homeland?

General DUNFORD. I do not think there is any question. I would also point out that I believe strongly that the pressure that we have put on terrorist groups inside of Afghanistan over the last 15 years is the reason we have not seen another 9/11 from that part of the world.

Senator GRAHAM. As a matter of fact, it is one of the best purchases you could have, in terms of dealing with the international terrorism, is Afghanistan. Do you agree with that, both of you? It is a good place to be, in terms of countering international terrorism.

General DUNFORD. It is a center of international terrorism, sir, in the number of groups there, and we have to confront them there.

Senator GRAHAM. All right, thank you very, very much.

Saudi Arabia. Do both of you support the arms deal to Saudi Arabia negotiated by President Trump?

Secretary MATTIS. I do, sir.

Senator GRAHAM. General Dunford?

General DUNFORD. Senator, that is really a policy decision. I will defer to the Secretary.

Senator GRAHAM. Okay, militarily, do you think it would be wise for us to help Saudi Arabia?

General DUNFORD. The only military judgment consideration is, how does that fit into the qualitative military edge for the Israelis, and it has been looked at through that lens. It is not a challenge.

Senator GRAHAM. All right, let's get back to this right quick, General Mattis. If Congress rejects this arms deal, what message are you sending to Iran?

Secretary MATTIS. I believe Iran would be appreciative of us not selling those weapons to Saudi Arabia.

Senator GRAHAM. The type of weapons we are talking about selling would make Saudi Arabia more effective on the battlefield in places like Yemen, not less, because of the precision nature of the weapons.

Secretary MATTIS. With proper training, it can have that effect. Yes, sir.

Senator GRAHAM. Okay.

North Korea. Is it the policy of the Trump administration to deny North Korea the capability of building an ICBM that can hit the American Homeland with a nuclear weapon on top? Is that the policy?

Secretary MATTIS. Yes, it is, Senator Graham.

Senator GRAHAM. That policy has to have all options on the table to be meaningful, including the military option?

Secretary MATTIS. That is correct, sir.

Senator GRAHAM. The military option would be devastating for the world at large, but the President and you have to balance the interest of Homeland security against regional stability.

Do you think China gets it this time, that we are serious about stopping North Korea?

Secretary MATTIS. I have no doubt that China thinks we are serious about stopping North Korea, sir. It is principally a diplomatic effort right now to try to denuclearize the peninsula.

Senator GRAHAM. Last question. What signal would we be sending to Russia if Congress failed to act for punishing them, if Congress failed to push back against Russia's interference in our election, if we gave Russia a pass? What message would that send to Putin? What message would that send to our allies? What would you recommend that the Congress do about Russian aggression? Do you support more sanctions?

Secretary MATTIS. Sir, I believe that we have to make very clear what behavior we want to see in the international community and what behavior we will not stand for. We need to make that clear in the Congress, in the executive branch, and in our alliances.

Senator GRAHAM. Do you agree with that, General Dunford?

Chairman DUNFORD. Senator, I do. Although, having spoken to Secretary Tillerson, I would hope that anything we do with regard to Russia would be done in conjunction with the State Department. Meanwhile, I can assure you we are preparing for the military dimension of the problem.

Chairman MCCAIN. With a 3 percent increase over the Obama administration's defense appropriations, we are going to take care of all those things. Is that right, General?

General DUNFORD. Chairman, I was responding to the Russia challenge. I think the fiscal year 2018 budget is giving us some significant resources to deal with the Russia challenge.

Chairman MCCAIN. So 3 percent is sufficient, in your view?

General DUNFORD. Chairman, all I can tell you is that the prioritization within the topline that we have been given is the right prioritization.

As I indicated earlier, I believe the requirements that the services have provided over and above the budget are legitimate requirements.

Chairman MCCAIN. So 3 percent is enough?

General DUNFORD. Chairman, I also stipulated that I believe we need a minimum of 3 percent just to maintain the competitive level we have right now. The Secretary and I described it, as indicated, we need at least 5 percent for several more years to come before we can be competitive.

Chairman MCCAIN. Senator Nelson?

Senator NELSON. Mr. Chairman, Senator King has to go to a funeral, so he asked for 2 minutes of my time, if I may give that to him?

Chairman MCCAIN. Senator King?

Senator KING. Thank you. Just a couple points, Mr. Chairman. I think it is important, and I hate to be bringing more bad news, but in thinking about our budget and the budget future, the looming threat that I see, in addition to all those we have discussed today, is interest rates.

An easy way to think about this: 1 point of increase in the interest rate on our national debt equals the Air Force. The entire Air Force budget would be encompassed in a 1 percent increase in interest rates. Three percent would encompass the entire defense budget. Five percent would encompass almost the entire discretionary budget.

I do not think there is any doubt that interest rates are headed up. So that is an additional factor that we have to think about, in terms of our development of the budget.

Secondly, there is what I call the modernization bulge coming, which CBO [the Congressional Budget Office] estimates to be \$400 billion over the next 10 years. That is for the B-21; the *Columbia* submarine, the *Ohio* replacement; the B-21; and then the whole nuclear. So that is another problem that we have to deal with and still maintain current budget levels.

So I think the situation is even more grim than what we have talked about this morning, because of those additional factors that are not generally discussed in terms of this.

We have talked a lot about unconventional threats that we are facing. Cyber and the attack on our electrical system are clearly attacks. We have not talked about hybrid war, and I worry that Crimea is a precursor of a way, for example, to attack the Baltic states without tanks rumbling across the border.

Finally, Mr. Norquist, I hope that you will take very seriously the necessity for the audit, which we have been hearing about for

years. I think, as I recall, 2017 was supposed to be the year the Department of Defense was ready.

So my folks in Maine say, how can they possibly do this without an audit? I hope to have a report back from you and perhaps we can have a hearing just on that.

So those are the points that I wanted to make. I want to thank you, gentlemen, for your testimony today.

Thank you, Mr. Chairman.

Thank you, Senator Nelson.

Senator NELSON. Thank you for your public service.

I want to follow up on the quote that Senator Graham quoted you, with regard to the State Department. Are we giving up options that were previously available to us to exercise before we reach an armed conflict by a budget that is substantially cutting the State Department and other agencies of soft power, such as USAID [the United States Agency for International Development]?

Secretary MATTIS. Senator Nelson, I have not looked in detail at the State Department. I cannot tell you what is actually being cut and what is being retained. I would have to direct that to Secretary Tillerson, because I am not competent to answer it.

Senator NELSON. Well, I would suggest that you look at it, because if you are supporting a budget that whacks the State Department and USAID, you well know you are not only a warrior, you are a diplomat as a commander who utilizes all those other agencies of government in projecting your soft power. This is a budget that substantially decreases the State Department and USAID.

So I understand the sensitivity. You do not want to answer that. But that is going to be something you are going to have to face.

Let me ask you, are you satisfied in your statements with regard to the United States support of article 5 in the NATO treaty? Are you satisfied that you have assured our allies that America supports article 5?

Secretary MATTIS. I have, sir. I believe the President has just recently done so right from the White House.

Senator NELSON. Was it in his speech and he took it out when he was over there?

Secretary MATTIS. I think he believed that, by being there, that was—those actions spoke louder than any words. But he has put it in his speech since then, as you know, just here in the last couple days.

Senator NELSON. All right, let me ask you, do you think that the existing sanctions are enough to deter further Russian aggression in Ukraine and Syria, the sanctions against Russia?

Secretary MATTIS. Sir, it is hard to tell what influences Putin. I think he is not acting in the best interests of the Russian people. As such, I think that whatever the Congress does, so long as it leaves us some flexibility to our Secretary of State and our President to negotiate as we try to get out of this spiral that is going downhill, make the point about where you stand, sir, but leave some flexibility in execution to those who have to diplomatically engage and try to reverse this.

Senator NELSON. Would additional economic sanctions against Russia help, in your opinion?

Secretary MATTIS. I think if they were conditioned on failure of the diplomats to gain some kind of common approach to get out of the jam that Russia is putting everyone in.

Senator NELSON. Thank you, Mr. Chairman.

Senator REED. [Presiding.] On behalf of Chairman McCain, Senator Sullivan, please.

Senator SULLIVAN. Thank you, Mr. Chairman.

Gentlemen, thank you for your service.

There has been a lot of discussion today about the budget and a continuing resolution. One of the issues that seems to be forgotten here is, last year, actually, the Appropriations Committee, Defense Approps, voted out of committee, almost unanimously, a defense budget. Unfortunately, it came to the floor last summer right around this time, and it was filibustered.

So if we did that again, Secretary Mattis, would that be helpful, to have a defense budget that we worked on, voted out of committee, and then be filibustered? Is that helping our troops, if that happens again? I certainly hope it does not happen again, but I am just trying to get your view on it.

Secretary MATTIS. I think it would be horrible for our country, as well as our troops, sir.

Senator SULLIVAN. You know, Secretary Mattis, I really appreciate your focus on the Asia-Pacific. I know it was not lost on our key allies in the region that that was your first trip as the Secretary. Your recent visit to Singapore with the Shangri-La Dialogue I also think was important for a whole host of reasons.

I am sorry I could not have joined you. I had an event that was even more important than the Shangri-La Dialogue, which was a high school graduation of one of my daughters. Otherwise, I would have been with you.

I read your speech and the Q&A [question & answer] afterwards. I thought it was outstanding.

Can you succinctly state United States policy as it relates to freedom of navigation operations in the South China Sea and other areas, just so both our allies and adversaries are aware of it?

Secretary MATTIS. Yes, sir.

We operate freely in international waters, and we do not accept unilateral inhibitions on the international waterways and their use, or airways.

Senator SULLIVAN. Are we going to continue to do that on a regular basis, with our allies, if possible?

Secretary MATTIS. We will unilaterally or in league with our allies. Yes, sir.

Senator SULLIVAN. So I read in the press that USS Dewey conducted a FONOPs [Freedom of Navigation Operation] near Mischief Reef within the 12 nautical miles, and we even conducted military-type training, a man overboard mission, according to the press reports. The Chinese, according to press reports, protested that.

What was our response in response to their protest?

Secretary MATTIS. To reiterate that we operate in international waters, sir.

Senator SULLIVAN. I also very much appreciated your focus, and, General Dunford, your focus on the importance of our allies. You highlighted that quite well in your Shangri-La Dialogue speech.

Can you just touch on that again for the committee's benefit and the benefit of the American people, just how important our allies are not only in the Asian-Pacific but globally in terms of us securing our national security objectives?

Secretary MATTIS. Senator Sullivan, there is an awful lot of talk about asymmetric advantages and competitive advantages and disadvantages. I would put our allies and our alliances from NATO to the Pacific, bilateral, multilateral, as our asymmetric advantage, especially if you put a list of our allies alongside a list of China's allies or Russia's alliances. You can see the proof coming through from history that nations with allies thrive and those without them do not thrive.

Senator SULLIVAN. So we are an ally-rich Nation, and our adversaries and potential adversaries are ally-poor. Is that one way to look at it?

Secretary MATTIS. That is a perfect way to look at it.

Senator SULLIVAN. So we should be working to deepen those alliances and expand them, correct?

Secretary MATTIS. Absolutely.

Senator SULLIVAN. Do you think everybody in the administration gets that and is doing that?

Secretary MATTIS. As you know, sir, Secretary Tillerson and I work very closely together exactly along these lines. He leads foreign policy. I provide military factors and buttress his efforts.

I also know that, in terms of Homeland Security, Secretary of Homeland Security Kelly is working with our closer allies around the hemisphere but also further out to try to protect the country.

So I see it being a theme that is being carried forward. Yes, sir.

Senator SULLIVAN. Let me just finish up, maybe follow up on a couple questions Senator Graham asked about North Korea. I actually very much appreciated what the President and Vice President did when they invited 100 U.S. Senators over to the White House to get the briefing with the President there, the Vice President, H.R. McMaster, and all of you. I thought that was actually very useful, very important.

One element that I thought was very important was that you were clearly trying to get the Congress, in a bipartisan way, to be supportive of this new strategy. I think, as you know, Mr. Secretary, our country is at its most powerful when the executive branch and the legislative branch are working together on difficult issues, when Democrats and Republicans are working closely together on difficult issues, which is why I thought what the President did that day, bringing everybody over to hear about our strategy firsthand from you and others, and General Dunford, was so important.

Is a nuclear ICBM armed in North Korea the most significant threat we face right now as a Nation?

Secretary MATTIS. It is certainly the one that is in the hands of a potential rogue state that we have to consider.

Senator SULLIVAN. Is it increasing? Increasing, that threat is increasing, heightening?

Secretary MATTIS. No doubt, every test, we assume they are learning from it, sir.

Senator SULLIVAN. So we need more missile defense capabilities for our Nation?

Senator SULLIVAN. Right now, I believe we can protect the Nation. As we look to the future, absolutely.

Senator SULLIVAN. Thank you, Mr. Chairman. I might have a few follow-ups, if there is time.

Senator REED. Thank you, Senator Sullivan.

On behalf of Chairman McCain, Senator Peters, please.

Senator PETERS. Thank you, Senator Reed.

Thank you to our witnesses today. I appreciate this very interesting and informative testimony.

Secretary Mattis, in your testimony, you describe rapid technological change as an important force acting on the Department. In fact, I believe you highlight it as one of the four major forces that we have to confront.

You and I have had the opportunity in my office to talk about how robotics and autonomous systems, artificial intelligence, all these other technologies will fundamentally change warfare in the next 10 years, perhaps much sooner than that. The private sector is leading on many of these developments.

For example, Ford Motor Company, General Motors, will likely have a production self-driving automobile in the next 4 to 5 years out in the marketplace, which is much sooner than most people, I think, realize.

Secretary Mattis, you stated in your testimony, in fact, that the fact that much of this technological change will come from the commercial sector may expose it to state competitors and nonstate actors.

So I am concerned that, in recent years, China has strategically weaponized investment in joint ventures in the United States as a method of improving its capabilities and obtaining advanced United States technology. The Committee on Foreign Investment in the United States, or CFIUS, is the U.S. Government entity responsible for vetting foreign investment in the U.S. for national security risk. But I am concerned that CFIUS is both outdated and overburdened, and may not be really up to the challenges that we are facing today.

Admiral Rogers testified last month before this committee that our adversaries understand our CFIUS structure and its limitations, and some nation-states have actually changed their investment methodology to get around the process that we have in place.

So my question is to both of you, Secretary Mattis and General Dunford. Is there a national security benefit to taking a tougher line against certain types of investment from nations that pose a clear threat to our national security, like China?

Secretary MATTIS. Absolutely. There is. I completely agree with your view that CFIUS is outdated, sir, and needs to be updated to deal with today's situation.

Senator PETERS. General?

General DUNFORD. I couldn't agree more, Senator. I think, of the many challenges that we look at very carefully, the theft of intellec-

tual property, particularly as it pertains to defense programs, is of great concern.

Senator PETERS. If we go through some reforms of CFIUS, which I am in the process of working with Senator Cornyn and others to do that, are there any specific recommendations that you would have for us in changing the CFIUS process?

Secretary MATTIS. Senator Peters, let me send you a note that outlines some. I would tell you right up front that there is a lack of restrictions on investment in certain types of technology that we must have put in place. But I can give you a more inclusive list of where our thinking is at on this, if you just give me a couple days, sir.

[The information referred to follows:]

Secretary MATTIS. The Department and other members of the Committee on Foreign Investment in the United States (CFIUS) carefully review each case for risks to our national security that arise from the transaction. The CFIUS regulations limit the transactions that the Committee can review. A tougher line against a broader range of covered transactions and intellectual property transfers would benefit our national security by preventing technology transfer to adversarial and competing nations. The Deputy Secretary of Defense recently established a cross-functional working group to develop policy options to address the risks of technology and intellectual property transfer to adversaries. These changes are integral to national security and we support the legislative efforts to strengthen the Committee.

Senator PETERS. I appreciate that. Thank you so much. That would be very helpful.

In closing, given the fact that this is one of our major threats that we have to face, which is rapid technological change, and the list that you put in your opening testimony, are there any particular technologies that you are most concerned about, and ones that we need to be investing more in our own capabilities? This is to both Secretary Mattis and to General Dunford.

Secretary MATTIS. Let me come back to you again in private. I would prefer—these are areas that are very sensitive, and I do not want to let our adversaries know which ones we are looking at. But we will explain exactly what we are looking at, sir.

Senator PETERS. I understand that. I appreciate that.

General, I assume that is your same position.

General DUNFORD. Absolutely, Senator.

Senator PETERS. Good. I will look forward to working with both of you. Thank you.

[The information referred to follows:]

Secretary MATTIS. The list I gave covers the majority of technological areas that we foresee as giving us a dramatic advantage in warfare. However, technology has become global and countering those same technologies has become a challenge. I envision the Under Secretary of Defense for Research and Engineering as the Department's champion to lead the way forward on innovation ensuring that we leverage our service, industry, academia, and allied partners.

Chairman MCCAIN. [Presiding.] Senator McCaskill?

Senator MCCASKILL. I know the chairman has mentioned this several times, but I think repetition matters, in terms of getting this message out to the American people.

The President said that he was going to have historic increases in defense spending. At one point, the President said he was going to expand the Army from 480,000 to 540,000.

It is my understanding, as the chairman has mentioned, that, in fact, the President's request for the military was exactly 3 percent

higher than President Obama's. Furthermore, I assume you all agree that it calls for zero additional soldiers. Correct?

Secretary MATTIS. That is correct, right now.

Senator MCCASKILL. So does he not know that this is not a historic request? Does he not know—I mean, what I worry about is the American people are being told over and over again, “Well, we are going to have a really big, I mean, we are going to fund our military. Our military, this is a huge increase and request.” The reality is so different than the rhetoric coming out of the White House, Mr. Secretary.

I worry that the American people will not understand that we have not even begun to do what we need to do, in terms of bringing our combat brigades to where they need to be.

I hate to sound like a “me, too.” I think I would have to be a mini-me to you, Mr. Chairman. But I am worried that there is some misrepresentation going on.

Secretary MATTIS. Well, Senator, if you look at the \$30 billion we asked for as fast as we came in to address immediate readiness problems, and the—I would just call it the situation that we have inherited that demands more, we are trying to put together a coherent program on the run while we are engaged overseas, while we have numerous crises unfolding, while we are still getting people approved through the Senate, nominated to the Senate, and get the consent of the Senate to get them in. There is a fair number of things going on at one time.

That is not to say we should not continue to work along the lines that we are together, but I have to come to you with a coherent plan where I can confidently say that the money you throw into this is going to be spent wisely.

Senator MCCASKILL. I think that is fair.

Secretary MATTIS. I did not say that we are asking for enough money in this budget.

Senator MCCASKILL. Well, he is.

Secretary MATTIS. That is why we have a 5-year program coming to you.

Senator MCCASKILL. I appreciate and I know you are in a difficult position. I just think it does not help our cause, in terms of adequately funding our military, if the President is giving the country the impression that he is. That is the point I was trying to make.

In addition to the strategy the chairman is asking for Afghanistan, I am awaiting the strategy on ISIS, which was supposed to be ready 30 days after the President took office. We still do not have that.

Finally, what I want to turn to is strategy on cyber. I am really worried. We spend a lot of time worrying about Russians hacking politicians. I am worried about the Russians hacking our military and doing the things they are doing in terms of planting stories and gathering information.

Fancy Bear, who has been identified by our intelligence and all of the intelligence experts as one of the premier agents of Russia in terms of cyber warfare, of the people that Fancy Bear has targeted outside of the former Soviet Union, 41 percent of them are

either current or former members of the military, according to a recent analysis.

Russia hacked the Twitter account of Central Command.

We know that Russia has co-opted a very well-known veterans site that originally began in America. I do not want to use the name of it, because it will chase people to the site, and it has totally been co-opted as a Russian proxy.

In fact, the Americans who began the site, they were seen in video at a meeting of the folks they are working with in Damascus, and the big, giant, oversized pictures behind them were of Assad and Putin. This is a site that is asking veterans to—helping them find jobs, ostensibly helping them find help for cancer treatment. Veterans are giving personal information to the site.

We know that attractive women are going on Facebook. In the old days, you would send a spy into a bar that the military frequented and try to gain relationships one drink at a time, as this recent article pointed out. But now, they can do it through a Facebook page.

So are you all all hands on deck, as it relates to the way military personnel and veterans—I know General Breedlove, they went after him. Are you all really paying attention to the corrosive ability of Russia to influence our military through direct contact through social media with our veterans through these proxy sites?

Secretary MATTIS. I know that training is probably the number one way to armor our people against this sort of thing, and training is perishable. It has to be ongoing. I have no complacency about this.

I will see if the Chairman has anything to offer.

But I will just point out that we have funded Cyber Command. We have all sorts of things going on with NSA that keeps us posted, puts protections, firewalls, into place.

We have blocked a number of times, as you have seen, malicious malware being used where we were not affected. That was not because we were lucky. That was because we were throwing obstacles in the path and building firewalls as fast as we could. All you can do is stay ahead of these. You cannot build one and say, “There. I can go home now.”

So training and constant attention to the protective measures, I can guarantee you, is ongoing. I am briefed weekly on this, and the brief itself is pages long, as I look at the various blocks and countermeasures we are putting in place and what we are finding out about what various actors are up to.

Anything else, Chairman?

General DUNFORD. Senator, I would probably say two things.

I do believe, and I have seen it, that the Service Chiefs, in particular, have really changed the command climate with regard to cyberspace and emphasized that, and treated violations of the protocols associated with our information technology as violations of UCMJ [Uniform Code of Military Justice] in holding people accountable.

So as the Secretary said, it is about training. It is also about accountability. I think our culture of accountability with regard to information technology has changed a great deal.

I also think, with the support of the Congress, our cyber capabilities, while we continue to need to grow them, have grown quite a bit. The 133 cyber mission teams that you all approved, 70 percent of them now are fully operational capable. I think if we had this conversation 24, 36 months ago, we would have been talking about just getting out of the gate. Now 70 percent of them are fully operationally capable.

In the coming months, we will have 133 of those teams that are fully operationally capable and continue to identify requirements to make sure that we can stay out in front of the threat.

But I think the Secretary used the word complacency. I think your fundamental question is, do we get it? Are we changing the culture? Are we taking effective action to deal with threat? I do think we have significantly changed the culture. None of us believe we are where we need to be.

Senator McCASKILL. Thank you, Mr. Chairman.

I would say that one of the things that worried me the most in this article I read was that there was a purported story of a Russian soldier in Syria, and how he had been heroic in the way he had died fighting ISIS, and that this spread like wildfire through troops in various places.

We have seen an uptick in the popularity, the approval rating, of Putin and Russia in this country. I just worry that they are really insidiously trying to insert combat-related stories that reflect favorably on Russian soldiers, when instances may not even be true. That is infecting our troops with maybe less than a clear eye about what Russia is and about what Russia is trying to do.

I just wanted to put that on the record.

Secretary MATTIS. This is also understood throughout NATO, Senator. The German Minister of Defense, she was explaining to me how one of their soldiers deployed to Lithuania, I think it was, was alleged to have raped a Lithuanian girl. "Here come the German bad soldiers," a completely made-up story, trying to undercut the cohesion of NATO.

I am just pointing out that this is a military problem. It is accepted as a military problem. We are working it.

But I think we have a long way to go up against this rather imaginative enemy that we have.

Senator McCASKILL. Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Sullivan has some additional questions.

Senator SULLIVAN. Thank you, Mr. Chairman.

Gentlemen, I just wanted to follow up on the North Korea discussion briefly.

Mr. Secretary, General Dunford, I know you are Korean War history buffs in many ways. I heard you talk about the Korean War, as a matter of fact, yesterday in your House Armed Services testimony.

General Dunford, you talked about a potential conflict on the Korean Peninsula. Seoul residents would face casualties unlike anything we have seen in 60 or 70 years. General Milley had similar testimony a couple weeks ago before this committee about what a conflict on the Korean Peninsula could be like.

Mr. Secretary, you just mentioned the rapidly developing threat that the North Koreans present in terms of an intercontinental ballistic missile. To Senator Graham's question, you stated it was the policy of the Trump administration to prevent them from getting that capability. I think you have strong support from most members of the committee on that.

But it certainly does seem like those two issues are going to start colliding here relatively soon. I know there are a lot of ways to prevent them from getting that kind of capability, left of launch kind of activities.

But if one of those ways was a decision to take some kind of preemptive military action, I believe that that would clearly trigger Congress' Article One authority with regard to declaring war, and you would need this body's authority to take such action.

Do you agree with that? Has that been a discussion in the Trump administration? It is a very big issue that I am not sure has gotten enough attention.

Secretary MATTIS. I have not brought that issue to the President's attention, sir. Right now, as you know, from Mar-a-Lago, where the President met with his counterpart, to Secretary Tillerson and I, who will be following up with our counterparts in the next week or 2 weeks here in Washington as we have strategic security dialogues, we are doing everything we can to avoid resorting to war, in terms of protecting ourselves and our allies.

Senator SULLIVAN. I think it is an issue that should be on somebody's radar screen, not that we want that, but part of what the President has been trying to do, and I am fully supportive, is get the Congress to be supportive of his policy, like I mentioned. That is why I thought the briefing at the White House a few months ago was actually very useful.

But to continue to have that support, we need to be involved. I think that is something that this committee needs to be cognizant of, but also the White House does as well.

Let me ask one final question. In the past 6 weeks, the Russians have sent Bear bomber missions off the coast of Alaska that have been intercepted by our F-22s based there five times in the last 6 weeks.

What do you think the Russians are up to with this kind of very persistent checking of our NORAD [North American Aerospace Defense Command] systems? That is a pretty active engagement. Last time, it was not just with Bear bombers but with fighter escorts. What do you think they are trying to do in the Arctic? What are they trying to achieve? Why are they so active up there?

Secretary MATTIS. Sir, I am not sure what they are trying to achieve there. When you look at the combination of their cyberthreats to democracies, when you look at what they are doing in Syria, the Bear bombers, as you put this panoply of activities together, it is very, very concerning, and we are going to have to turn this around. The cycle has got to be turned around.

I think it is going in the wrong direction, in terms of stability and peace. This is where miscalculations can occur.

Senator SULLIVAN. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. I thank the witnesses for their patience. I thank them for their responses.

I want to emphasize again, Mr. Secretary, it is not your fault, not yours, Secretary Norquist, General Dunford. But we are not going to sit still while you settle the internecine strife that is obviously going on, which is preventing this strategy from coming forward.

We are moving forward with authorization, with appropriation. Without a strategy, it makes our job 10 times harder.

I think we have been pretty patient with you. We are going to start putting pressure on, because we need a strategy. To sit here June 13th, 2017, and say, "Well, don't worry. We are going to be coming forward with a strategy," things are happening too rapidly in the world.

So you have my greatest respect and admiration, but we are not doing the job for the American people that they expect us to do. So it is what it is.

I thank the witnesses, and I thank you for being here.

The hearing is adjourned.

[Whereupon, at 12:16 p.m., the committee adjourned.]

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR DAN SULLIVAN

NORTH KOREA PROVOCATIONS

1. Senator SULLIVAN. Secretary Mattis and General Dunford, it is no longer an "if" North Korea gets a nuclear-capable ICBM that can reach cities like Chicago and New York, it is a "when." From a missile defense perspective, how would you characterize tomorrow's threat from North Korea and the need to quickly address it?

Secretary MATTIS. The Department of Defense has been preparing for this eventuality since we began deploying the Ground-based Missile Defense system in 2004, and we have been continually updating and improving that system. The 2013 decision to increase from 30 to 44 interceptors arose from the realization that the threat from North Korea was increasing. I am confident that our Homeland missile defense system is capable of dealing with this threat. I am overseeing the Department's review of our missile defense policies and programs. We will use the results of this review to ensure that we stay ahead of the threat.

General DUNFORD. North Korea is aggressively pursuing nuclear-capable ICBMs, and will undoubtedly seek to produce as many ICBMs as they can to directly threaten the United States Homeland. Our missile defense capabilities must advance to keep ahead of the North Korean threat. To achieve this, we must invest more now into a layered missile defense system that better protects the Homeland and negates the advantages North Korea seeks in continued development.

2. Senator SULLIVAN. Secretary Mattis and General Dunford, Kim Jong-Un is different from his father and grandfather because he understands that failed in missile tests ultimately produce successful ones. As General Hyten stated, "I think they [North Korea] already have the capability to deploy an intercontinental ballistic missile, the question is when will they be able to mate a nuclear weapon to it ... North Korea's going fast; test, fail, test, fail, test, succeed. And they're learning and you can see them learning, because that's the way you do the rocket business." Does the rapid pace of his testing worry you, as it worried General Hyten?

Secretary MATTIS. Yes, the pace of North Korea's advance in this area is concerning. I take this threat very seriously.

General DUNFORD. North Korea's ongoing ICBM and nuclear weapon development is aggressive and troubling. Since 2016, North Korea has conducted over 34 ballistic missile tests, including the July 4 and 28 ICBM launches, as well two nuclear tests. This pace of development has increased tremendously over previous years, and I expect this pace of testing to continue. For this reason, we must continue to apply pressure to constrain resources supporting North Korean ICBM and nuclear development, and further strengthen our military deterrence and defense in conjunction with our allies to halt the pace and reduce the threat.

3. Senator SULLIVAN. Secretary Mattis and General Dunford, 2 weeks ago in response to North Korea's provocations, I introduced the Advancing America's Missile Defense Act of 2017 and we already have 14 bipartisan cosponsors supporting this legislation. In your respective personal opinions, do you support increasing the capability and capacity of the Ground-based Midcourse Defense (GMD) system, including increased GBI capacity, space-based sensors, and more missile defense testing?

Secretary MATTIS. We continue to expand the Ground-based Missile Defense system as reflected in the fiscal year 2018 budget request. Additionally, the Department is conducting a Ballistic Missile Defense Review that will address the potential need for additional Ground-based Interceptors, ground-based and space-based sensors, and testing. It would be premature to speculate on the results of that review.

General DUNFORD. North Korea has expanded the size and sophistication of its ballistic missile forces, from close-range ballistic missiles to ICBMs, and has conducted an unprecedented level of nuclear tests and ballistic missile launches since 2016, including its fourth and fifth nuclear tests and two ICBM tests. Given the threat we face today from North Korea, I support the current GMD program of record. The ongoing Ballistic Missile Defense Review will further inform the department on enhancements that can be made to increase the capability and capacity of the GMD system.

CONGRESSIONAL AUTHORIZATION OF WAR

4. Senator SULLIVAN. Secretary Mattis, given the depth of your knowledge of military history, would you agree that before authorizing any potential pre-emptive action against North Korea—an action that could lead to the next war—the President of the United States would first have to ask Congress under its “War Powers” authority within article I, section 8, clause 11 of the U.S. Constitution?

Secretary MATTIS. I understand that opinions of the Department of Justice Office of Legal Counsel and historical precedents establish that the President has the power to commit U.S. forces abroad as well as to take military action for the purpose of protecting important national interests even without specific prior authorization from Congress. I understand that this independent authority of the President derives from the President's unique responsibility as Commander in Chief and Chief Executive. This understanding of the Constitution should not be mistaken to diminish the importance of the Congress in such matters. Particularly in the case of major or prolonged conflicts, express congressional authorization is an important demonstration of national resolve.

RUSSIAN ACTIVITY IN THE HIGH NORTH

5. Senator SULLIVAN. Secretary Mattis, what message do you think the Russians are trying to send us with their five recent long-range aviation flights near American and specifically Alaskan airspace? Are they testing our responses?

Secretary MATTIS. The flights did not demonstrate a serious effort to test our responses. Russia's repeated flights were likely designed to express its displeasure with a series of events that it perceives to be against its interests.

6. Senator SULLIVAN. General Dunford, when was the last time we've seen activity like this? When was the last time they sent Flankers to accompany their bombers, and do we know if these their bombers are armed?

General DUNFORD. [Deleted.]

7. Senator SULLIVAN. Secretary Mattis and General Dunford, what are the next steps that you think we be taking to respond to Russia's continued provocative behavior? What can or should we be doing to respond in the Arctic?

Secretary MATTIS. Russia must be held accountable for its provocative and destabilizing behavior, including for its alarming messages regarding the use of nuclear weapons; treaty violations; the use of hybrid warfare tactics to destabilize countries along its periphery; and involvement in hacking and information warfare. We will counter Russian activities when Russia chooses to act contrary to United States interests. The United States should and will continue working with our Allies to increase defense spending and to enhance the readiness and responsiveness of our forces in the European theater. We will also continue to build capacity in those Allied and partner nations most susceptible to Russian pressure. In addition to this hard power defense capability, countering Russian hybrid tactics requires an integrated, whole-of-government effort. Where Russia employs hybrid tactics, Russia must face consequences that persuade it that the costs of engaging in cyber attacks and malign influence campaigns will be greater than the expected benefit. The De-

partment of Defense recognizes the need for the utmost diligence in assessing the presence and capabilities of foreign military forces in the Arctic, including those of Russia. In response to these assessments, the Department will regularly review requirements as the threats and conditions in the Arctic evolve. The Department of Defense must balance having adequate capabilities, capacities, and readiness to execute missions in the Arctic against other global requirements. As in other areas where we confront complex challenges, the Department is working to leverage the capabilities of our allies and partners to complement our own capabilities.

General DUNFORD. Russia has undertaken a significant effort to expand its military capabilities in the Arctic, including rebuilding bases and infrastructure in its northern territories, establishing Coast Guard facilities, and dedicating military personnel and assets to Arctic service. I am not aware of provocative behavior by Russia in this region; however, should there be in the future, we are prepared to defend the U.S. against any aggression, to include that which might originate from the Arctic region. Addressing capability gaps in key enablers, particularly command and control, ISR, domain awareness, and remote sensing and observing, must remain a priority to ensure our ability to conduct Arctic operations.

DOD STRATEGY FOR THE INDO-ASIA-PACIFIC REGION

8. Senator SULLIVAN. Secretary Mattis, I know that the Department is currently flushing out its new strategy for the Indo-Asia-Pacific. Can you share some of the details of this new strategy?

Secretary MATTIS. The Department is in the process of drafting a National Defense Strategy that will articulate our approach to challenges across the globe, as well as the Department's Asia-Pacific strategy, in accordance with statutory reporting requirements. Without getting ahead of those strategy review processes, I can say that the Asia-Pacific is both the primary strategic theater and an area in which we have a deep and abiding commitment to reinforcing the rules-based international order. As Vice President Pence stated in April, we will defend that order "upon which the region's progress, past, and future depends."

9. Senator SULLIVAN. Secretary Mattis, how does this strategy differ from the previous Administration? How is it similar?

Secretary MATTIS. Although I do not want to get ahead of the National Defense Strategy process that is underway, I can highlight some of the key challenges the Department faces in the Asia-Pacific to be addressed in the new strategy.

First, the most urgent and dangerous threat to peace and security in the Asia-Pacific is North Korea. In addition to taking further steps to protect the Homeland, the United States, in close coordination and cooperation with the Republic of Korea and Japan, will increase diplomatic and economic pressure until North Korea finally and permanently abandons its nuclear and ballistic missile programs.

Second, although I welcome China's economic development, the United States cannot accept Chinese actions that impinge on the interests of the international community, undermining the rules-based order. The Department will continue to protect the freedom of navigation and overflight and other lawful uses of the sea, such as the unimpeded flow of lawful commerce, in the vital South China Sea and beyond. The United States seeks a constructive, results-oriented relationship with China, where we responsibly manage competition and areas where we disagree.

Third, violent extremist organizations, including fighters returning from the Middle East, and local individuals radicalized by malicious ideologies, seek to gain ground in Southeast Asia. To address this challenge, the Department remains committed to leading the Defeat-ISIS Coalition and is conducting other efforts, including partnering with countries in the region, such as the Philippines, Singapore, Malaysia, and Indonesia to improve information sharing and maritime domain awareness.

FREEDOM OF NAVIGATION OPERATIONS

10. Senator SULLIVAN. Secretary Mattis, given the recent freedom of navigation operation near Mischief Reef, can this committee safely assume that the U.S. will resume routine and regular FONOPs in the South China Sea to the point where they are no longer newsworthy?

Secretary MATTIS. Yes.

QUESTIONS SUBMITTED BY SENATOR BILL NELSON

ENCROACHMENT ON TEST AND TRAINING RANGES

11. Senator NELSON. Secretary Mattis and General Dunford, encroachment of activities incompatible with military test and training operations on our bases and ranges remains a major problem. In 2006 Congress established the Military Mission Line, prohibiting oil and gas activities, and any activities conducted in preparation for oil and gas activities, in the Eastern Gulf in order to protect the test and training range there. The Department of Defense has said that the “vital importance of maintaining this moratorium cannot be overstated.” Secretary Mattis and General Dunford, how important is it to test operations as well as training and readiness to continue to prevent this kind of encroachment in the Eastern Gulf Test and Training Range?

Secretary MATTIS. The Eastern Gulf of Mexico operating areas and warning areas provide a critical national defense complex for advanced weapon testing and joint training exercises. The protections provided by the Gulf of Mexico Energy Security Act of 2006, or similar instrument, must remain in order to protect this unique operating environment.

The Department of Defense supports the development of our nation's domestic energy resources in a manner that is compatible with military training, testing, and operations. In all areas, we work to determine if there is an acceptable mitigation strategy to minimize impacts, although the test mission in the Eastern Gulf of Mexico does present some unique compatibility challenges. The Department is an active participant in the new National Outer Continental Shelf Plan established by the President's Executive Order of April 28, 2017, “Implementing an America First Offshore Energy Strategy.” Through this new forum we will work with the Department of Interior to ensure that our current and future combat capabilities are protected well beyond the 2022 expiration of the military mission line.

General DUNFORD. The Joint Staff defers to the Office of the Secretary of Defense to provide this answer.

MAJOR RANGE AND TEST FACILITY BASES

12. Senator NELSON. Secretary Mattis and General Dunford, last year's National Defense Authorization Act (NDAA) expressed my concern and the concern of this committee that our Major Range and Test Facility Bases are unable to maintain pace technologically with our advanced fifth and sixth generation weapons delivery systems and new hypersonic systems. Secretary Mattis and General Dunford, how do you see high fidelity simulation upgrades at these ranges factoring into effective testing of our newest weapons delivery systems and munitions?

Secretary MATTIS. High fidelity simulations are essential to the effective testing of our newest weapons delivery systems and munitions. The increased capability and complexity of advanced fifth and sixth generation weapons and new hypersonic systems under development cannot be adequately tested with current test capabilities. Furthermore, traditional test methodologies often fail to measure mission effectiveness of system-of-systems across an expanded, distributed battlespace. High fidelity simulations being developed to test our latest air platforms, such as the Joint Simulation Environment, are essential to effectively testing our newest weapons delivery systems, hypersonic systems, and munitions. Using the Test and Training Enabling Architecture, the Joint Mission Environment Test Capability links high fidelity simulations with test capabilities at our Major Range and Test Facility Base so that advanced weapons systems can be set in a more realistic and robust test environment. In an effort to more fully leverage the benefits of high fidelity simulations, we are maturing technologies to improve multi-level security interoperability; streamline our model development, integration, and validation processes; and expand the incorporation of cyber effects into these complex, distributed test events.

The Department will continue funding ongoing efforts to: (1) identify test and evaluation (T&E) instrumentation requirements; (2) develop additional operationally realistic live-virtual-constructive modeling and environments; (3) manage spectrum shortfalls; and (4) develop additional T&E range capabilities. An ongoing initiative includes the development of an enterprise library of common cyber and electronic warfare threat capabilities and methodologies. This library will improve acquisition program testing for our fifth and sixth generation capabilities by ensuring the most current validated threat representations are used across the development cycle.

General DUNFORD. Secretary Mattis, high fidelity simulation is essential to effective testing of new weapons delivery systems and munitions to counter near-peer competitors. It is critical that major range and test facilities are recapitalized to have emitters, sensors, networks, and telemetry capabilities that can provide high

fidelity simulation of various anti-access area denial environments to properly simulate potential wartime scenarios.

SERVICES SUPPORT TO SPECIAL OPERATIONS

13. Senator NELSON. Secretary Mattis and General Dunford, in your testimony, you both referred to some conventional forces with specialized missions or increased capabilities as force multipliers for special operations forces. The Navy Reserve has one such unit, known as HSC-85, which is currently continuously deployed in the PACOM theater of operations. HSC-85 provides dedicated rotary wing support to Naval Special Warfare and other SOF while deployed as well as in training. Their sister squadron, HSC-84, flew alongside the 160th Special Operations Aviation Regiment for over ten years in Operation Iraqi Freedom, providing support to all levels of special operations in that theater before being disestablished by the Navy, arguably before complying with the full requirements placed on the Navy as a prerequisite to their disestablishment in the fiscal year 2016 NDAA. HSC-85 and HSC-84 were previously known as Helicopter Combat Support (Special) Squadrons HCS-4 and HCS-5. These squadrons have been providing dedicated special operations support since the Vietnam conflict when their predecessors Helicopter Attack Squadron (Light) HAL-3, HAL-4, and HAL-5 protected our Brown Water Fleet operations there. Secretary Mattis and General Dunford, how important is it for the individual services to continue to man, train, and equip HSC-85 and other force multipliers that provide support to special operations?

Secretary MATTIS. The Department continues to invest in and focus on the Asia-Pacific region because of the long-term consequences of regional instability, the emerging regional threats, and the long-standing U.S. role in ensuring the region's stability. The fiscal year 2018 budget identified select investments as part of a broader effort in rebuilding the military to be more ready, capable, and lethal, particularly for forward deterrent forces. This effort included funding to support infrastructure investments necessary to station a fifth submarine in Guam by fiscal year 2020; procurement of 14 cutting edge F/A-18 E/F (Super Hornet) aircraft; procurement of 2 Flight III *Burke*-class destroyers equipped with a new sensor suite to counter the most advanced weapons of near-peer competitors; funding of maintenance, repair, and modernization of our surge sealift ships; and other, targeted investments to improve resiliency; expand and diversify munitions; enhance intelligence, surveillance, and reconnaissance (ISR), undersea, and long-range strike capabilities; and demonstrate other advanced operational capabilities while improving force availability for major contingency operations. The Department currently is in the process of drafting a National Defense Strategy that will inform the fiscal year 2019 budget request, including areas for additional investment in capabilities suited to the challenges we face in the Asia-Pacific. Future investments will focus on rebuilding our military to be more ready, capable, and lethal, particularly our forward deterrent forces.

General DUNFORD. The U.S. Navy is best suited to provide further details addressing your concerns with regards to man, train, and equip the HSC-85 and other force multipliers that provide support to SOF.

QUESTIONS SUBMITTED BY SENATOR CLAIRE MCCASKILL

QATAR

14. Senator MCCASKILL. Secretary Mattis and General Dunford, can you please outline the national security impact of the recent decision by a number of Gulf Cooperation Council members to sever diplomatic ties with Qatar from each of your perspectives, both policy and military?

Secretary MATTIS. The rift within the Gulf Cooperation Council has not affected U.S. military operations in the region. However, the U. S. continues to press for a resolution to this conflict. Our common security is a top priority, and our Gulf partners, including Qatar, play important roles in the region by hosting our forces and providing support to the Defeat-Islamic State in Iraq and Syria coalition. United States efforts to resolve this crisis are being led by the Department of State, with the Department of Defense playing a supporting role.

General DUNFORD. The Gulf Dispute concerns us because the U.S. considers each primary party to be an important partner in the region. The Gulf Dispute has diminished intra-Arab trust and confidence and serves to distract GCC members from their collective security. Impacts on U.S. military operations have been negligible and the Joint Force continues to benefit from access, basing, and overflight permissions from the Gulf States. Moreover, we support the Department of State-led ap-

proach to resolving the dispute, and look forward to continued military cooperation in the region.

15. Senator MCCASKILL. Secretary Mattis and General Dunford, has this decision had any immediate impact on our counter-ISIL campaign?

Secretary MATTIS. The rift within the Gulf Cooperation Council has not affected U.S. military operations in the region. U.S. military aircraft continue to conduct missions in support of ongoing operations in Iraq, Syria and Afghanistan. Qatar has also provided additional C-17 airlift support for Defeat-Islamic State in Iraq and Syria operations that was previously deployed in Yemen.

General DUNFORD. The diplomatic rift between Qatar and the Gulf Cooperation Council (GCC) remains a concern. It has had no immediate operational impact on our Defeat ISIS military campaign in Iraq and Syria.

16. Senator MCCASKILL. Secretary Mattis and General Dunford, do either of you foresee any long-term impact on our counter-ISIL campaign?

Secretary MATTIS. I do not expect the rift within the Gulf Cooperation Council to affect the Defeat-Islamic State in Iraq and Syria campaign. However, the coalition is stronger when our partners are also working together. I encourage all our partners in the region to reduce tensions and work towards common solutions that enable regional security.

General DUNFORD. If the stalemate continues, there is a greater chance of further escalation by Qatar or its neighbors, which could at the very least, distract from our long-term Defeat ISIS and counterterrorism efforts in the region.

17. Senator MCCASKILL. Secretary Mattis, the Defense Security Cooperation Agency stated in a November 2016 letter certifying the national security rationale for the sale of defense materials to Qatar, including the F-15, "This proposed sale enhances the foreign policy and national security of the United States by helping to improve the security of a friendly country and strengthening our strategically important relationship. Qatar is an important force for political stability and economic progress in the Persian Gulf region." Does the Department still believe that the proposed sale of defense items is in the foreign policy and national security interests of the United States? If not, please provide the Department's rationale for changing this position.

Secretary MATTIS. Qatar is a strong partner in the region and provides critical support to the Defeat-Islamic State in Iraq and Syria (D-ISIS) campaign. In addition to hosting United States forces, Qatar recently contributed eight C-17 aircraft to support D-ISIS operations. The sale of F-15 fighter aircraft will continue to increase our interoperability and enhance Qatar's capability to join in future coalition operations. I recognize that Qatar can improve in certain areas, and Qatar is committed to improving its counterterrorism efforts. The Department will continue to strengthen our partnership with Qatar and work together to enable regional security.

QUESTIONS SUBMITTED BY SENATOR RICHARD BLUMENTHAL

SAUDI ARMS DEAL

18. Senator BLUMENTHAL. Secretary Mattis, while in Saudi Arabia last month, the President announced a so-called \$110 billion arms deal. Full details of this deal remain elusive. What is your assessment of the Saudi arms deal and its impact on Israel's qualitative military edge? Were you consulted?

Secretary MATTIS. The arms deal with Saudi Arabia was designed to augment the Kingdom of Saudi Arabia's ability to protect its borders and counter terrorist threats. The Department was consulted on the deal and supports the Department of State's determination that it does not adversely affect Israel's qualitative military edge. As it does with all sales and exports of defense articles to the Middle East, the Department of State conducted a significant review of the capabilities to ensure that they do not adversely affect Israel's qualitative military edge.

19. Senator BLUMENTHAL. Secretary Mattis, what threats are the weapon systems in this deal meant to counter in particular?

Secretary MATTIS. This package provides full-spectrum capabilities that fall broadly into five categories: border security and counterterrorism; maritime and coastal security; air force modernization; air and missile defense; and cybersecurity and communications upgrades. The package will significantly augment the Kingdom

of Saudi Arabia's capabilities to help deter regional threats, including the growing conventional and asymmetric threats from Iran, and the threat from al-Qa'ida in the Arabian Peninsula. This package will also enhance the Kingdom's ability to protect its land and maritime borders and contribute to coalition counterterrorism operations.

QUESTIONS SUBMITTED BY SENATOR JOE DONNELLY

MENTAL HEALTH—SEXTON ACT

20. Senator DONNELLY. Secretary Mattis, following up on a question I asked during the hearing, section 701 of the fiscal year 2015 NDAA includes what we call the Sexton Act requirement, which requires that every servicemember—Active, Guard or Reserve—receive a robust, person-to-person mental health assessment every year. In the past, the Department and Services have testified to this committee that this requirement would be fully implemented by October 2017. What is the current status of the Department's efforts to move toward full implementation of the Sexton Act?

Secretary MATTIS. By September 30, 2017, the annual Department of Defense (DOD) Periodic Health Assessment (PHA), which incorporates the fiscal year 2015 NDAA section 701 requirements for DOD Mental Health Assessment (MHA), will be used to provide mental health assessments for all Active Duty Service members. However, since the assessment is web-based, there will be a small number of Service members? (Navy Afloat, some Marine Corps and Navy Reserve) who do not have access to computers and will not be able to implement the DOD PHA until 2018. Additionally, due to the need of a contract modification, Guard and Reserve Service members who rely on the Reserve Health Readiness Program will not be able to implement the DOD PHA until early 2018.

21. Senator DONNELLY. Secretary Mattis, when do you expect the Department to issue regulations for the administration of the requirements under section 701 of the fiscal year 2015 NDAA?

Secretary MATTIS. The Department of Defense issued the revised DOD Instruction 6200.06, "Periodic Health Assessment (PHA) Program", on September 8, 2016. The revised instruction includes the fiscal year 2015 NDAA section 701 requirement for Mental Health Assessment. In addition, the Defense Health Agency procedural instruction for the new requirement was published on May 9, 2017.

QUESTIONS SUBMITTED BY SENATOR MAZIE HIRONO

DPRI

22. Senator HIRONO. Secretary Mattis, as you know I have been closely following the Defense Policy Review Initiative and the relocation of Marines in the Asia-Pacific region. Between the new lawsuit planned by the governor of Okinawa to halt construction of the Futenma replacement facility, environmental issues and concerns with training ranges proposed for the CNMI, the pathway to accomplishing the current plan appears complicated. And this is with the current national government in Japan who agrees with the current plan. What is the current status on the progress of the established plan?

Secretary MATTIS. In February, President Trump and Japan Prime Minister Abe reaffirmed the commitment of both countries to the realignment plan, and to the construction of the Futenma Replacement Facility (FRF) and the return of Marine Corps Air Station Futenma.

Even though the Okinawan prefectural government has submitted another lawsuit regarding the FRF, the Government of Japan (GoJ) is confident that it will prevail again in court, and has in fact not halted construction in the face of this lawsuit. The seawall and supporting shoreline road are being expanded every day. In Guam, a favorable biological opinion on July 19th from the Fish and Wildlife Service has opened the door to the potential award of more than \$750 million in construction projects by the end of this calendar year, including the foundational \$309 million utilities and site improvement project for the future Marine Corps Base Guam. Approximately \$500 million of these contracts would come from Japanese-provided funding. On August 11, 2017, the U.S. Treasury received \$235.8 million for new construction and design projects from the GoJ fiscal year 2017 budget. The total GoJ contribution to date is more than \$1.5 billion of a \$3.1 billion commitment.

The logic of the relocation, land returns and FRF remains sound. In order to retain a politically sustainable force posture for United States forces in Japan, especially Okinawa, we must reduce our footprint and return land to the GoJ. Because we are relocating some of our forces to Guam, relatively close to the current location of the Marines in Okinawa, the GoJ is willing to fund a substantial portion of the construction cost. This relocation is consistent with our overall Pacific posture strategy which is a more geographically distributed, operationally resilient, and politically sustainable force posture provides the United States, with flexible crisis response options to meet a wider range of potential regional contingencies.

23. Senator HIRONO. Secretary Mattis, are we at a point where the U.S. should begin to consider alternatives to the current plan to ensure that the relocation meets the operational requirements of the force?

Secretary MATTIS. President Trump and Prime Minister Abe affirmed their commitment to the realignment plan, and I have provided similar assurances to my Japanese counterpart. I assess that the plan is executable, and my staff will continue to monitor its progress.

FOCUS ON THE ASIA PACIFIC

24. Senator HIRONO. Secretary Mattis, is the department continues to focus our military forces on threats the Asia-Pacific, there are clearly new challenges in terms of available resources with many worldwide threats and challenges to address. The U.S. focus on the Pacific is on strengthening alliances; encouraging a more interconnected region and building U.S. military and allied capabilities. How does the fiscal year 2018 budget proposal affect the military focus on the Pacific region and readiness of our troops in the region and are sufficient resources requested in the Fiscal Year 2018 President's Budget to accomplish these goals?

Secretary MATTIS. The fiscal year 2018 budget request reflects my priorities for investments within the Asia-Pacific across a range of capabilities, including intelligence, surveillance, and reconnaissance; undersea and long-range strike capabilities, and advanced technologies to meet evolving regional challenges. The Department is working toward the development of an Asia-Pacific Stability Initiative (APSI) to close program gaps where United States Pacific Command has unique combat capability, capacity, and/or readiness needs. APSI will bolster U.S. forces in the region, in part, by improving resiliency, expanding and diversifying munitions, and investing in and demonstrating other advanced operational capabilities. For the realignment of U.S. forces, the fiscal year 2018 budget request includes \$262 million in military construction funding for the relocation of forces to Guam and \$76 million in military construction funding to support rotational initiatives in Australia. Japan is funding \$3.1 billion of the estimated \$8.7 billion cost to realign United States forces from Okinawa. The Republic of Korea is sourcing 92 percent of the total \$10.7 billion cost for relocation of United States forces from Seoul and other areas.

General DUNFORD. The fiscal year 2018 budget request addresses and prioritizes our five strategic challenges (Russia, China, North Korea, Iran, and violent extremist organizations) targeting investments in capability, capacity, and readiness. This budget includes sufficient funding to support our commitments in the Asia-Pacific region. However, our competitive advantage is eroding and without adequate and stable funding we will be challenged to maintain these commitments.

APSI

25. Senator HIRONO. Secretary Mattis, while at the Shangri La Conference you stated that you "look forward to working with them to develop an Asia-Pacific stability initiative that complements the ongoing large-scale investment in our budget to improve and reinforce the U.S. military's capabilities across the region." Chairman McCain proposed the Asia Pacific Stability Initiative, which suggested \$7.5 billion in funding for United States forces and their allies in the Asia-Pacific. In what areas (geographic and/or functional) would you recommend that resources be directed if such an initiative were authorized by Congress?

Secretary MATTIS. The Department continues to invest in and focus on the Asia-Pacific region because of the long-term consequences of regional instability, the emerging regional threats, and the long-standing U.S. role in ensuring the region's stability. The fiscal year 2018 budget identified select investments as part of a broader effort in rebuilding our military to be more ready, capable, and lethal, particularly for forward deterrent forces. This included funding to support infrastructure investments necessary to station a fifth submarine in Guam by fiscal year 2020; procurement of 14 cutting edge F/A-18 E/F (Super Hornet) aircraft; procurement of 2 Flight III *Burke*-class destroyers equipped with a new sensor suite to

counter the most advanced weapons of near-peer competitors; funding of maintenance, repair, and modernization of our surge sealift ships; and other, targeted investments to improve resiliency; expand and diversify munitions; enhance intelligence, surveillance, and reconnaissance, undersea, and long-range strike capabilities; and demonstrate other advanced operational capabilities while improving force availability for major contingency operations. The Department currently is in the process of drafting a National Defense Strategy that will inform the fiscal year 2019 budget request, including areas for additional investment in capabilities suited to the challenges we face in the Asia-Pacific. Future investments will focus on rebuilding our military to be more ready, capable, and lethal, particularly our forward deterrent forces.

QUESTIONS SUBMITTED BY SENATOR ELIZABETH WARREN

ELEVATION OF CYBER COMMAND

26. Senator WARREN. Secretary Mattis, last year, this committee directed the Department of Defense to elevate Cyber Command to a full unified command, and gave Cyber Command unique “Service-like” authorities to train and equip. Please provide a status update and timeline for the elevation of Cyber Command.

Secretary MATTIS. The decision to elevate U.S. Cyber Command to a Unified Combatant Command rests with the President. The Department continues to prepare for elevation as directed in fiscal year 2017 National Defense Authorization Act and is postured to implement elevation, should the President decide to do so.

27. Senator WARREN. Secretary Mattis, how will the organization of Cyber Command be changed to accomplish the functions that the military services currently provide?

Secretary MATTIS. Following a Presidential decision to elevate U.S. Cyber Command to a Unified Combatant Command, as the command matures, the Department will continue to evaluate opportunities to train and equip cyber forces in a more efficient and effective way.

28. Senator WARREN. Secretary Mattis, will additional personnel be required, and if so, will those personnel be military or civilian?

Secretary MATTIS. Yes, additional personnel will be required for the elevation of U.S. Cyber Command. The Department submitted an increase of 111 civilian full time equivalents in its Fiscal Year 2018 President’s Budget request to support the initial elevation of U.S. Cyber Command to a full Combatant Command.

29. Senator WARREN. Secretary Mattis, does the Department’s fiscal year 2018 budget request reflect the elevation of Cyber Command, and if so, how?

Secretary MATTIS. The Department has requested \$38 million in its fiscal year 2018 budget for the initial elevation of U.S. Cyber Command to a Unified Combatant Command. The funding will support additional manpower requirements for headquarters functions, facilities, information technology, and security needs for the new Unified Combatant Command.

30. Senator WARREN. Secretary Mattis, will resources for additional assigned mission and personnel be taken from Service budgets or does the Department intend to request additional funding for Cyber Command?

Secretary MATTIS. The Department continues to assess the best approach to fund the new Unified Combatant Command and will establish a working group to address issues such as these once the President announces his decision on when to elevate the command. In general, however, the Department intends to take a resource-neutral approach, including by shifting resources as appropriate from U.S. Strategic Command.

TARGETING MILITARY PERSONNEL FOR DISINFORMATION

31. Senator WARREN. Secretary Mattis and General Dunford, on June 12, 2017, Politico reported that the Russians have launched an aggressive disinformation and propaganda campaign explicitly targeting U.S. military personnel. According to Politico, their methods include “friending servicemembers on Facebook while posing as attractive young women to gather intelligence” and “targeting the Twitter accounts of Defense Department employees with highly customized phishing attacks.” Have you seen any evidence to indicate that a Russian disinformation campaign is targeting servicemembers?

Secretary MATTIS. Yes, Department counterintelligence organizations have identified several instances of such activity directed against U.S. and allied personnel.

General DUNFORD. Yes, we have. Russia targets both the general United States populace, as well as specific segments of society, to include military Service members, as part of their information operations and influence and disinformation campaigns. The cyberspace domain, to include electronic communication and social media, are relatively permissible environments for Russian state and state-affiliated actors.

32. Senator WARREN. Secretary Mattis and General Dunford, can you describe what the Department is doing to educate servicemembers about this threat?

Secretary MATTIS. It is Department policy that Counterintelligence Awareness and Reporting (CIAR) training on foreign intelligence entity threats, methods, reportable information, and reporting procedures shall be provided to Department of Defense (DOD) personnel within 30 days of initial assignment to or employment in a DOD Component, and every 12 months thereafter. The Military Department counterintelligence organizations are required to assist Department of Defense components in establishing a CIAR training program.

General DUNFORD. Our counterintelligence officers and analysts closely track foreign actors' efforts to target Defense Department and military personnel. DOD personnel are trained regularly on counterintelligence awareness and reporting. They are also regularly briefed on how to employ best operations security practices when using the internet and social media.

33. Senator WARREN. Secretary Mattis and General Dunford, have you instructed commanders to discuss how to recognize and respond to these types of activities with their units?

Secretary MATTIS. Commanders receive Counterintelligence Awareness and Reporting (CIAR) training as required by Department policy. All Department personnel are required to report contacts, activities, indicators, behaviors, and cyber threats associated with foreign intelligence entities. Personnel who fail to report such matters may be subject to criminal penalties or administrative action.

General DUNFORD. Our counterintelligence officers and analysts closely track foreign actors' efforts to target Defense Department and military personnel. DOD personnel are trained regularly on counterintelligence awareness and reporting. They are also regularly briefed on how to employ best operations security practices when using the internet and social media.

RULES OF ENGAGEMENT

34. Senator WARREN. Secretary Mattis and General Dunford, I am concerned about reports that the Administration will no longer publicly reveal how many civilian casualties were caused by U.S. forces, but will instead provide an aggregate "coalition" number. Please describe any changes from previous policy in how the Department of Defense estimates and reports civilian casualties incurred during U.S. operations.

Secretary MATTIS. Reporting on the number of civilian casualties resulting from all Coalition strikes, rather than only from strikes by U.S. aircraft, is meant to increase transparency of operational matters by reporting more and reflecting more accurately the Coalition nature of the Combined Joint Task Force—Operation Inherent Resolve mission. The Department of Defense (DOD) takes seriously reports that its operations have caused civilian casualties, and substantial efforts are made to review each report, regardless of the source of the information. DOD seeks to investigate each credible report as thoroughly as possible, subject to practical limitations. The U.S. military takes the greatest care in all theaters of operation to mitigate the risk of harm to civilians, and we recognize that minimizing civilian casualties furthers mission objectives, helps maintain the support of partner governments and vulnerable populations, and enhances the legitimacy and sustainability of U.S. operations critical to our national security. Not only do we train our forces on civilian harm mitigation and continually seek to improve our implementation of best practices, we have also developed a robust system of investigating credible reports of civilian harm so that we can take appropriate steps to address such incidents and draw lessons from our operations to further enhance the protection of civilians. U.S. Central Command's public reports and releases regarding civilian casualty assessments, once completed, can be found at <http://www.centcom.mil/media/press-releases>.

General DUNFORD. The Executive Order on Civilian Casualty reporting remains in effect and applicable to the Department of Defense. Commander Joint Task Force

Operation Inherent Resolve (CJTF OIR) is responsible for reporting and investigating allegations of civilian casualties. Since CJTF–OIR assumed responsibility from U.S. Central Command for this task (in October 2016) press releases referred to “Coalition” air strikes, although, in reality, the information only related to strikes from U.S. aircraft. In order to increase transparency of operational matters, from May 2017, reporting of civilian casualties from “Coalition” strikes now accurately reflects the Coalition nature of Operation Inherent Resolve. OIR targeting and strike processes are not run by a single nation. While aircraft from numerous countries may take part in a single strike, another nation may be involved in the target development, and another nation in the target approval. We fight as a coalition and it would be impossible to say only one nation was responsible for an effort that takes a team to execute. The Department’s decision to report civilian casualties using an aggregate “coalition” number is borne of the complexities in this modern battlespace, and reflects the high degree of importance that our coalition partners and allies place on their own conduct, as well as the high standards to which DOD holds itself. We take civilian casualties seriously and continue to go to extraordinary lengths to avoid all unintentional loss of civilian life. No force in the history of warfare has been as precise.

35. Senator WARREN. Secretary Mattis and General Dunford, have the rules of engagement for U.S. forces operating in areas of hostilities changed in any way from the previous Administration? If so, please describe these changes.

Secretary MATTIS. Since assuming office, I have not issued any changes to the rules of engagement. I do not anticipate any changes to the rules of engagement for U.S. forces that would change the extraordinary efforts we take to reduce the risk of harm to civilians in our operations, including acting in accordance with the law of war. The Department will keep Congress fully informed on these matters.

General DUNFORD. The Rules of Engagement for U.S. forces operating in areas of hostilities have not changed in any way since Administration turnover.

**DEPARTMENT OF DEFENSE AUTHORIZATION
FOR APPROPRIATIONS FOR FISCAL YEAR
2018 AND THE FUTURE YEARS DEFENSE
PROGRAM**

THURSDAY, JUNE 15, 2017

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

NAVY POSTURE

The committee met, pursuant to notice, at 9:33 a.m. in Room SD-G50, Dirksen Senate Office Building, Senator John McCain (chairman) presiding.

Committee Members present: Senators McCain, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Sullivan, Perdue, Cruz, Strange, Reed, McCaskill, Shaheen, Gillibrand, Blumenthal, Donnelly, Hirono, Kaine, King, Warren, and Peters.

OPENING STATEMENT OF SENATOR JOHN MCCAIN, CHAIRMAN

Chairman MCCAIN. Good morning.

The committee meets today to receive testimony on the plans and programs of the Department of the Navy for fiscal year 2018.

I want to thank each of our witnesses for their distinguished service to the Nation, as well as the sailors, marines, and civilians they lead who are serving around the world today.

In recent months, our Nation's senior civilian defense and military leaders have testified to this committee about the severe threats we face around the world. They have reported shortfalls in readiness, that our military advantage over our potential adversaries is eroding, and the dire need for new, modern capabilities.

And yet, as Secretary Mattis testified here on Tuesday, the greatest immediate threat that our military faces is right here in Washington: fiscal uncertainty, continuing resolutions, arbitrary and inadequate caps on defense spending, 4 more years of the Budget Control Act (BCA), and the threat of sequestration.

We desperately need a new approach. Unfortunately, the Administration's fiscal year 2018 budget request is insufficient to meet the challenges we face, rebuild the readiness and capacity of our force, and regain our military technological advantage. It is no wonder then that the Department of the Navy submitted over \$8 billion in unfunded priorities.

Our Navy has been too small for more than a decade. Despite a requirement for more than 300 ships since 2006, the fleet has re-

mained between 270 and 290 ships. These capacity shortfalls have largely driven present readiness challenges. Ten-month deployments are becoming the norm when it used to be six. Carrier strike group presence gaps in key regions are annual occurrences. More than half of Navy F-18s are not ready for combat. There is a backlog of more than \$14 billion in afloat and ashore readiness.

A Navy of 355 ships, with the right mix capabilities, is an appropriate goal. But this budget request makes no progress toward it. However, steps can be taken this year to grow the fleet, and this committee will consider all options.

Similarly, this budget request only supports a Marine Corps of 185,000 marines and 31 amphibious ships, despite a requirement for 194,000 marines and 38 amphibious ships. Meanwhile, Marine Corps aviation is in crisis. Fewer than half of Marine F-18s are ready for combat. As a result, non-deployed Marine aviation squadrons are short of the number of aircraft needed to train or respond in a crisis.

The budget request will help the Navy and Marine Corps to stanch the bleeding, but we can and must do better than that. We need to expand and modernize our maritime forces because our adversaries are not standing still. Indeed, as Chairman Dunford testified on Tuesday, “The competitive advantage that the United States military has long enjoyed is eroding. In just a few years, if we do not change trajectory, we will lose our qualitative and quantitative advantage.”

Our Navy and Marine Corps must be sufficiently sized and capable of projecting greater power over greater distances from the air, the sea, and beneath it. We need new concepts of operations and new programs that enable them. In particular, the Navy needs a carrier airwing with greater range and striking power, especially through unmanned platforms. And I continue to urge the Department of the Navy to examine how smaller aircraft carriers could improve current plans for super carriers and amphibious ships and provide a more capable, credible maritime force.

At the same time, as we advocate for increased defense spending, all of us must remain equally committed to exercising rigorous oversight of acquisition programs to ensure the best use of limited taxpayer dollars. I assure you this committee will.

Initial cost overruns more than doubled the cost of each littoral combat ship (LCS). Development costs for the ships and their modules now exceed \$6 billion, and they keep rising. Meanwhile, key warfighting capabilities of the LCS, including mine countermeasures and antisubmarine warfare, have fallen years—I repeat—years—behind schedule and remain unproven. Because of long-running cost, schedule, and performance issues with this program, I support the Department’s proposal to pursue, as quickly as possible, full competition in selecting a new frigate with greater lethality and survivability. The Navy should procure the minimum number of LCSs necessary to keep the workforce viable to compete for new frigates. Secretary Stackley has testified that would be one LCS in fiscal year 2018, not more. I want to emphasize, Secretary Stackley testified that would be one LCS in fiscal year 2018, not more.

On the *Ford*-class aircraft carrier, while it is encouraging to see the ship finally delivered to the Navy, the request for the *Gerald R. Ford*, or CVN-78, exceeds the cost cap by \$20 million. In addition, the Navy wants to award the construction contract for the third ship, the *Enterprise*, or CVN-80, in March 2018 at a cost of \$13 billion, which is \$1.6 billion more than the previous ship. This is unacceptable for a ship certified to be a repeat design that will deliver just 3 years later. Secretary Stackley and Admiral Richardson, I would like an explanation.

Similarly, given the importance of replacing our aging Marine Corps amphibious vehicle and aircraft fleets, the Marine Corps must learn the lesson of past failures, such as the expeditionary fighting vehicle, and deliver these needed capabilities on time, at cost, and up to expectations.

Some of the greatest threats and challenges of the future will be in the maritime domain, so it is important for this committee to ensure that our Navy and Marine Corps are not only ready for today's fight but also developing the capabilities for tomorrow's fights. This budget request is a start, but I am afraid it is not enough.

We should not ask our military to choose between readiness and modernization, between present needs and future needs. We owe our sailors and marines and all of our men and women in uniform more than that, a lot more. They serve and fight and sacrifice for us every single day. Let us do no less for them.

Senator Reed?

STATEMENT OF SENATOR JACK REED

Senator REED. Well, thank you very much, Mr. Chairman. I want to join Senator McCain in welcoming Secretary Stackley, Admiral Richardson, and General Neller to the committee this morning to testify on the plans and programs of the Department of the Navy for fiscal year 2018. We are grateful to all of your service and particularly grateful to the men and women who you lead, and please express our consideration and thanks to them.

I especially want to thank Secretary Stackley for his many years of service to the country, both in the Navy and on this committee. This may be your last appearance as Secretary. Thank you very much for a job well done.

Chairman MCCAIN. I am sure this is a sad moment for Secretary Stackley.

[Laughter.]

Senator REED. He was very upbeat when speaking before. But thank you again, Mr. Secretary.

Our witnesses face significant challenges as they strive to balance the need to support ongoing operations and sustain readiness with the need to modernize and keep the technological edge so critical to military success.

The Department of the Navy faces serious readiness problems, caused by deferred maintenance, reduced steaming and flying hours, and canceled training and deployments. The continued emphasis on readiness in this year's budget will address some of the Navy's most serious readiness problems, and I am interested in hearing the witnesses' views on this matter.

I am also interested in understanding what, if anything, the Navy is doing to accelerate overhaul of the USS *Boise*, an attack submarine that is prevented from operating because her diving certifications have expired. That is one blatant example of the readiness challenges that you face. The current plan would fail to get this boat recertified until sometime in 2019.

All areas of our naval forces are maintaining an extremely high operational tempo. This high level operations tempo contributed in part to the conclusion in the Chief of Naval Operations (CNO) new force structure assessment calling for increases in the goal for the Navy fleet from 308 ships to a level of 355 ships.

Demand is overwhelming for attack submarines, air and missile defense cruisers, destroyers, and strike fighter inventories. In addition, the Navy is now in its 5th year of operating with fewer than the required 11 aircraft carriers. And during the next decade, as a first priority, the Navy will need to buy a new class of strategic missile submarines to replace the *Ohio*-class submarines. I am interested in hearing how the Navy is managing current demands on its assets and how it plans to manage future modernization demands, particularly how it is using the National Sea-Based Deterrence Fund as we begin procurement funding of the *Ohio* replacement, the now *Columbia*-class program, as we begin that this year.

Commandant of the Marine Corps General Robert Neller has stated that the “recapitalization of our force is essential to our future readiness with investments in ground combat vehicles, aviation, command and control, and digitally interoperable protected networks.” The Marine Corps continues to make modernization of ground vehicles a priority by developing the amphibious combat vehicle to replace the aging inventory of amphibious assault vehicles, as well as partnering with the Army to develop the joint light tactical vehicle. I would welcome an update from our witnesses on the status of these programs and if they believe there will be significant delays in fielding due to delays in the acquisition program.

The Department of the Navy budget has its usual number of significant programs, some of which have issues with their execution. The chairman has pointed out in detail many of those. Last year, I raised the issue of the Navy submitting a budget that would leave the Navy in default on the multiyear V-22 tilt-rotor aircraft contract, a problem that was solved for you when the fiscal year 2017 DOD [Department of Defense] Appropriations Act provided three additional aircraft. This year, the Navy is asking for approval of a 7-year multiyear contract for the same V-22 program. I would like to hear why we should depart from the normal 5-year multiyear contract regimen as established in title 10 of the United States Code and why we should count on the Department of the Navy to pay more attention to living up to the terms of multiyear contracts than was the case last year.

The Defense Department’s defense strategic guidance, issued in January 2012, followed by the 2014 QDR [Quadrennial Defense Review], announced a renewed strategy for U.S. military orientation on the Asia-Pacific. Consistent with that strategy, the Defense Department has been working to realign U.S. military forces in South Korea and Okinawa and plans to position Navy and Marine Corps forces in Australia, Singapore, and possibly elsewhere in the re-

gion. I am interested in hearing how the Navy is implementing these strategic decisions.

In this request, the Administration is asking for an increase in the Department of Defense (DOD) topline of roughly \$54 billion above total budget for fiscal year 2018 prescribed in the Budget Control Act. Of that total, the Navy budget would constitute an increase of roughly \$12 billion. However, I must point out that unless Congress can achieve a broad and bipartisan agreement to repeal or modify the BCA, any approval of the \$12 billion increase for the Department of the Navy will trigger sequestration of a similar amount.

The President's Budget addressed the issue by making cuts of roughly \$54 billion non-defense discretionary as a way of balancing the increases for defense which, from my perspective, is an untenable position. In fact, it will not accomplish that unless the BCA is modified because you will forfeit what you are given even in a more confusing and disorienting way. So we must find another way.

I thank the witnesses and I look forward to their testimony.

Chairman MCCAIN. Thank you.

Welcome to the witnesses. Mr. Stackley, we will begin with you. Welcome back.

**STATEMENT OF HONORABLE SEAN J. STACKLEY, ACTING
SECRETARY OF THE NAVY**

Secretary STACKLEY. Yes, sir. Thank you, Mr. Chairman, distinguished Members of the committee. Thank you for the opportunity to appear before you today with the CNO and the Commandant to testify on the Department of the Navy's 2018 budget request.

We are extremely grateful for your committee's continued strong support for our Navy and Marine Corps, and we look forward to working closely with you on this budget request.

As the Nation's forward global force, your Navy and Marine Corps stand ready to respond to crisis every hour of every day around the world from the North Atlantic to the Mediterranean, from the Straits of Hormuz to the Straits of Malacca and the vast expanses of the Pacific Ocean and on the ground in 41 countries around the world. One hundred ten thousand sailors and marines and more than one-third of our fleet are deployed today conducting combat operations, international exercises, maintaining maritime security, providing strategic deterrence, and responding to humanitarian crisis and disaster.

The value of our forward presence and our ability to conduct prompt sea-based operations is the surest deterrent to conflict and guarantor of our national interests. Maintaining the skill of these operations relies upon our ability to maintain a high state of operational readiness. And we have been increasingly challenged to do so by the growing imbalance between the size of the force, the operational demand placed on the force, and the funding available to operate and sustain the force. Years of combat and high operational tempo have accelerated the aging of our ships and aircraft, increased our maintenance requirements, drawn down munitions and supply parts, and impacted training. Budget constraints, budget uncertainty, and continuing resolutions have exacerbated these

issues with the net impact being a decline in the material condition of our ships and aircraft. Accordingly, our priority in this budget request has been placed on funding maintenance, spares, training, and munitions and to increase steaming days and flying hours.

It is critical that we make these course corrections without turning to our modernization and procurement accounts as bill payers. For maintaining our readiness, we will ultimately rely upon growing the force to match the challenges that lie ahead. So building readiness is the priority in 2018 and building the size of the Navy and Marine Corps and the capability that the Nation needs will be the priority in the defense strategy review and our 2019 budget.

With this budget, the Department requests your support to procure nine ships in 2018: the aircraft carrier *Enterprise*, two *Virginia*-class submarines, two *Arleigh Burke*-class destroyers, two littoral combat ships, one of which is to follow an amended budget proposal, a fleet oiler, and a towing, salvage, and rescue ship.

The budget request also includes advanced procurement critical to the Navy's top shipbuilding priority, the *Columbia*-class ballistic missile submarine program.

We are committed to improving our cost on the carrier program while delivering this critical capability for the future Navy. We have held costs essentially constant on the CVN-78 the past 6 years, and have made significant reductions on CVN-79 currently in construction. We are committed to further improvements upon the estimated costs on the *Enterprise*, CVN-80, submitted in this year's budget.

We are seeking your support to continue with the multiyear procurement strategies that have yielded substantial savings and provided critical stability to the highly successful *Virginia* submarine and *Arleigh Burke* destroyer programs.

And we are seeking your support as we transition from the littoral combat ship to a frigate design that will provide multi-mission capability and increased survivability for our small surface combatant program. The three littoral combat ships appropriated in 2017 with the additional ships we are requesting this year help fill our gap with small surface combatants and ensure a healthy industrial base for a competitive frigate down-select in 2020.

The budget request continues the steady recapitalization of Navy and Marine Corps aviation capability. In total, we plan to procure 91 manned and unmanned aircraft as we shift from large-scale developmental efforts to mature production for most of our major Navy aviation programs.

Of particular note, the budget request includes funding for 24 F-35 and 14 Super Hornet aircraft which will help to arrest the decline in our strike fighter inventory while keeping us on target for six squadrons of fifth generation aircraft from our carrier decks in the 2024 time frame.

We are requesting congressional approval for a third B-22 multiyear procurement in 2018, which will provide the most affordable method to procure the final 65 aircraft of the program.

This budget supports an end strength of 185,000 marines, the proper size for today's mission. The Marine Corps invested in selected ground capabilities to conduct sustained distributed operations and address changes in the operational environment, includ-

ing procurement of the amphibious combat vehicle, a replacement of about one-third of the legacy Humvee fleet with a joint light tactical vehicle, and survivability upgrades to the amphibious assault vehicle.

No quantity of next generation ships or aircraft will bring victory without the skilled, dedicated, and talented sailors, marines, and civilians who build, maintain, and operate our Navy and Marine Corps and who provide our naval forces with our asymmetric advantage. Despite 16 years of combat operations, extended deployments, and reserve mobilizations, today's force is the most talented and high-performing in history.

In return, it is our responsibility to provide the incentives to attract and the conditions to ensure all who are qualified to serve in the Navy and Marine Corps can do so while creating a review that promotes dignity and respect for all. This remains a top priority for the Department.

Our priority in this year's budget request is to rebuild the readiness and lay the foundation for future growth in terms of numbers of ships and aircraft and advanced capability of the force.

To support these objectives, we will need to make certain reforms to the way we do business to ensure that we are being the best stewards possible with the taxpayers' funds. However, we will also need your support in breaking the cycle of continuing resolutions and in providing the increase, outlined and detailed by the President's Budget request, to the defense caps imposed by the Budget Control Act. Absent decisive action by Congress to cut the Gordian knot we know as the BCA, our military's ability to provide for the Nation's defense will decline by every dimension you choose to measure.

I want to thank this committee for your enduring support to our sailors, marines, civilians, and their families, and I look forward to answering your questions.

[The prepared statement of Mr. Stackley follows:]

PREPARED STATEMENT BY HONORABLE SEAN J. STACKLEY

I. INTRODUCTION

Mr. Chairman, distinguished Members of the Committee, thank you for the opportunity to appear before you today to testify regarding the Department of the Navy's 2018 President's Budget request.

Having the opportunity to serve our sailors, marines, and civilians—a force of over 800,000 strong—as the Acting Secretary of the Navy is an extraordinary privilege that brings with it extraordinary responsibility. The Members of this Committee understand with full recognition the quality and dedication of our men and women in uniform who willingly put their Nation before themselves; who stand ready to respond to crisis every hour, every day, around the world; and who willfully sacrifice their livelihood and, if need be, their very life so that we here in America may enjoy the freedoms we cherish so deeply. The dedication, professionalism, unwavering commitment to duty, and sacrifice shown by our sailors and marines and their families, and the corps of professional civilians who support them, is the foundation upon which our national security is built.

As the Nation's forward global force, the men and women of your Navy and Marine Corps are fully deployed, continuously present afloat and ashore, promoting and protecting the national interests of the United States. If called, they are prepared to “fight tonight” and win. But, by operating forward, by maintaining a high state of readiness, by participating in international exercises and providing assurance to our partners and allies, by securing the maritime and ensuring access to the global commons, by performing the full spectrum of missions assigned—from humanitarian assistance to strategic deterrence—our greater objective is to dissuade

our adversaries and ultimately, to deter potential conflict. To this end, the Navy and Marine Corps operate as part of the larger Joint Force, uniquely providing the sovereignty and persistence of a sea-based force able to operate wherever the waters reach and able to rapidly maneuver ashore as an expeditionary force with air and ground support. It is this ability to operate independently for sustained periods that places naval forces in such a high demand that combatant commanders' peacetime requests for naval forces exceed the capacity of the currently sized force. Careful management of our training, maintenance, and deployment cycles, however, has ensured our presence and our readiness to meet the Nation's highest priority demands as directed by the Secretary of Defense.

II. OPERATIONAL OVERVIEW

In the past year, from Norway to the Baltic, from the Black Sea to the Mediterranean, from the Horn of Africa to the Arabian Gulf, from the west coast of Africa to the straits of Malacca, from the Philippine Sea to the Sea of Japan, to the coasts of the Americas, and on the ground in 37 countries around the world, on any given day greater than 100,000 sailors and marines have been continually deployed, operating multiple carrier-strike groups, amphibious ready groups, Marine Expeditionary Units, squadrons, submarines, and battle staffs. Our presence in regions of interest around the world demonstrates U.S. commitment to these regions, strengthens our alliances and partnerships, and ensures our readiness to respond to any provocation.

We are a nation at war and the value of our forward presence and of our ability to conduct prompt, offensive sea-based operations is exercised every day. Throughout the course of the past year, greater than 2,000 strike sorties flown from the decks of the *Dwight D. Eisenhower* (CVN 69) and *George H.W. Bush* (CVN 77), along with electronic warfare support from Marine Corps squadrons based at Incirlik Air Base, have supported Operation Inherent Resolve in the fight against the Islamic State of Iraq and Syria (ISIS). More recently, upon the presidential order to respond to Syria's use of chemical weapons, USS *Ross* (DDG 71) and USS *Porter* (DDG 78) were present and ready to strike with their complement of Tomahawk missiles. While present forward in 5th and 6th Fleets aboard Makin Island and Bataan Amphibious Ready Groups, marines from the 11th and 24th MEUs [Marine expeditionary units], deployed ashore to provide time critical artillery and security support in Northern Syria. Marines from II MEF [Marine expeditionary force] established Task Force Southwest in Helmand Province to assist our Afghan partners in retaining control of that contested area. Meanwhile, our Navy SEALs [sea, air, and land], Marine Corps Special Operating Forces, and supporting expeditionary elements continue to execute counter-terrorism operations in support of our theater special operations commands.

Concurrent with the high tempo of combat operations, we continue our heavy engagement in the conduct of international naval exercises and training. In June 2016, 6th Fleet units completed Exercise BALTOPS, a high-end joint exercise, demonstrating American and NATO [North Atlantic Treaty Organization] resolve in the Baltic Sea region. The following month, the U.S. Navy joined with our NATO, Baltic and Black Sea partners for the 15th iteration of Exercise Sea Breeze. In the following months, in the Arctic, our Marines participated in the Norwegian-hosted exercise Cold Response, testing warfighting skills in a cold weather environment. Currently, Marines are conducting the Sabre Strike 2017 exercise throughout the Baltic region and Poland with our NATO allies. In the Straits of Hormuz, 5th Fleet conducted its international MCMEX [mine counter mine security exercise] with 30 international partners to hone our skills and demonstrate our resolve to ensure freedom of navigation. Half the world away, in the Pacific region, the U.S. Navy and Marine Corps participated in 69 international exercises to strengthen our partnerships and demonstrate our commitment. The 25th anniversary of the Rim of the Pacific Exercise (RIMPAC) brought together 26 maritime nations, including China, along with 40 ships and submarines, over 200 aircraft, and 25,000 personnel for the largest international maritime exercise in the world. Seventh Fleet units operating alongside our Japanese and Indian partners conducted the trilateral Exercise Malabar in the Philippine Sea focused on anti-submarine warfare and search-and-rescue capabilities. In Thailand the Navy and Marine Corps participated in the major multilateral exercise Cobra Gold and in Korea we participated in Exercises Foal Eagle and Keen Resolve with our South Korean allies, showing steadfastness in the face of North Korean provocations. We conducted multiple Cooperation Afloat Readiness and Training (CARAT) engagements with countries ranging from Singapore to Brunei. On May 30, Pacific Partnership 2017 concluded in Nha Trang, Vietnam. In addition to Vietnam, Pacific Partnership 2017 conducted mission stops in Sri Lanka

and Malaysia and was the first such mission completed solely utilizing an expeditionary fast transport vessel (T-EPF). This small sampling of our international engagements is enabled by a robust forward presence across the globe.

The foundation of our naval forces' credibility as reliable partners and as an effective deterrent is our forward presence. From the vast expanses of the Pacific, to the restricted waters of the Arabian Gulf, to the Caribbean, the North Atlantic, the Mediterranean, and the Gulf of Aden, we are on watch around the clock.

Our permanent forward presence in the Mediterranean has strengthened with the homeporting of four Aegis Ballistic Missile Defense Destroyers in Rota, Spain, and with achieving initial operational capability of the United States AEGIS Ashore Missile Defense System in Romania in 2016.

The Marine Corps Special Purpose Marine Air Ground Task Force—Crisis Response, based in Moron, Spain, provides regional capabilities to instantly respond to crises ranging from non-combatant evacuation, to humanitarian assistance and disaster relief, to combat operations.

With its permanently stationed patrol craft, mine countermeasures ships and rotating combat forces, the United States 5th Fleet, from its headquarters in Bahrain, provides a clear signal of the American commitment to the region. Our leadership and participation in the Combined Maritime Forces (CMF) in the Indian Ocean, together with 31 of our partner nations, promotes maritime security, helps defeat terrorism, and combats piracy in the Arabian Gulf, Gulf of Oman, Gulf of Aden, and the Red Sea.

The value of our presence is not limited to the Indian Ocean. In 2016, a United States-led naval training maneuver in the vicinity of the Gulf of Guinea transformed into a counter-piracy mission where navies from the United States, Ghana, Sao Tome and Principe, Togo, and Nigeria tracked a hijacked tanker through the waters of five countries and successfully freed the vessel and rescued the hostages.

Permanently present on the east coast of Africa, United States naval forces command and operate the United States sole forward operating base on that continent, Camp Lemonnier. In support of Combined Joint Task Force Horn of Africa and working closely with our African partners, our presence improves cooperation among regional maritime forces, builds maritime law enforcement capacity and capability, and strengthens maritime domain awareness in order to constrict operating space for maritime crime and piracy.

The Navy and Marine Corps maintain a consistent presence across the vast expansiveness of the Pacific and Indian Oceans, the world's most rapidly growing, dynamic, and increasingly important region. With forces permanently stationed in Hawaii, Guam, Korea, Singapore, and Japan and deployed from our east and west coasts, our commitment to this potentially volatile region continues to strengthen. In early 2017, the Marine Corps relocated the first operational squadron of F-35Bs to Iwakuni, Japan from Yuma, Arizona and increased the capability of its rotational aviation combat element in Darwin, Australia with four MV-22 Ospreys. The Marine Corps continues its realignment of forces across the Western Pacific to enhance our deterrent posture while simultaneously reducing the footprint of United States bases in Okinawa. With our permanent stationing of 35 ships, 38,000 sailors, and 24,000 marines in the Western Pacific to include a Carrier Strike Group centered on USS *Ronald Reagan* (CVN 76), the 31st Marine Expeditionary Unit and an amphibious ready group (ARG) centered on USS *Bonhomme Richard* (LHD 6); combined with a robust rotational deployment of carrier strike groups, amphibious ready groups, surface combatants, submarines, aircraft, and supporting forces, our commitment to the stability and security of the Asia-Pacific region is clear to all who would question it.

In our own backyard, U.S. Navy surface, air, and shore-based assets are forward and present throughout the western hemisphere. Under Operation Martillo, our *Cyclone*-class patrol coastal ships USS *Zephyr* and USS *Shamal*, with embarked U.S. Coast Guard law enforcement detachments, seized over 5,000 kilograms of contraband in interdiction operations in 2016. USNS *Spearhead* recently concluded Continuing Promise 2017, visiting Guatemala, Honduras, and Colombia to conduct civil-military operations including humanitarian assistance, training engagements, and medical, dental, and veterinary support. Last October, in response to Hurricane Matthew and at the request of the U.S. Agency for International Development, 100 marines from Special Purpose Marine Air Ground Task Force—Southern Command, USS *Iwo Jima*, USS *Mesa Verde*, and elements of the 24th Marine Expeditionary Unit provided humanitarian assistance/disaster relief to the people of Haiti.

These are but a few examples of the daily operations of our sailors and marines. Forward deployed and ready, our naval forces project our national values through their frequent international engagements and humanitarian assistance or disaster

relief operations, and protect our national interests through their mobility, agility, and combat power.

III. BUILDING READINESS

Maintaining the readiness of our naval forces is key to maintaining the scope and scale of operations demanded of them. We have been increasingly challenged in our ability to do so, however, by the growing imbalance between the size of the force, the operational demand placed on the force, and the funding available to operate and sustain the force. Since 2001, about 100 ships have routinely been deployed each day in response to operational requirements. During this same period, the size of the battle force has drawn down by 14 percent, resulting in a steady increase to deployment lengths and the operational tempo of the force. Schedules for training and maintenance have been compressed as a result. Years of high flying hour operations have accelerated the aging of our airframes, increased our maintenance requirements, drawn down available supply parts, broken the engineering-material-maintainers 'line of balance,' and increasingly impacted availability of aircraft for training and surge operations. Budget constraints, budget uncertainty, and Continuing Resolutions have exacerbated these issues that stretch from the flight line to the gun line to our depots. Each of these factors has placed added strain on our ships, aircraft, tactical vehicles, and the sailors and marines who deploy with them.

The budget environment throughout this period has increased the challenges to our sailors' and marines' ability to perform their mission. Since passage of the Budget Control Act, in particular, our increased operational tempo has been met with a decreasing budget, when measured in constant dollars. The net impact of this increased operational tempo under the pressures of a reduced budget has been a decline in the material condition of our ships and aircraft and training of our sailors and marines. In order to meet our immediate commitments, we have placed priority on ensuring the readiness of our deployed forces and our 'next to deploy' forces, but we are increasingly challenged to meet future deployment commitments or to surge forces in time of need due to the steady erosion to readiness of the Total Force that has occurred during this period.

Reversing this trend requires that we first rebuild the warfighting readiness of the current force. Accordingly, our priority in the fiscal year 2017 budget, including the Request for Additional Appropriations, and in the fiscal year 2018 budget request is to fully fund our maintenance and training accounts. We must do this, however, without turning to our modernization and procurement accounts as the 'bill payer,' for maintaining our readiness in the long term will require that we grow the force in terms of capacity and lethality to match the demands that are placed upon it.

The fiscal year 2018 budget request funds ship operations and ship depot maintenance to 100 percent of the forecast requirement to rebuild our readiness at the unit level. Equivalent measures are being taken to fund flying hours and aviation depot maintenance to rebuild aviation readiness.

Funding for spare parts has been increased to reduce logistic delay time and ultimately to increase steaming days and flying hours. The planning, engineering, and maintenance support manpower at the naval shipyards and aviation depots has been increased in order to align the workforce to the projected workload. Major shipyard equipment and IT infrastructure is being modernized at a rate above benchmarks to improve workforce performance, execute maintenance more efficiently, and reduce work stoppages. When and where needed, we are leveraging the skill sets and capacity of private industry to augment our efforts. These investments in people, the industrial plant, and the industrial base are critical to improving shipyard and aviation depot throughput and capacity and, more importantly, to increasing the operational availability of our highest demand assets—our nuclear aircraft carriers and submarines and tactical aircraft. It is important to note, however, the effects of multiple years of insufficient resources cannot be corrected in one budget year; the Department will require stable, predictable funding over multiple years to achieve sustained positive results.

Looking forward, we're working closely with industry on our most critical ship modernization and aviation programs to improve reliability in the near term (therefore reducing maintenance requirements) and to invest in planning, engineering, material, and facilities in support of long term maintenance and modernization requirements.

Investment in ship maintenance contributes to growing the fleet in addition to enhancing current readiness. Ensuring each ship in our inventory reaches its expected service life with the possibility of extended service allows the Navy to grow more rapidly. The Navy is embarking on a detailed study of how this might be accom-

plished and where investment should be prioritized. Employment of this maintenance strategy does not alleviate the need for a robust shipbuilding account. These ships will eventually have to be retired and replaced. As responsible stewards of our taxpayers' dollars we believe this approach will allow us to grow the fleet at a faster, more economical rate.

Alongside our depots, our operational installations are a major component of the Department's readiness requirements. Navy and Marine Corps installations provide physical environments essential for individual, unit, and Total Force training; force deployment; materiel sustainment; unit recovery; and equipment reconstitution. Fiscal year 2018 funded the requirement for Department of the Navy facility sustainment nearly 10 percent above 2017 funding levels. Within this funding level, we are careful to preserve critical facility components and to perform facility maintenance that affects the health and safety of sailors, marines, and their families. However, we continue to carry risk in facility sustainment and will need to closely monitor and manage the material condition of our many facilities. Over and above facility sustainment, military construction also increased by about 10 percent in fiscal year 2018, with priority placed on these capital investment projects that will preclude mission failure, increase facility optimization, and sustain critical power, cyber-security, and utility capacity.

The Department of the Navy (DON) fully supports the Department of Defense request for authorization to conduct a Base Realignment and Closure (BRAC) round in 2021. Enduring savings from BRAC recommendations will leave more DOD resources available for future force structure or readiness requirements. Although Navy and Marine Corps infrastructure capacity is about right, completing the more detailed analysis once a BRAC is authorized will have value, and may highlight opportunities for some savings.

IV. BUILDING THE FORCE

The naval force is confronting new challenges in the 21st Century. The United States is facing a return to great power competition, as Russia and China demonstrate both the advanced capabilities and the desire to act as global powers in their own discrete self-interest. The Russian Navy is operating at a pace and in areas not seen since the mid-1990s. The Chinese Navy is continuing to extend its reach around the world. Assertive competitors with peer-like military capabilities have emerged that will contest our interests globally and test the resilience of our alliances. Potential adversaries with less military power are gaining capabilities through the proliferation of advanced technologies that challenge our ability to ensure maritime access and freedom of navigation in the littorals. Our adversaries are pursuing advanced weapon systems at a level and pace of development not seen since the mid-1980s and both near-peer nations and non-state actors pose credible threats to our security.

The Department of the Navy is responding by investing in capacity and advanced capabilities that increase the size and lethality of both the current and future force, providing our sailors and marines with what they need to fight and win a 21st Century conflict.

The 2018 budget request continues the steady recapitalization of Navy and Marine Corps aviation capability. The balance has shifted from large scale development efforts of prior years to mature production and modernization of in-service aircraft for most of our major aviation programs; while our most advanced aircraft—from the fifth generation Joint Strike Fighter to the CH-53K Heavy Lift helicopter to the high altitude long endurance unmanned MQ-4 Triton—are rapidly transitioning to full rate production.

Our shipbuilding program is informed by the Chief of Naval Operations' 2016 Force Structure Assessment (FSA). The larger force and mix of ships outlined in the FSA reflect extensive analysis regarding our operational cycle and the changing security environment. While there is general agreement that we must increase the size of our fleet, the potential timelines associated with fleet expansion require that we implement improvements in concept development, research and development, and rapid fielding efforts to accelerate the fielding of advanced capabilities that will provide our fleet a force multiplier effect. As well, given the budget challenges inherent to expanding our fleet size, we will need to further our efforts to drive down the cost—in terms of both time and money—associated with our major programs. Ultimately, the affordability challenges associated with building this larger fleet will need to be addressed in the context of the pending Defense Review.

As the Nation's expeditionary force in readiness, the Marine Corps has been continuously engaged in major combat and crisis response missions over the past 16 years, resulting in a force that, in the absence of change, would be improperly struc-

tured or equipped to meet the demands of a future operating environment characterized by complex terrain, technology proliferation, information warfare, and an increasingly non-permissive maritime domain. This budget supports a Marine Corps end strength of 185,000 marines, the proper size for today's mission. The Marine Corps is proposing force capability changes to meet the demands of the future operating environment of 2025 and beyond. Additional analysis will address modernization and the acquisition of capabilities necessary for the future fight.

From aviation to ships to tactical vehicles to trained sailors and marines, the immediate priority on building readiness and improving the wholeness of the current force paces our ability to grow force structure in 2018. Building the Navy and Marine Corps to the size that the Nation needs will require increased investment over an extended period of time, beginning in the future years of the Defense Plan, as informed by the pending Defense Strategy.

Shipbuilding

The Fiscal Year 2018 President's Budget request invests in the modernization of our current platforms and weapons; supports procurement of seven major warships and two auxiliary ships: the *Enterprise* (CVN 80) *Ford*-class aircraft carrier, two *Virginia*-class (SSN) attack submarines, two *Arleigh Burke*-class (DDG 51) guided missile destroyers, two Littoral Combat Ships (LCS), one *John Lewis*-class fleet oiler, and one (T-ATS) towing, salvage and rescue ship; and continues advanced procurement for the lead ship of the *Columbia*-class ballistic missile submarine program.

The first new design aircraft carrier in 40 years, *Gerald R. Ford* (CVN 78) was delivered to the Navy in May. The *Ford* is delivering on promised capability, as demonstrated by land-based, pier-side, and at-sea testing to-date. The cost for this new ship class remains of great concern, however, and the Navy and industry are focused on capturing lead ship lessons learned, refining the ship construction process, capitalizing on technological improvements, and enhancing shipbuilder facilities to drive down cost. Cost performance on CVN 79 is promising thus far, and we are committed to expanding ongoing cost control initiatives to further reduce ship cost.

The *Columbia*-class ballistic missile submarine (SSBN) program, the planned replacement for the *Ohio*-class and an element of our nation's strategic deterrent triad is the Navy's top shipbuilding priority. The program is executing detailed design efforts in preparation for ordering long lead time material in fiscal year 2019 and starting construction in fiscal year 2021. The program's delivery schedule is tightly aligned to the retirement schedule of our current ballistic missile submarine inventory. Cost, schedule, and technical performance on this program are being thoroughly managed to ensure we deliver on time, on budget, and on target per our requirements.

The *Virginia*-class SSN program continues to deliver submarines that are operationally ready to deploy within budget. On May 27, the Navy accepted delivery of the future USS *Washington* (SSN 787), the 14th submarine of the *Virginia*-class. The Block IV contract for 10 ships continues co-production of the class through fiscal year 2018. The Navy intends to build on past success with a Block V Multiyear Procurement (MYP) contract for 10 boats, planned for fiscal year 2019. This represents an increase of one submarine in fiscal year 2021, while also introducing two new capabilities to the fleet—the *Virginia* Payload Module and Acoustic Superiority.

With 64 ships at sea and 12 additional ships under construction or on contract, the *Arleigh Burke*-class (DDG 51) program is the Navy's most successful shipbuilding program. Like the *Virginia* program, the Navy intends to build on past success with a MYP for ten DDG 51s beginning in fiscal year 2018. These ships will incorporate upgrades to integrated air and missile defense which is being introduced in the fiscal year 2017 ships.

Complementing the DDG 51, the lead ship of the *Zumwalt*-class (DDG 1000) delivered in May 2016, and is now in its homeport undergoing combat systems activation with completion scheduled for fiscal year 2018. The remaining two ships of the class are under construction.

The Navy is planning and executing the modernization of 11 *Ticonderoga*-class cruisers (CG 63–73); critical to providing dedicated Air Defense Commander (ADC) capability through the 2030s. The Fiscal Year 2018 President's Budget requests funding to execute the "2–4–6" plan on 7 of the 11 CGs. The remaining four CGs, which have Ballistic Missile Defense (BMD) capability, will receive modernization to their hull, mechanical and electrical systems in fiscal year 2021 to support their operation through their engineered service life.

The 2016 FSA revalidated the warfighting requirement for a total of 52 small surface combatants, including the littoral combat ship (LCS) and a future frigate. To date, nine LCS ships have delivered and 17 are in construction or under contract,

and all are on track to deliver well within the congressional cost cap. Three additional ships were authorized and appropriated in fiscal year 2017 which, with the additional ships supported by this year's budget, ensure continued production and will further mitigate the potential for layoffs at both shipyards while the Navy refines the requirements and acquisition strategy for the future frigate. The LCS program continues to incrementally field its mission systems.

LCS 4 is currently deployed with the first instantiation of an over-the-horizon missile capability. The LCS surface-to-surface missile module with Longbow Hellfire is currently in testing and on track for introduction in 2018, and the mine countermeasure and anti-submarine warfare mission modules are in testing, targeting introduction in fiscal year 2019 and 2021, respectively.

The Navy is revising its requirements for the future frigate to increase its multi-mission capability, lethality and survivability. The Navy currently assesses that adding these capabilities to the frigate's design will delay its procurement to fiscal year 2020. We will work closely with industry as we release the draft Request for Proposal for this new ship class; continually update our assessment of the frigate schedule, assess the effects of this and other shipbuilding contract awards on the industrial base, and make any appropriate modifications to our plan for fiscal year 2019 LCS procurement as necessary to ensure healthy competition for the future frigate program.

This Navy continues to build toward a 34 amphibious ship force by fiscal year 2022. The appropriation by Congress for USS *Richard M. McCool Jr.* (LPD 29) in fiscal year 2017 supports both amphibious lift requirements and the industrial base. In conjunction with the Navy's fiscal year 2016 award for the USS *Bougainville* (LHA 8), the Fleet oiler (T-AO 206), and LX(R) design, LPD 29 provides for an effective transition to LX(R) in fiscal year 2020.

To help offset challenges associated with increasing our fleet size, the Navy is expanding its global reach through the development of unmanned capabilities that will augment our manned platforms. Most recently, the Navy designated the Large Displacement Unmanned Underwater Vehicle (LDUUV) as a Maritime Accelerated Capability Office program to accelerate unmanned underwater vehicle capability, and released a Request for Proposal to industry to develop an Extra Large Unmanned Underwater Vehicle (XLUUV) that will have extended range and a modular payload capability. These UUVs will aid in the intelligence assessment of the operational environment as well as respond to the combatant commander's mission needs.

Similarly, surface operations will be augmented through an integrated team of manned and unmanned autonomous capabilities and capacity. Ongoing investments in autonomy and mine countermeasure technology will continue to reduce the threat of mines in contested waters while also reducing the risk to our sailors while conducting this dangerous mission.

Aviation

The Department is continuing the recapitalization of our aviation assets ranging from our strike fighter aircraft to Marine Corps heavy lift helicopters, and Navy maritime patrol aircraft, while continuing our efforts with unmanned systems. In fiscal year 2018 we plan to procure 91 manned and unmanned aircraft for the Navy and Marine Corps. Our investment prioritizes capability, capacity, and wholeness as we restore aviation readiness.

Navy Carrier Air Wing composition will be a mix of 4th generation and 5th generation fighter aircraft squadrons (F/A-18 E/F and F-35C), leveraging each aircraft's strengths and capabilities to provide over-match against expected threats while providing a cost efficient force structure. The fiscal year 2018 President's Budget request keeps the Department of the Navy on a path to have 5th generation aircraft comprise 50 percent of its tactical aviation assets in the Pacific Command Area of Responsibility by 2024.

The F/A-18 A-D was designed for, and has achieved, a service life of 6,000 flight hours, performing as expected through its design life. In addition to the maintenance and modernization work the Navy is currently executing to extend the life of the F-18A-D inventory to 9,000 flight hours, we are working to transition to the newer and more capable Super Hornets and F-35 as quickly as possible to eliminate the increasing cost, at both the flight line and depot level, of keeping legacy aircraft in service.

The fiscal year 2018 budget request includes funding for 14 Super Hornets in fiscal year 2018 with additional aircraft required in the outyears to arrest the decline in our strike fighter inventory and enable older aircraft to be pulled from service for mid-life upgrades and service life extension. The F/A-18 E/F Super Hornet will

be the numerically predominant aircraft in the Carrier Air Wing through the mid 2030s.

The future of the Department's tactical aircraft relies on 5th generation F-35B and F-35C aircraft. The F-35 brings unprecedented low observable technology, modern weaponry, and electronic warfare capability to naval aviation. These aircraft will recapitalize some of our oldest aircraft—our legacy F/A-18s and AV-8Bs—which are rapidly approaching the end of their service lives. In 2015, Marine Fighter Attack Squadron 121 became the world's first F-35 squadron to achieve operational capability and is now forward deployed in Japan. In 2018, the Navy and Marine Corps team will deploy two Amphibious Ready Groups with embarked Marine Expeditionary Units; each with a detachment of F-35Bs aboard ship marking the first extended at sea deployments for the F-35. The Navy's first F-35C squadron begins transition in 2018; initial operational capability is expected by early 2019, and the first deployment on an aircraft carrier is planned for 2021. This budget procures 20 F-35B and 4 F-35C aircraft in fiscal year 2018.

The EA-18G Growler is a critical enabler for the joint force, bringing fully netted warfare capabilities to the fight and providing unmatched agility in the electromagnetic maneuver warfare environment. Growlers have flown more than 2,300 combat missions to-date and are meeting all operational commitments. Carrier-based and expeditionary electronic attack capabilities will increase significantly with introduction of the next generation jammer, which is currently scheduled to complete testing in 2022.

MV-22 Osprey vertical lift capabilities, coupled with the speed, range, and endurance of fixed-wing transports, enables execution of missions that were previously unachievable. The Marine Corps' Osprey fleet continues to experience a high operational tempo with multiple MEU deployments and two Special Purpose Marine Air-Ground Task Force-Crisis Response deployments in support of Africa Command and Central Command. During 2016, the 15th Active component squadron achieved full operational capability, with the 16th scheduled for June 2017. Fiscal year 2018 begins procurement of the Navy CMV-22B variant in support of the carrier on-board delivery mission and represents the first year of the next V-22 MYP contract.

The Marine Corps CH-53E Super Stallion is the only heavy lift helicopter in the Department of Defense inventory. The CH-53E will remain in service until 2030 to accommodate transition to its replacement, the CH-53K, which, with 27,000lbs lift capacity at a mission radius of 110 nautical miles, nearly triples the lift capability of the legacy CH-53E. In fiscal year 2016, the Marine Corps initiated a CH-53E reset to ensure the remaining aircraft possess the longevity to complete the transition. Procurement of the CH-53K is ongoing, with 51 procured in the FYDP [Future Years Defense Program] in support of the total buy of 200. Transition will begin in 2019 and is forecast to complete in 2030.

Combining the reliability of the Boeing 737 airframe with avionics that enable integration of modern sensors and robust military communications, the P-8A Poseidon recapitalizes the anti-submarine, anti-surface, and Intelligence, Surveillance and Reconnaissance (ISR) capabilities of the aging P-3C Orion. Seven (of 12) squadrons have completed transition, with all squadrons scheduled to complete transition by fiscal year 2020. The P-8A program is meeting all cost, schedule, and performance parameters; has achieved and surpassed reliability standards for operational availability and is providing game changing capability to the fleet. Program savings have enabled procurement of one added aircraft (7 total) in fiscal year 2018 with no increase to the budget.

The Department continues steady progress developing and fielding unmanned aviation assets, building towards future air dominance through an integrated team of manned, unmanned, and autonomous capabilities. These teams of systems will conduct ISR, real-time sensor fusion, and electronic warfare, increasing battlespace awareness and precision strike capability.

The MQ-4C Triton will be a core capability of Navy's Maritime Patrol and Reconnaissance Force and deliver persistent maritime ISR as a force multiplier for the Coalition and Joint Force, as well as the Fleet Commander. Triton will deploy with early operational capability in 2018. Fielding of the multi-intelligence configuration will enable retirement of EP-3 aircraft in 2020.

The Navy is developing the MQ-25 unmanned mission tanker, the first carrier-based unmanned program, to extend the range and reach of the Carrier Air Wing and greatly reduce the need for F/A-18E/F aircraft to serve as mission tankers. The MQ-25 was designated a Maritime Accelerated Capability Office program by the Chief of Naval Operations and Assistant Secretary of the Navy for Research, Development, and Acquisition, and was also designated by the Secretary of Defense as a Key Performance Parameter 'Reduction Pilot Program' per National Defense Authorization Act (NDAA) for fiscal year 2017. The Navy plans to release a request

for proposal for air system development in fiscal year 2017 and down-select to a single contractor in fiscal year 2018.

Looking to the far future, the Department has initiated a Next Generation Air Dominance Analysis of Alternatives (AOA) study. The AOA is investigating technology and program investment requirements to recapitalize Navy F/A-18E/F and EA-18G tactical aviation platforms in preparation for their anticipated retirement beginning in the late 2020s.

Ground Forces

Marine Corps invested in select ground capabilities to conduct distributed operations and address changes in the operational environment. Key investments include the Ground/Air task Oriented radar (G/ATOR) and the Common Aviation Command and Control Systems (CAC2S) to enhance the ability of the Marine Air Ground Task Force to coordinate and synchronize distributed C2 sensors and systems. Amphibious and ground maneuver capability will be preserved and upgraded by accelerating legacy Assault Amphibious Vehicle survivability upgrades, procurement of 204 Amphibious Combat vehicles (ACV) and the replacement of about one third (6,895 vehicles) of the legacy high mobility, multi-purpose, wheeled vehicle (HMMWV) Fleet with the Joint Light Tactical Vehicle (JLTV).

The ACV program is the Marine Corps' highest ground modernization priority and is using an evolutionary, incremental approach to replace the aging AAVs with a vehicle that is capable of moving marines ashore, initially with surface connectors and ultimately as a self-deploying vehicle. ACV consists of two increments. The first increment will field a personnel carrier with technologies that are currently mature. The second increment provides mobility improvements and delivers specialized mission variants.

Munitions and Weapons Systems

Standard Missile-6 (SM-6) provides theater and high value target area defense for the Fleet, and with integrated fire control, has more than doubled its range in the counter-air mission. SM-6 Block I testing in April 2017 successfully completed live fire requirements per the program of record and is on schedule to declare full operational capability later this year.

The Evolved Sea Sparrow Missile (ESSM) provides another layer to the Navy's defended battle-space. Two ESSM Block 2 Controlled Test Vehicle flight tests were successfully conducted this May with IOC for AEGIS platforms scheduled for 2020 and Ship Self Defense System platforms in the 2022-2023 timeframe.

The inner layer of the Fleet's layered defense is the Rolling Airframe Missile (RAM) Block 2 designed to pace the evolving anti-ship cruise missile threat and improve performance against complex stream raid engagement scenarios. In fiscal year 2017, the RAM Block 2 Program continued to demonstrate outstanding performance through successful Fleet and ship qualification firing events. The RAM Block 2 will proceed to a Full Rate Production (FRP) Decision Review in fiscal year 2018.

The Navy's Cruise Missile Strategy provides for the development of stand-off attack capabilities from air, surface, and undersea platforms against targets afloat and ashore. Key tenets are to 1) maintain and upgrade legacy cruise missiles; 2) pursue advanced near-term capabilities; and 3) plan and develop next generation integrated solutions.

First, the Department's plan is to sustain the Tomahawk Block III and Block IV cruise missile inventory through its anticipated service life via a mid-life recertification program, enabling the Department to support Tomahawk in our active inventory through the mid to late 2040s. In concert with our recertification program we will integrate modernization and technological upgrades and address existing obsolescence issues. In addition, the Department is developing a Maritime Strike Tomahawk (MST) capability to deliver a long-range anti-surface warfare capability.

Second, the Department will field the Long Range Anti-Ship Missile (LRASM) to meet near to mid-term anti-surface warfare threats. LRASM is pioneering accelerated acquisition processes. Currently, the Department anticipates LRASM to meet all warfighting requirements, deliver on-time, and cost within approximately 1 percent of its original program cost estimate.

The Department also plans to develop follow-on next generation strike capabilities. We intend to develop an air-launched weapon to address long-term surface threats and a surface and submarine launched Next Generation Land Attack Weapon (NGLAW). NGLAW will have both a long-range land strike and maritime capability that initially complements, and then replaces, the Tomahawk.

The Department is also continuing to invest in modernization of air-to-air weapons. The Fiscal Year 2018 President's Budget requests funds for upgrade and procurement of AIM-9X Sidewinder and AIM-120D Advanced Medium-Range Air-to-

Air Missiles (AMRAAM). The AIM-9X Block II/ II+ Sidewinder is the fifth generation variant of the Sidewinder family and is the only short-range infrared air-to-air missile integrated on Navy, Marine Corps, and Air Force strike-fighter aircraft, incorporating advanced technology to achieve superior maneuverability and increase the probability of intercept of adversary aircraft. AMRAAM provides an air-to-air first look, first shot, first kill capability, while working within a networked environment in support of the Navy's Theater Air and Missile Defense Mission.

The Department continues investments in other weapons lines, including the Small Diameter Bomb II (SDB II), the Advanced Anti-Radiation Guided Missile (AARGM) and AARGM Extended Range (ER), Joint Air-to-Ground Missile, Advanced Precision Kill Weapons System (APKWS) II, and direct attack weapons and general purpose bombs.

SDB II provides an adverse weather, day or night standoff capability against mobile, moving, and fixed targets, and enables target prosecution while minimizing collateral damage. SDB II will be integrated into the internal carriage of both DON variants of the Joint Strike Fighter (F-35B/F-35C) and externally on the Navy's F/A-18E/F.

The AGM-88E AARGM is a medium-range air-to-ground missile employed for Suppression and/or Destruction of Enemy Air Defenses (SEAD/DEAD). The AARGM cooperative program with the Italian Air Force transforms the HARM into an affordable, lethal, and flexible time-sensitive strike weapon system. AARGM is in full-rate production and is operationally employed on F/A-18 and EA-18G aircraft. The AARGM-ER modification program was a new start in fiscal year 2016 and will increase the weapon system's survivability against complex and emerging threat systems and affords greater stand-off range for the launch platform.

This budget continues a 5 year integration effort of JAGM Increment 1 onto the Marine Corps AH-1Z helicopter and continues to fund JAGM procurement leading to IOC in fiscal year 2020. JAGM will replace the Hellfire and Tow II missile systems for the Department. APKWS II provides precision guidance capability to the Department's unguided rocket inventories, improving accuracy and minimizing collateral damage. Program production continues on schedule, meeting the needs of our warfighters in today's theaters of operations. Marine Corps AH-1W and UH-1Y helicopters achieved IOC in March 2012 and the Marine Corps AH-1Z platform was certified to fly APKWS II in June 2015. To date, these platforms have expended more than 190 APKWS II weapons during combat missions.

The Fiscal Year 2018 President's Budget procures additional Joint Direct Attack Munition (JDAM) kits to enhance the Department's readiness. In 30 months of Operation Inherent Resolve, the Department's aircraft have expended more than three times the number of 500lb JDAM kits than were procured during the same period. This significant demand has required the Navy to reduce the number of 500lb JDAM available for training in order to preserve warfighting inventory. Additionally, fully funding the general purpose bomb line item is critical to sustaining the Department's inventory for ongoing combat operations and replenishing it for future contingencies.

Space

The Department's Joint and Fleet space operations are vital to the employment of naval capabilities and provide assured command and control; persistent maritime battlespace awareness; maneuver to include physical, cyber and the electromagnetic spectrum; and integrated fires. However, access to space is no longer guaranteed. The National Security Space Strategy defined the current and future space environment as driven by three trends: congested, contested, and competitive. The Department will maximize the utility of space-based assets and assure continued access in the face of growing adversary space capabilities by increasing space-related proficiency throughout the force and with targeted science and technology and research and development investments.

Cyber

Building our force is not limited to new platforms that operate in the traditional domains of sea, undersea, air and space, but also in the newest warfighting domain: cyber. With the exponential growth and ubiquitous availability of advanced computing methods and information technology today's highly networked environment, our Navy and Marine Corps must operate effectively in cyberspace. The Services require unconstrained access and assured capabilities in cyberspace to execute the full range of military missions. We must lead in both offensive and defensive use of this new domain and building cyber resiliency into our networks to allow us to "fight through" a cyber attack.

Cyber resiliency ensures that when an attacker gets through our defenses, we rapidly detect and react to the anomalous cyber activity in a way that allows us to continue critical operations, or “fight through,” while we restore the integrity of that portion of the network. Cyber defense-in-depth is achieved by surveillance and reconnaissance within our networks to detect malicious activity. Navy and Marine Corps Cyber Commands leverage layers of sensors, analysts, and cyber specialists to assure maritime missions and protect data. In addition to defense and assured access, the Navy and Marine Corps are prepared to deliver cyber effects at a time and place of their choosing across the full range of military operations in support of Naval and joint commanders’ objectives.

Industrial Base

The Department of the Navy cannot accomplish its mission, maintain readiness, or modernize the force without its partners in industry. Building readiness and building the force require a strong and integrated relationship with our industrial base private-sector partners. We will continue to work closely with our prime contractors as procurement plans unfold to ensure our equipment, system, and component suppliers are equally able to support the increased demand associated with building a larger fleet. We have utilized contracting tools such as MYPs, block buy contracts, Economic Order Quantity (EOQ) buys, Capital Expenditure (CAPEX) incentives, and Shipbuilding Capability Preservation Agreements to provide a stable commitment to our industry partners, supporting long range planning focused on affordability and cost control which increases our buying power. We will continue these initiatives to provide stability and mitigate volatility at the supplier level and improve productivity, efficiency, and competitiveness across the supplier base. We appreciate past congressional support for these efforts and your continued support in the future. While the different industrial sectors face different challenges, common among all is the need for predictable and stable programs which are dependent on a stable budget. We also welcome Congress’s support in providing that budget stability.

V. TAKING CARE OF OUR PEOPLE

The men and women of the Department provide our naval forces and Nation with an asymmetric advantage. No quantity of next generation ships or aircraft will bring victory without the skilled, dedicated, and talented sailors, marines, and civilians who build, maintain, and operate our Navy and Marine Corps. Despite 16 years of combat operations, extended deployments, and reserve mobilizations, today’s force is the most talented and high performing in history. But just as the American technological advantage in warfare is not something we can take for granted, we also cannot simply assume that we will always attract America’s best and brightest to serve in our all-volunteer military and civilian workforce. With a turnover of approximately 95,000 sailors, marines, and 60,000 civilians a year, providing the incentives to attract and the environment to thrive remains a top priority for the Department. The desire to serve remains strong in America and the Navy and the Marine Corps are achieving overall recruiting objectives. We are, however, experiencing increasing challenges due to an improving civilian labor market, a limited pool of eligible candidates, and increases in accession goals.

The Department’s civilian workforce is an irreplaceable partner in our naval service and one of the most technologically advanced and innovative workforces in the world. More than half of our civilians are scientists, engineers, mathematicians, and logisticians and to sustain that workforce into the future the Department continues to leverage strategic partnerships with science, technology, engineering and math (STEM)-related groups and educational institutions to highlight naval service as a rewarding career option.

Maintaining our warfighting advantage requires diversity of experience, background, and ideas. The Department draws upon the widest pool of talent and backgrounds to maximize combat effectiveness. Through policy and practice, we have set the conditions to ensure all who are qualified to serve in the Marine Corps and Navy can do so while creating an environment that promotes dignity and respect for all. In 2016, the Department of the Navy opened the training pipelines in every occupational specialty to women. In May 2016, two female marines graduated from joint Army/Marine Field Artillery Basic Officers Leaders Course; one graduated first in her class and the other in the top 5 percent. In April 2017, a Marine 2nd Lieutenant graduated from the Army Armor Basic Officer Leaders Course to become the first female marine tank officer. Additionally, the first four enlisted women infantry marines completed training and reported to Marine infantry battalions in December 2016. In the Navy, female officers serve on all combatant platforms, and female enlisted sailors serve on all platforms where berthing facilities are available. The first

female enlisted sailor earned her submarine qualification and received her Submarine Warfare pin in August 2016. In the recruiting arena, we are actively emphasizing these integration efforts on service websites and include images of female representatives whenever possible, aimed at encouraging women to enter recently opened occupational fields.

Having invested in recruiting the best talent available, we must retain it. We remain watchful of an increasingly competitive marketplace for talent in an improving economy. While we met the aggregate enlisted retention goals for fiscal year 2016, we continue to experience challenges and shortfalls in some communities, such as information warfare, nuclear technical fields, special warfare, and advanced electronics. Officer retention remains at historically high levels due, in large part, to judiciously offered incentive pays and bonuses, improved mentoring, recent efforts to add flexible career options, and an increased emphasis on life-work integration initiatives. However, specific Active Duty officer inventory shortfalls remain in aviation for certain type/model/series and nuclear-trained surface warfare officers. We are actively addressing these shortfalls through targeted incentives and other retention tools.

The Navy and Marine Corps Reserve continue to be a vital part of the Navy and Marine Corps team and the Total Force. Mobilizing and employing Reserve sailors and marines facilitates employing the Active component to meet other operational and warfighting requirements, maintain unit integrity, and ensure Fleet readiness. Twenty percent of the Navy Reserve conducts operational support across the globe every day, to include squadrons from the Maritime Support Wing flying fixed and rotary wing missions in the South China Sea and reserve Coastal Riverine Units conducting high value escort missions off the Horn of Africa.

The Department is also working to ensure our personnel policies and programs are keeping pace with the innovative human resources environment of the private sector. The Fleet Scholar Education Program (FSEP) allows our best and brightest officers to learn at America's most prestigious universities. The FSEP provides a total of 30 fully funded full-time graduate education opportunities with participant selection from the highest performing officers from each community. Career broadening programs improve the intellectual capital of our officer corps, providing sought after opportunities for our best and brightest.

We have focused on helping sailors and marines maximize their personal and professional readiness by assisting them and their families with the mental, physical, and emotional challenges of military service. Providing a holistic approach to maintaining the health and resilience of our force, we have made improvements to physical fitness and nutrition programs, enriched family support programs, developed financial literacy training, and prioritized mental wellness. Both services extended fitness center hours of operation and are piloting 24/7 centers in a number of locations. Morale, Welfare, and Recreation programs like Adventure Quest and Single Service members provide a variety of programs promoting physical activity and a healthy lifestyle. MilitaryChildCare.com, an innovative online child care information, request, and reservation system, which will be fully operational this June, will allow our families to secure critical child care services anywhere in the world before they execute a Permanent Change of Station (PCS) move. The Marine Corps and Navy expanded financial literacy training throughout the military lifecycle with topics relevant to life and career touch points, particularly important as we transition to the Blended Retirement System. Earlier this year the Navy released a financial literacy mobile app to enhance access to training, references, and guides as well as resources for the transition to the Blended Retirement System.

Despite our commitment to providing the highest quality of life to our sailors and marines the tragedy of suicide continues to plague our institution as it does to society as a whole. The Department has made strides in arresting the incidence of suicide and continues to seek promising paths to prevention.

During the past year, the Navy launched the Sailor Assistance and Intercept for Life (SAIL) program, a research-based non-clinical intervention strategy, modeled after the successful Marine Corps Intercept Program, that provides rapid assistance, on-going risk assessment, and support for sailors who have exhibited suicide-related behaviors. The Marine Corps has initiated Death by Suicide Review Boards to gain in depth understanding of all marine deaths by suicide. Although the Marine Corps and Navy have reduced military suicides from the peak numbers seen a few years ago, we must continue our efforts to increase resiliency, promote help seeking, and provide treatment and support for those in need.

Among our foremost responsibilities is to provide a safe and supportive work place to our employees. Whether in the cockpit of an aircraft, the engine room of a ship, or the office of an ashore facility, the leadership of the Navy and Marine Corps rec-

ognize that we cannot be successful in our mission if our people are not secure in their environment.

The occurrence of physiological episodes (PE) in our legacy tactical aircraft and trainers has emerged as the number one aviation safety priority. From senior Navy leadership to our engineers and maintainers, to our aircraft manufacturers and NASA [National Aeronautics and Space Administration] and the Mayo Clinic, a comprehensive review of the design, the facts, circumstances, and processes surrounding PEs has been launched to arrest the increase in PEs in our F/A-18 and T-45 aircraft. The entire naval aviation enterprise is focused on resolving this issue and we will keep the defense committees and staff apprised of our findings and progress. In the interim, we are taking every measure to ensure our aviators are afforded the highest standards of safety as they perform their inherently hazardous mission.

An environment that allows our sailors, marines, and civilians to thrive is also one that is respectful to all, free of harassment, bullying, and assault. Sexual assault is a crime that is not tolerated within the naval service. Those who report a sexual assault are supported by over 240 sexual assault response coordinators, 8,000 full and part-time victim advocates, 252 legal personnel, 164 criminal investigators, and 215 medical forensic examiners. We have a robust and effective Sexual Assault Prevention and Response program and Victims' Legal Counsel that together encourage increased reporting and provide critical support to those who come forward. We are also taking steps to prevent and respond to perceptions of retaliation or ostracism on the part of the courageous individuals who report these crimes—whether by the chain of command or peers. While there is still much work to be done, reporting across the Department has increased twofold since 2012, and, based on surveys, our estimated number of assaults on servicemembers has almost halved during that same time. Our leaders, at all levels, are held accountable to ensure every member of our Navy-Marine Corps team can excel in an environment that maximizes their talents and rejects those who would degrade or diminish another servicemember.

A respectful environment is not limited to physical spaces but includes the virtual and on-line environments where so many social interactions occur. Discovery and investigation into the toxic and predatory behavior harbored by the Marines United Facebook group has uncovered instances of a breakdown of good order and discipline within our services. The discovery of this toxicity led to a comprehensive investigation of the non-consensual sharing of intimate images by sailors and marines, the extension of counseling and legal support to potential victims, the review and update of policy and regulations to cover this internet enabled scourge, and the commitment to hold offenders accountable.

Finally, as a Department, we remain dedicated to strengthening our investment in the ethical development of our sailors, marines, and civilian employees to further their competence, confidence, character, and integrity such that their day-to-day actions and decisions are motivated by and aligned with the Department's core values of honor, courage, and commitment. We have given priority to analyzing and updating training curricula and educational programs across the Department to emphasize the importance of ethical behavior and to diminish instances of destructive behavior. Our people are our competitive advantage and we have no higher priority than to provide the tangible and intangible incentives that will allow us to continue to recruit and retain the nation's best and brightest.

VI. GOOD STEWARDSHIP

In the quarter century since the end of the Cold War, the global threat environment has only become more challenging as multiple competitors seek to disrupt America's leadership role in the world. Ubiquitously available innovations in technology and information combined with increasing pressures on the Federal budget mean that we cannot simply outspend our competitors and expect to retain our advantage. We cannot just spend more, we must spend more smartly. We must know where every dollar is spent and incorporate innovative business practices to optimize the marginal value of our investment.

Auditability

A critical step in improving stewardship of the funds the Department of the Navy is entrusted with is to undergo a full financial audit in fiscal year 2018. Over the past years the Department has been working to put the tools and business processes in place that will allow an independent auditor to assess our financial statements, transactions, and assets. The Marine Corps reached this milestone a year early in fiscal year 2017 and the Navy is leveraging lessons from the Marine Corps to improve its audit readiness.

The Department of the Navy is not approaching audit as a discrete test of our financial reporting but rather as a continual year round process to improve management of the significant resources with which we are entrusted. Standardizing our business processes and strengthening our internal controls will not only ensure financial data accurately reflects our business activities and minimize opportunities for the misuse of funds, but as importantly, it will improve the visibility of our management of the billions of dollars that it takes to build, operate, and maintain our naval forces. This visibility, in turn, will allow us to better direct those funds consistent with the Nation's priorities.

The process of preparing for audit has also improved the culture of accountability throughout the Department, as every senior leader across the Navy-Marine Corps team embraces their role in developing and enforcing appropriate internal controls. Senior leaders are assigned responsibility for the correction of identified audit deficiencies and their leadership and actions provide the "tone from the top" which highlights the importance of effective controls and audits to all business managers. Performing business processes in a standardized way and retaining key documentation is the new normal for all who spend taxpayer dollars.

The Department of the Navy understands the value audits will provide in maximizing the value of every tax dollar spent. Given the complexity and size of our operations, we anticipate that an unqualified audit opinion will be several years away, but as annual full audits of the Department of the Navy begin in 2018, we will constantly assess the results for opportunities to develop and implement the cultural, process and system changes needed to hold ourselves accountable and to maintain the trust and confidence of the American people.

Business Reform

The processes, tools, and systems that we use to manage the business of your Navy and Marine Corps have evolved over the past two centuries of successful naval operations. By implementing discrete business improvements over time, the Department, to date, has maintained its edge. Just as our competitors have leveraged the accelerating pace of technology development and absorption, however, so must the naval services leverage and embrace improvements in technology to better manage the processes that ultimately deliver our Nation's warfighting capability and ensure that we retain that edge.

The Department of the Navy embraces the President and Secretary of Defense's initiative to reform government. Improvements in data collection, storage, and analysis provide abundant opportunities to not only reduce cost but also to improve our decision making in every Department activity from warfighting to personnel management to audit and real property management. The tremendous gains in commercial enterprise valuation over the past decade have not been through the implementation of efficiencies, but rather through rapid boosts in productivity enabled by information and technology. To the extent possible, the Department is committed to leveraging the innovations increasingly employed by commercial industry to improve the productivity of our business management processes and systems. Such innovations include appropriate migration of data storage and applications to the commercial cloud, continued consolidation and standardization of our data centers, and improved business intelligence and analysis capability.

Opportunities for improved productivity are not limited to the modernization of our business IT systems. Exponential advancements in manufacturing processes and materials, artificial intelligence, energy capture, storage and transmission, and virtual and augmented reality offer abundant opportunities to reform and improve not only our business processes but also the productivity of our personnel, training, acquisition, and maintenance activities.

Nor are the opportunities for improved stewardship limited to technology; process, policy, and leadership can also drive the agility and innovation that leads to a more productive enterprise. The Department of the Navy has welcomed the additional acquisition flexibilities provided through the fiscal year 2016 and fiscal year 2017 NDAA. Consistent with congressional intent we are capitalizing on the flexibility inherent to mid-tier acquisition and acquisition agility provisions provided from Fiscal Year 2016 NDAA (Section 804) and Fiscal Year 2017 NDAA (Section 806), respectively. Additionally, we have implemented an accelerated acquisition approach with the Department of the Navy that encourages and enables the rapid development and transition of emerging technologies and engineering innovations to address critical Navy and Marine Corps warfighting needs. The Large Displacement Unmanned Underwater Vehicle and the carrier-based launched Unmanned Aerial Vehicle System are being managed as accelerated capability programs with the direct senior leadership involvement necessary to enable streamlined risk acceptance and decision making.

The Department of the Navy is actively expanding and strengthening our network of partnerships, seeking further collaboration with traditional and non-traditional industry, laboratories, and academic institutions as well as international partners. In a combined effort between the Secretariat, the Marine Corps, the Navy, and industry, we recently conducted a Ship to Shore Maneuver Exploration and Experimentation exercise in which we demonstrated over 100 innovative technologies and concepts from varied industry partners, universities, and naval labs. Such Rapid Prototyping, Experimentation and Demonstration (RPED) projects will inform our concepts and requirements and shorten the cycle between the identification of a capability gap and the delivery of a suitable solution.

Our reform efforts, focused on improving productivity, will evolve as new opportunities are revealed. To maintain our reform momentum we have invigorated a Department of the Navy Business Council to provide four star level oversight and support for our continual reform efforts.

VII. CONCLUSION

The Navy and Marine Corps team is organized, manned, trained, and equipped to assure our allies, deter aggressors, and, when necessary, defeat our adversaries and serve as an outward symbol of our Nation's resolve. Developing and maintaining globally present and operationally relevant naval forces that provide timely, agile and effective options to national leaders as they seek to advance our national security interests requires that we take the longer view.

As a maritime nation, our security and prosperity is dependent upon our freedom of the seas in time of peace and our command of the seas in time of war. America's naval forces' ability to shape and influence events while advancing and protecting American interests around the world traditionally relies upon a force whose strength is measured in terms of numbers of ships, aircraft, and munitions; increasingly relies upon advanced capabilities involving unmanned systems, advanced sensors, stealth, electromagnetic maneuver, directed energy, and hypersonics; and always relies upon the quality and dedication of America's sailors and marines. Our future success in providing for our Nation's security will ultimately rely upon Congress to provide the resources we need to build, operate, and maintain the force; to deliver the necessary advanced capabilities; and to attract, train, and retain the best of America's young men and women to serve in our Navy and Marine Corps. In exchange, we are committed to being excellent stewards of those resources to ensure we deliver the maximum warfighting capability for every dollar provided by the taxpayer.

Our priority in this year's President's Budget request is to rebuild the readiness and lay the foundation for future growth—capacity and lethality—of the force. The Department fundamentally requires a predictable, timely budget—something that has been elusive throughout the years operating under the Budget Control Act—to meet this priority. We will also need an increase to the Budget Control Act caps, as outlined in detail by our President's Budget request. Timely passage of a full year appropriation at the requested level will provide for the most efficient execution of the resources provided by Congress, while bringing stability to our workforce and our industrial base, and enabling the Department to most effectively train, maintain, and deploy the force.

I want to thank this Committee for your enduring support to our sailors, marines, civilians, and their families, and for your past support for our key programs that support the naval force our Nation's needs. The Fiscal Year 2018 President's Budget request is properly balanced to support the needs of the United States Navy and the United States Marine Corps and ensures we are better prepared to fight and win our Nation's battles today and in the future. I look forward to working with you in the furtherance of our maritime capabilities.

STATEMENT OF ADMIRAL JOHN M. RICHARDSON, USN, CHIEF OF NAVAL OPERATIONS

Admiral RICHARDSON. Good morning, Chairman McCain, Ranking Member Reed, and other distinguished Members of the committee. I want to thank you for the privilege to be here today with my colleague, General Neller, and the Secretary of the Navy, to represent our Navy team, our sailors, civilians, and their families.

Before I begin, I would like to take a moment to add my voice on behalf of the Navy to the chorus of voices who are hoping and

praying for Congressman Scalise and the other victims of yesterday's brutal attack. We all admire their strength and toughness and send our best wishes for a quick recovery.

I want to take some time this morning to briefly outline where your Navy stands today and where we need to go. I am recently back from travels to Rota, Singapore, and Guam. Our sailors are in harm's way around the world facing rising threats. They are talented. They are dedicated, and they are laser-focused on their mission. This is despite the growing challenges of the security environment and the challenges that we have imposed by inconsistent, delayed, and inadequate funding.

Today I hope to convey a sense of urgency. Our adversaries are improving more quickly than we are. I agree with the chairman that our advantage is eroding. We must increase our naval power today, pick up the pace, and maintain our winning advantage.

This effort starts by ensuring that we have a firm foundation for solid growth, restoring wholeness or balance. This began with the fiscal year 2017 budget, which helped arrest readiness declines. I thank the committee for that support.

But more needs to be done. The challenges are sufficiently deep that it will take both predictable and sufficient funding and some time to fully recover. As you pointed out, sir, we have got hundreds of aircraft grounded due to maintenance backlogs and spare shortages. Our pilots do not fly enough. Our maintainers are struggling to keep planes that are working up in the air. We have not funded spare parts at the required levels.

Maintaining our ships is also a struggle. Submarines and warships are tied up to the pier unable to submerge or get underway. I know that many of you are focused on adding more ships to the fleet, and I am focused on that too. But if I cannot repair a ship that has already been bought and paid for to go to sea, I forfeit the good, hard work of our predecessors. And the net effect is the same as not buying a ship. It is one less ship today at sea and U.S. naval power suffers.

We are making strides here. As I mentioned, the 2017 budget was a great help to restore a lot of readiness. The fiscal year 2018 request will capitalize on that investment and restore balance and wholeness so we can grow moving forward. There is lots we need to do to shore up the force that we have. We need that firm foundation.

As articulated in a white paper about the future Navy I released, we also need a larger and more capable fleet. Even as we shore up wholeness, the budget request preserves the program growth for the Navy. It invests in emerging technologies for the future. It provides a balanced approach that starts the acceleration of naval power from a firm foundation.

As I talk to our sailors who are forward deployed, protecting America from attack, promoting our interests around the world, they are as focused as ever on the mission. I know that you share my immense pride in them. But there is also a growing sense in the deployed fleet that we back here Washington just do not get it. It sometimes seems like we live in a parallel universe. And I urge that we bring these two realities together and close that gap quickly.

As an example, they are already hearing that our fiscal year 2018 budget may not get passed in time, resulting in a ninth consecutive continuing resolution. It is getting harder to explain to our sailors and their families and to those who might want to join. But I am very hopeful. I pass on that optimism to them. We are willing to team together to do whatever it takes, working together with you with your support to get them the resources and support that they need and that they deserve.

Again, I thank you for the privilege and opportunity to be here today, and I look forward to your questions.

[The prepared statement of Admiral Richardson follows:]

PREPARED STATEMENT BY ADMIRAL JOHN M. RICHARDSON

Chairman McCain, Ranking Member Reed, and distinguished Members of the Committee, thank you for the opportunity to appear before you today to discuss the Navy's fiscal year 2018 budget request. This budget is the second step along a three-year path that started in fiscal year 2017. In fiscal year 2017, Congress approved funding that helped to plug the most urgent readiness holes in the fleet. The fiscal year 2018 request is focused on continuing to stabilize the ship—restoring balance that will serve as a solid foundation for next year's investments, which will be informed by the pending National Security Strategy and National Military Strategy and chart a course to growing our size and capabilities. We would not even be having this conversation were it not for passage of the fiscal year 2017 bill. Thank you both for the final bill, and for supporting the Administration's request for additional Overseas Contingency Operations funding.

The Navy submits this request in a time of increasing competition. The world in general, and the maritime environment in particular, is fast-paced, increasingly complex, and uncertain. The challenges we face are more diverse, interconnected, and arriving more quickly than we had anticipated. Our maritime rivals are quickly becoming stronger. There is a need for urgency; we need to pick up the pace if we are to maintain a position of naval leadership in the world. Your sailors are out every day, all around the world, going into harm's way and undaunted by the threats that they face. Their equipment is worn. Too frequently, they don't have enough spare parts, and their stocks of munitions are lower than they need. But they are tough, dedicated, and proud of what they do. Back here at home, there is less evidence that we get it. There is little sense that our margin is shrinking, that time matters, and that we must take action. Again, your support in fiscal year 2017 is important progress, and your Navy is very grateful. But there is much more that still needs to be done.

This places a growing premium on what we in the Navy often refer to as wholeness. For the Navy, wholeness is striking a balance of capabilities that are ready to meet our missions today, complemented by the additional investments that will enable us to sustain those capabilities over time.

The heartbeat of the Navy is its people—this is where wholeness begins and ends. This budget request reflects increases in both military and civilian personnel. On the military side, we are requesting an additional 4,000 Active Duty and 1,000 Reserve personnel to man modernized cruisers and destroyers, as well as littoral combat ships; properly support moves for our sailors and their families; grow our cyber capabilities; and to implement our digital training initiatives. We are also adding almost 3,700 civilian personnel to conduct ship and aircraft maintenance, increase security at our bases, and provide engineering and other developmental support for new manned and unmanned aircraft, cyber, and tactical operations.

The most significant investments in our fiscal year 2018 budget request build upon the funding provided in fiscal year 2017: the Navy added \$3.4 billion this year and hopes to continue to achieve and better maintain readiness over the next 5 years. Afloat readiness accounts are almost all funded to either their full requirement or the maximum amounts that could be spent. These investments are designed to help reverse years of significant strain on the fleet. The funding will buy the gas so that our ships and aircraft can fully train and deploy. It will increase the stocks of spare parts to keep those platforms running or quickly restore them to service if something should wear out or break. They will also provide for increased cyber resilience and defense, and support modest improvements to our facilities.

As our competitors seek areas of advantage, our modernization accounts will ensure our current platforms remain competitive through their expected service lives.

The fiscal year 2018 budget request sustains most of our major modernization programs, across the undersea, surface, and air domains. We also sustained our planned investments in missiles, ship self-defense systems, and torpedoes in this request, and increased funding for additional weapons in future years.

Even as we invested in enhancing our readiness, our fiscal year 2018 budget request also supports moving into the future. We fully funded the *Columbia*-class ballistic missile submarine's fiscal year 2018 program requirements, the Navy's contribution to our Nation's strategic nuclear deterrent and our highest shipbuilding priority. We support procurement of nine ships in this fiscal year, and another 33 across the Future Years Defense Plan. We made minor adjustments to our planned aircraft purchases, requesting one additional P-8A maritime patrol aircraft in this year's request and reducing our expected purchases of F-35C fighters from 6 to 4.

The final element of our efforts to strike the best balance across our fiscal year 2018 budget request is focused on advancing key technologies that will make our current platforms more capable, providing new ways to counter high rates of fire more effectively and affordably. To that end, we have developed a new strategy to accelerate introduction of lasers and laser-enabling technologies into the fleet, and increased the funding in this and future years. We have funded the research and development of the next generation land attack weapon, hyper-velocity projectile, and hypersonic defense. And this request sustains our investments in autonomy and unmanned air, surface, and undersea vehicles.

We are adjusting our investments in tactical networks and supporting capabilities, and have asked for \$15 million to support a small but empowered office to spearhead Navy digital warfare and enterprise efforts. As just one example, one of our most impactful digital efforts is the transformation of the information systems that support our Manpower, Personnel, Training and Education (MPTE) enterprise. The MPTE modernization project will consolidate information from over 50 different databases in order to support tailored, flexible, and modern talent management and human resources support for our sailors. Our initial steps toward implementation are leading us to redesign our processes; in just one area, these changes have increased the number of travel claims processed by 28 percent per employee, 38 percent faster, with zero errors. Once we move claims processing fully online, we project manpower savings of over 80 percent. We are requesting \$35 million this year to move these critical transformation efforts forward, which will extend across our MPTE enterprise.

This budget request acknowledges the growing prominence of information warfare through increased investments in survivable networks, electromagnetic maneuver warfare, and offensive and defensive cyber programs. Cyber protection of critical warfighting systems will provide the capability to automatically harden applications on naval platforms, reducing vulnerability to cyber attacks. The budget request also recognizes that as we advance technologies we must accelerate our adoption of training that leverages latest educational methods and tools, particularly the employing a combination of live, virtual, and constructive (LVC) training. By increasing our investments by \$217 million, we ensure that we keep our operators at the center of our plans, ensuring that they will be able to most effectively fight their ships, submarines, aircraft, and networks. Finally, we continue to seek ways to exploit the advantages offered by smart manufacturing technologies, including tools for shipyards and depots to speed production, reduce maintenance and sustainment costs, and enhance operations and logistics. These are just some of the highlights of the Navy's fiscal year 2018 budget request, building upon fiscal year 2017 readiness investments to achieve greater wholeness, both now and into the future. However, the perfect warfighting capability is useless if it arrives late to the fight. Getting a new capability to the fleet first, before any competitor, is decisive. As important as any specific capability, we also need speed. Time matters, and we are not moving fast enough. The Congress has a major role to play here. Becoming more competitive starts with stable, adequate funding—the Navy simply cannot stay ahead in a system in which we operate without a budget over 30 percent of the time. Stable and reliable funding allows our suppliers to manage their workforce and costs more effectively, which in turn reduces our costs. It gives our industry partners the confidence to invest in advances that make their processes faster and more efficient. We also need to better align our strategy with our budgets. We cannot achieve wholeness when we continue to be asked to do more around the world than our funding levels can support.

Within the Navy, we are rededicating ourselves to a single-minded focus on building leaders, who are building the best possible teams. In the past year, we have issued an updated leader development framework to help guide the advancement of sailors as leaders of both character and competence—the two necessary ingredients for professional leadership. We also issued a framework that is informing advance-

ment strategies for our Navy civilians, to guide strategies that are tailored to their particular areas of expertise.

I am grateful for the additional acquisition authorities that the Congress has given to me and my fellow Service Chiefs, and have learned a lot as I have started to execute them. Many of my colleagues in industry that do both commercial and Defense Department work describe two ways of doing business: the “competitive way” and the “government way.” They describe their worlds as consisting of parallel universes that operate at vastly different speeds. In the “government way,” we take over 7 years to move from starting to look at potential information technology systems to initial operations. The “competitive way” took deep learning from an idea to GO champion in the same amount of time. Too often, the “government way” ignores the fact that going slow—or worse, doing nothing—incurs risks that are often much higher than acting imperfectly. In the “government way,” there are too many people that can say no. In the “government way,” there are layers upon layers of oversight, many of which have their origins decades ago, in a time when there were no computers. I am working with the Department and industry to examine our methods against the need to deliver quality in a way that is also timely and cost-effective. Make no mistake, continuing to operate in “the government way” imposes costs and risks as real as any others we might be trying to avoid. To that end, right-sizing and modernizing our installations and facilities will be an important part of our future competitiveness; although the Navy believes its infrastructure capacity is about right, completing the more detailed analysis once a BRAC is authorized will have value, and may highlight opportunities for some savings.

Within the Navy, we are taking steps to accelerate acquisition. There are two elements to our approach. The Rapid Prototyping, Experimentation, and Demonstration (RPED) process seeks to develop and field prototypes to find solutions to fleet problems. The Maritime Accelerated Capabilities Office (MACO) process streamlines and accelerates the acquisition decision making process so that capabilities can be delivered to the fleet as fast as possible.

These new ways of doing business are enabled by engaging with industry much sooner in the acquisition process, both to help refine the requirements process and to make it more efficient. As a part of this, we have been increasing our outreach to small businesses, which are often the most agile of our performers. And I am routinely calling both on our own Navy team as well as our partners in industry to challenge assumptions that we have grown to take for granted—assumptions about how long it takes to design or build everything from our most simple to most complex platforms. We are shifting our mindset from technological miracles that deliver in the distant future, to one of achievable and meaningful advances today that can be pushed forward into the future through faster iteration. We must design and build all of our future platforms with modernization in mind.

Finally, together we must develop a more competitive approach to defining our future. I have been focused on getting better insight and control of research and development funding so that it can be prioritized to the areas of most decisive advantage. We need more targeted investments, with well understood risks, that include time to delivery as a critical discriminator.

If our efforts here are going to succeed, I will need your help. I welcome the greater accountability you have given me, but would ask you to look hard at areas where oversight can be pruned back to less onerous levels. Which oversight functions are best performed by the Navy Secretariat, by the Office of the Secretary of Defense, or both? What steps can we take to maintain sufficient checks and balances, but that also recognize the competition that we cannot ignore? These are difficult questions, but ones that the world in which we find ourselves in demands that we answer. I look forward to working with you in this vital area, and to answering your questions.

STATEMENT OF GENERAL ROBERT B. NELLER, USMC, COMMANDANT OF THE MARINE CORPS

General NELLER. Chairman McCain, Ranking Member Reed, distinguished Members of the committee, thank you all for the opportunity to appear today and answer your questions.

I would fully endorse the comments of both Secretary Stackley and my shipmate, Admiral Richardson, and what they have said about our current situation in the Navy and Marine Corps.

I would also add the best wishes of all marines and our families to those that were injured yesterday, wishing them a speedy recovery.

I know this committee and the American people have high expectations for their Marines as our Nation's force in readiness. You expect your marines to operate forward as part of that Navy-Marine Corps team, engage with our partners, deter our adversaries, and respond to crisis. And when we fight, you expect us to win. You expect a lot of us and you should.

This morning, as we hold this hearing, more than 36,000 marines are forward deployed and engaged doing just what you would expect them to be doing. Our role as the Nation's expeditionary force in readiness informs how we man, train, and equip our Corps. It also prioritizes the allocation of resources we receive from Congress.

Unstable fiscal environments of the past have required us to prioritize the readiness of that forward deployed force over those at home station. Those marines forward are the ones that immediately respond to crisis. Those marines are protecting our embassies around the world. Those marines are currently conducting air and artillery strikes in Iraq and Syria. Those marines are training and advising Iraqi and Afghan armies. Twenty-four thousand of those marines are in the Pacific, west of the international dateline, deterring adversaries and ensuring our allies.

And I assure you that those forward-deployed marines are well trained and well led and well equipped. However, after 15 years of war and budget instability, this has come at a compounded cost to our non-deployed marines, our ready bench back home. The fiscal year 2017 appropriations bill is a good down payment to improve the readiness of this bench and move us forward to further recapitalize and modernize the force.

That said, the instability of the past 8 years and the continued legislative reality of budget limitations disrupt our ability to program long-term activities and potentially sustain these improvements to both our current and our future readiness. To continue to meet operational commitments, maintain a ready force, and at the same time modernize for the future, your Marine Corps requires fiscal stability and adequate resources.

While supporting requirements abroad, we continue to innovate, leverage technology, invest in new systems, and redesign our force through two new initiatives called Sea Dragon 2025 and Marine Corps Force 2025. We must adapt both the capabilities we possess and the thought process we bring to the battlefield because our adversaries have continued to advance their capabilities and capacities. Our ability to fight and win into the future depends upon modernization. Modernization is future readiness.

So as we look forward, priorities for this year remain continued readiness recovery, implementation of the beginning of Force 2025, and the acceleration of our modernization initiatives to build a more lethal Marine Corps. We do not want our marines to enter a fair fight, and though we remain a lethal and ready force, the margin between us and potential adversaries has closed. And with your support in addressing the present and future challenges and

the shortfalls we have, we will be better postured to fight and win our Nation's battles now and in the future.

I look forward to your questions.

[The prepared statement of General Neller follows:]

PREPARED STATEMENT BY GENERAL ROBERT B. NELLER

PREFACE

Your Marine Corps remains the Nation's expeditionary force in readiness, able to answer the Nation's call in any clime and place. In meeting that mandate, marines are forward-deployed and forward-engaged responding to crises around the world—managing instability, building partner capacity, strengthening allies, projecting influence—meeting the requirements of our geographic combatant commanders. At home, our recruiters are working hand-in-hand with local communities, recruiting the best and brightest Americans our Nation has to offer and consistently achieving our recruiting goals. We appreciate the recent passage of the fiscal year 2017 funding. This is a down payment to improve our readiness and move us forward to recapitalize and modernize the force. That said, the fiscal instability of the past 8 years and the continued reality of continued budgetary uncertainty disrupt our ability to program long term activities and directly challenge our efforts to improve current and future readiness. To continue to meet operational commitments and maintain a ready force, your Marine Corps requires fiscal stability.

Both in training and operationally, our Marines are busy; the current deployment tempo is on par with the height of operations in Iraq and Afghanistan. While supporting requirements abroad, we also continue to invest time and energy in developing the Marine Corps operating concept and its supporting Marine Corps Force 2025 initiative. The changes within these institutional efforts will help us mitigate against an increasingly volatile operating environment. Our potential adversaries continue to advance their military capabilities and build capacity; because of their advances in technology and information use, we must adapt both the capabilities we possess and the thought processes we bring to the battlefield. As we look forward, our priorities for this year remain: readiness recovery, implementation of the Force 2025 initiative, and the acceleration of our modernization initiatives to build a more lethal 5th generation Marine Corps.

YOUR MARINES

In the past year, your marines demonstrated the relevance of expeditionary naval forces by executing approximately 20 amphibious operations, 200 operations, and 70 major exercises. A strong demand remains for marines and tailored Marine Air-Ground Task Forces [MAGTF], driving an aggressive operational tempo. Marines in the operating forces are averaging a 2-to-1 deployment-to-dwell ratio, typically deploying for 6 months, then spending 12 months or less at home station before deploying again.

Our Nation has marines on the ground in Iraq, Afghanistan, and Syria today, and our commitment is growing. We have increased the number of Marine advisors in Afghanistan beyond our partnership with the Republic of Georgia's Liaison Teams. In April, we deployed marines as part of Task Force Southwest training and advising the Afghan National Army. Additionally, Marine tactical aviation squadrons are supporting operations in Syria, Iraq, and Libya from forward-deployed locations afloat and ashore.

Our Navy and Marine Corps teams continue to perform as a flexible, agile, and responsive maritime force. In 2016, the Marine Corps deployed more than 11,000 marines aboard Navy warships. This past year, five separate MEUs supported every geographic combatant commander, participating in exercises and executing major operations. The 31st MEU, our forward deployed naval force in the Pacific, performed foreign disaster relief (FDR) operations in Kumamoto, Japan, after a 6.5 magnitude earthquake and 7.0 aftershock struck in April.

Our Special Purpose Marine Air-Ground Task Forces (SPMAGTF) remain engaged. Our SPMAGTF assigned to USCENTCOM [U.S. Central Command] provides dedicated Tactical Recovery of Aircraft and Personnel (TRAP) support to Operation Inherent Resolve, while simultaneously delivering a flexible force for crisis and contingency response. Those marines continue to work with the 1st and 7th Iraqi Army Divisions advising and assisting in the fight against ISIL [Islamic State of Iraq and the Levant]. In United States Africa Command (USAFRICOM), our SPMAGTF stands ready to support embassies through reinforcement, evacuation, and operations as required. Last July, marines deployed to reinforce the U.S. embassy in

South Sudan and have remained, ensuring State Department personnel are able to provide critical support to the people of South Sudan. SPMAGTF–Southern Command (SPMAGTF–SC) deployed for a second time to Latin America, primarily focusing on theater security cooperation (TSC) and training in Honduras, El Salvador, Guatemala, and Belize. At the request of the U.S. Agency for International Development, marines from SPMAGTF–SC provided FDR to more than 750,000 Haitians in the wake of Hurricane Matthew. SPMAGTF–SC were the first marines on scene, arriving within 48 hours of notification, flying more than 250 flight hours, and distributing 290 tons of relief supplies over the course of 12 days.

Marine Corps activities in the Pacific are led by Marine Forces Pacific (MARFORPAC) headquartered in Honolulu, Hawaii, with a forward-stationed Marine Expeditionary Force (MEF), III MEF, headquartered in Okinawa, Japan. III MEF contributes to regional stability through persistent presence. Marines remain the Pacific Command's (PACOM) forward-deployed and forward-stationed force of choice for crisis response. The Nation has 22,900 marines west of the international date line, operating within the Asia-Pacific theater. This past January, the first operational F–35B squadron deployed to Japan, bringing extensive capabilities while simultaneously augmenting operational forces in the area. The Marine Rotational Force–Darwin (MRF–D), a 6 month unit rotation, based in Australia's Robertson Barracks, is in its fifth year of operation. More than 1,000 marines participated last year, taking part in three major exercises over the course of 7 months. This April, MRF–D returned to Australia with MV–22 Ospreys. Of note, this was the first ever Trans-Pacific flight by III MEF MV–22 Ospreys, displaying the operational reach these aircraft bring to the Marine Corps.

The Marine Corps maintains a vital relationship with the State Department, providing security at our embassies and consulates. Today, marines are routinely serving at 176 embassies and consulates in 146 countries around the globe. Marine Security Augmentation Unit (MSAU) teams deployed 62 times last year at the request of the State Department, executing 19 embassy/consulate and 43 VIP [President and Vice President of the U.S. and Secretary of State] security missions.

Last year, the Marine Corps, in conjunction with combatant commanders and the Marine forces component commands, conducted more than 160 security cooperation activities, including exercises, training events, subject matter expert exchanges, formal education key leader engagements, and service staff talks. The relationships we forge with allies assure them of our commitment, deter adversaries, build partner capacity, and set conditions to surge and aggregate with a joint, coalition, or special operations force for major theater combat operations. Partnering also trains our marines for environments in which we are likely to operate. Your support has allowed the Marine Corps to operate globally and reap the benefits of those international relationships.

Marine Corps Operating Concept and Force 2025

The challenges of the future operating environment demand that our Nation maintain a force-in-readiness, capable of global response. In the strategic landscape, we find that Nations compete fiercely for natural resources, extremist groups employ violence to achieve nefarious ends, cyber-attacks are on the rise, and advanced weaponry and weapons of mass destruction continue to spread across the world. Additionally, due to universal access to information, rapid advancement in robotics, and new weapons technologies, serious threats have emerged with increasing speed and lethality.

In the last year, we invested considerable time and energy formulating the Marine Corps Operating Concept (MOC) and its supporting Marine Corps Force 2025 initiative. These institutional efforts were spurred by a critical self-assessment that revealed the Marine Corps is not organized, trained, equipped, or postured to meet the demands of the rapidly evolving future operating environment. We arrived at this conclusion after a close examination of the current and future impacts of complex terrain, technology proliferation, information warfare, the battle of electro-magnetic signatures, and an increasingly non-permissive maritime domain on the Marine Corps. The MOC embraces our naval character, expeditionary mindset, and professional approach to constantly improve and build on our foundations of maneuver warfare and fight as a combined arms force. The challenges of the future will impact how we organize our Corps and ultimately fight and win our Nation's battles. This concept is a starting point addressing how we will design, develop, and field a future force. It reaffirms the importance of maneuver warfare and combined arms. In the past, we successfully conducted maneuver warfare employing combined arms from the air, land, and sea. Now, changes in the operating environment and adversary capabilities drive us to increase emphasis on maneuver in a cognitive sense, expanding our employment of combined arms to space and cyberspace.

Concurrent with our MOC design, we conducted extensive collaboration, war gaming, experimentation, and analysis to design a balanced MAGTF optimized for the future in an effort dubbed Marine Corps Force 2025. We continue to identify and, when able, acquire practical, affordable, and effective ways to protect our networks; practice information environment operations; configure capable tactical units; recruit, educate, and train leaders on multi-domain warfare; increase our long-range fires capability; develop reconnaissance and counter reconnaissance forces; leverage automation and robotics to augment marines; develop innovative logistics capabilities and systems; and further our warfighting capabilities within the littorals. The Marine Corps must modernize and change to deter conflict, compete and, when necessary, fight and win against our adversaries.

Manpower

The center of gravity of the Marine Corps is its people, and the American people trust us with this precious resource—their sons and daughters. Our core values of honor, courage, and commitment are engrained in our culture. Marine leaders have a moral obligation to ensure the health and welfare of the Nation's marines from the day they commit to serve. We take this responsibility seriously and strive to maintain the trust and confidence of Congress and the American people. Taking care of marines and their families is a key element of overall readiness, combat effectiveness, and warfighting.

Our comprehensive package of services seeks the holistic fitness and readiness of our marines and their families—body, mind, and spirit. We continue to prioritize support through programs like: force fitness, sexual assault prevention and response, suicide prevention and response, behavioral health, Wounded Warrior Regiment, personal and professional development, and transition assistance. The Marine Corps remains focused on solutions to reduce destructive behaviors, particularly sexual assault, suicide, and hazing. We are dedicated to eradicating bullying, degrading, and abusive behavior committed online or in person. The abuse of alcohol is a known factor and contributor across the spectrum of force preservation issues and negatively impacts the readiness of our force. We have to minimize these destructive behaviors. We believe that preserving our commanders' ability to lead in this area is a vital element to reaching this objective.

We appreciate the continued support from Congress, specifically the most recent end strength approval of 185,000 marines. We will create the most lethal, capable, and ready 185,000 marines our resources will permit. That said, one continuing challenge is that the Marine Corps operating forces are currently averaging less than a one-to-two deployment-to-dwell ratio. This tempo is not sustainable as it does not provide options to train to our full mission sets and it puts unreasonable strain on our marines and families. Ideally, we seek to be a one-to-three deployment-to-dwell force. A deliberate and measured capacity increase, reduction of our operational tasking, or a combination of the two, are solutions that would put us on the path to improve our deployment-to-dwell ratio. Our Marines want to deploy, serve our Nation, and protect our country from threats overseas. However, we owe our marines and their families the appropriate deployment-to-dwell time to allow them to learn, re-focus, reflect on their most recent deployment, and train for the next deployment or contingency.

Readiness

Marines have a unique perspective on readiness. The congressional intent for marines to serve as the "Nation's Force-in-Readiness" guides who we are and what we do—being ready is central to our identity. As a force, we must remain ready to fight and win across the range of military operations within all warfighting domains. Fiscal reductions and budget instability has been the norm for the past eight years and has consequently eroded our readiness. As resources diminished, the Marine Corps protected near-term operational readiness of its deployed and next-to-deploy units to meet operational commitments; this has come at a compounded cost. Non-deployed units, our "ready bench," can still deploy with minimal notice but, if required, would not be as ready or capable as necessary. More reliable funding and support of the annual budget request must be there if we are to improve our readiness and our ability to respond to crises.

A lack of amphibious warships, ship-to-shore connectors (SSC), and mine countermeasure capabilities (MCM) puts the Nation at a severe disadvantage. The Navy and Marine Corps team requires 38 amphibious warships to support two Marine Expeditionary Brigades and to provide the Nation a forcible entry capability. Our current amphibious warships need updated, resilient and interoperable command and control systems. As a maritime Nation, we need to be fully capable of exploiting the sea as maneuver space in an age when the proliferation of anti-access weapons con-

tinues to increase. This includes the ability to operate freely in international waters and airspace. Thirty-eight amphibious warships offer us agility and resilience in an unpredictable and dangerous security environment. Along with these warships, the Navy and Marine Corps team requires SSC that are survivable and reliable. Our current Landing Craft Air Cushion (LCAC) fleet averages 25 years of service and our Landing Craft Utility (LCU) attained Initial Operating Capability (IOC) in 1959—three years prior to Senator Glenn orbiting the earth for the first time. MCM capabilities are continually underfunded. The Navy and Marine Corps team needs prudent and consistent funding to rectify these issues through multi-year procurement and block-buy of amphibious warships, SSC, and MCM.

Marine aviation is in the midst of a focused readiness recovery effort. We have developed an extensive plan to recover readiness across every type/model/series (T/M/S) in the current legacy inventory, all while we continue to procure new aircraft. We are realizing steady improvements in aviation readiness, but the plan requires sustained funding, parts and supply support, flight operations, and time. Each T/M/S requires attention and action in specific areas: maintenance, supply, depot backlog, and in-service repairs.

The F-35 Lighting II is more than just the next fighter, it brings unprecedented low observable technology, modern weaponry, and electronic warfare capability to the Navy and Marine Corps team. Delivering this transformational capability to our front-line forces as soon as possible remains a priority. The accelerated procurement of this aircraft is essential as our legacy fleet of AV-8B, F/A-18, and EA-6B aircraft are rapidly approaching end of service life. Though more expensive than these legacy aircraft, the capabilities we receive in return for our cost share in the joint program make it a wise investment. We are aggressively seeking ways to reduce operations, maintenance, and sustainment costs for this program. This aircraft is currently demonstrating its ability to support the MAGTF and is expanding the capabilities of Marine aviation today.

The CH-53E is another example of an aircraft that needs to be replaced—not extended—as this is the most cost effective solution. Entering service in 1981, the out-of-production CH-53E Super Stallion is 55 aircraft short of the required inventory and cannot meet the lift needs of today's Marine Corps. Its replacement, the CH-53K, costs approximately 30 percent more, but provides three times the lift capability under the same conditions, and is the only maritime, heavy-lift helicopter capable of supporting current and future warfighting concepts. The CH-53K is capable of supporting 100 percent of the MAGTF's lift requirements for approximately the same projected operating and support (O&S) cost of the legacy CH-53E. The CH-53K will provide increased range, payload, interoperability, and survivability.

The Marine Corps is executing a post-combat reset strategy to reconstitute and increase readiness of our ground equipment. We have reset 92 percent of our ground equipment, with 65 percent returned to the operating forces and our strategic equipment programs. Our war reserve includes geographically prepositioned combat equipment, located both afloat and ashore. We remain focused on this recovery effort and appreciate your support. That said, our ground equipment is old. Our amphibious assault vehicles were fielded in the 1970s, with many of our other ground systems fielded in the 1980s. Much like our aviation assets, our ground systems must be procured and fielded to our marines in a faster manner, at lower operating costs and improved capability.

Marine Corps bases and stations support marines and their families and serve as training, sustainment, and deployment platforms. They provide the capability and capacity to support the force and are integral to combat training. To maintain near-term unit readiness, we have accepted risk in facilities sustainment. While prioritizing deployed readiness, our infrastructure and facilities continue to decline. Taking risk in Facility Sustainment, Restoration and Modernization (FSRM) requirements has resulted in the degradation of our infrastructure, creating increased long-term costs. FSRM is currently funded only to meet the most urgent life, safety, and health issues. Improving the current state of our facilities is the single most important investment to support training, operations, and quality of life. In addition to FSRM, we require investment in military construction to support the fielding of new platforms; facilities necessary to meet improved training standards and operational readiness enhancements; replacement of inadequate facilities; improvement of our safety and security posture, and relocation of forces.

To address these challenges, we have developed an Infrastructure Reset Strategy (IRS). Designed to improve infrastructure lifecycle management and ensure infrastructure investments are aligned with Marine Corps capability-based requirements, IRS supports the warfighting mission and contributes directly to current and future force readiness. Additionally, under this strategy, we will sustain infrastructure and installations as capable, resilient, right-sized platforms to generate force readiness

and project combat power across the range of military operations. The Marine Corps service infrastructure capacity is about right; however, the IRS does address reducing excess and aging infrastructure to improve readiness and stability. The Marine Corps supports a Department of Defense request for authorization to conduct a Base Realignment and Closure (BRAC) round in 2021 based on the needs of other services, and to reinforce efforts planned through our IRS to optimize facilities posture to support increased readiness.

Readiness is not just about equipment supply and maintenance, but also the quality and challenging nature of our training through the mental, spiritual, and physical readiness of marines and sailors across the force. Readiness reflects through an organizational attitude and confidence, knowing that it can respond to and win in any crisis because it has been properly organized, led, trained, and equipped.

Modernization

History has not been kind to militaries that fail to evolve, and the global change we are witnessing is rapid and dramatic. Your Marine Corps must be manned, modernized, and ready to meet the demands of a future operating environment as defined by our National Military Strategy. The development, procurement, and fielding of a 5th Generation Fighter, the F-35 Lightning II, is just one aspect of our modernization efforts. We are modernizing our entire aviation force, increasing the lethality of our infantry, and ensuring our combat support and logistics are the most modern and capable. The result we aim to achieve is a Marine Corps that is the most advanced and ready—a 5th Generation Marine Corps. Capable of dominating the battlefield in all five domains—air, land, sea, space, and cyberspace—a 5th Generation Marine Corps will use information, an integral part of each domain that must be leveraged, as the thread to connect them. This requires transforming MAGTF command and control capabilities through a unified networked environment that is ready, responsive, and resilient. The 5th Generation Marine Corps is a modernized force required to meet and prevail against any adversary on the multi-domain battlefield of the future.

The Marine Corps must progress to stay ahead of the current security environment while mitigating future conflict or face becoming a force unable to deter and defeat future adversaries. Budget cuts since the Department of the Navy top line peaked in 2008, coupled with fiscal uncertainty, forced us to utilize limited resources to ensure the readiness of deployed forces and sacrifice end strength, home station readiness, infrastructure sustainment, and quality of life programs, as well as delay critical modernization. We need to modernize rapidly, to replace “old iron” with new, reliable, sustainable, and affordable equipment across the MAGTF. We need the continued support of Congress to increase the production rate of our acquisition programs while funding future modernization initiatives. Further, the recapitalization of our force is essential to our future readiness with investments in ground combat vehicles, aviation, command and control, and digitally-interoperable protected networks. Marines will continue working to do what we do today better than ever, while exploring ways these tasks might be done differently. The Marine Corps will persist in developing and evolving the MAGTF through innovation and experimentation, ensuring it is able to operate in all domains of conflict.

The Marine Corps Warfighting Lab leads our experimentation effort to capitalize on existing and emerging technologies and MAGTF level exercises. In conjunction with our coalition partners, the Navy and Marine Corps team has experimented with dispersed sea-based SPMAGTFs; integrated MAGTFs in heavily defended littoral environments; incorporated emerging digital technologies with aviation platforms and our ground forces; and conducted naval integration with interoperable Special Operations Forces. We will continue to emphasize experimentation and innovation during our exercises as a way to inform the development of distributed doctrine and future operating concepts. Exercises serve as a test bed for experimentation and innovation as we search for faster, cheaper, and smarter acquisition processes and programs. Expect the Marine Corps to continue pursuing technologies that enhance our warfighting capabilities such as unmanned aerial systems (UAS) and robotics, artificial intelligence, additive manufacturing, and autonomous technologies that provide tactical and operational advantage. We have seen success in some of these initiatives and require consistent funding to better plan our modernization efforts.

Effective planning produces unit cohesion and leadership in our operating forces, and financial predictability for our modernization programs. The ability to properly plan achieves stability and predictability for our personnel and families, ensures ample time to train, and fosters development of our small unit leaders. Modernization is critical to our future readiness.

Our Challenges and Solutions

Our most immediate challenge is resolving the significant readiness issues that have grown over the past 15 years. Collectively, fiscal inconsistency, spending cuts, and accumulating wear and tear after years of combat operations have depleted our readiness and delayed planned recapitalization and modernization efforts. Though our forward deployed forces are “full up” and ready for whatever comes their way, our “bench” has become shallow—particularly for aviation. We also lack sufficient amphibious lift. Our minimum requirement is 38 amphibious warships and we presently stand at 31, getting to 34 within the current Future Years Defense Plan. Due to this shortage, we have deployed two ground-based SPMAGTFs that have added deployment tempo to the Force.

Over the past year, the Marine Corps dedicated nearly every operational MV-22 Osprey squadron to source its global commitments, and the increased utilization rates on these airframes affect the longevity of their service life. To reduce operational tempo and continue to meet operational commitments, we cut MV-22 and KC-130J aircraft from our SPMAGTFs in CENTCOM and AFRICOM. Additionally, F/A-18 readiness challenges necessitated a reduction of the number of F/A-18 aircraft assigned to squadrons from 12 to 10. Exacerbating our concerns in aviation is a potential exodus of seasoned pilots and maintenance personnel to the commercial airline industry. We ask for your support for the fiscal resources we have requested to retain the talent in which we have invested. With the continued support of Congress, Marine aviation will recover its readiness by recapitalizing our aging fleet, while at the same time accelerating the procurement of new aircraft to meet our future needs and support our ground forces.

Conclusion

The unpredictability of the security environment and unknown future facing our Nation today reaffirms the wisdom of the 82nd Congress—the vital need of a strong force-in-readiness. Marines are honored to serve in this role. We do not want to enter a fair fight; therefore, we must build a 5th Generation Marine Corps that has no peer on the battlefield. As we continue to innovate, leverage technology, and invest in new systems, our current plan includes advanced infantry weapons, the rapid procurement of the Amphibious Combat Vehicle and Joint Light Tactical Vehicle, long-range precision fires, and counter-UAS capabilities. It also increases fielding rates of the F-35B and C, continues the CH-53K procurement, begins research and development of a Group 4/5 unmanned aerial system capable of being sea-based, and continues to build manned-unmanned teaming capabilities. The plan as described depicts a roadmap to rebuild and modernize America’s Marine Corps. With the continued support of Congress in addressing present challenges and shortfalls, we will be better postured to fight and win our Nation’s battles now and into the future. The American people expect and deserve nothing less from their Marine Corps.

Chairman MCCAIN. Well, thank you very much.

Admiral Richardson and General Neller, what are the implications of returning to a Budget Control Act level of spending in fiscal year 2018?

Admiral RICHARDSON. Sir, as we have talked about, we have been trying to restore readiness, restore wholeness, and provide a firm foundation.

Chairman MCCAIN. Will 3 percent real growth do that for you?

Admiral RICHARDSON. Sir, we are ready to defend this budget, but it is clear that we need more and a Budget Control Act, a BCA level of funding would reverse any kind of gains—

Chairman MCCAIN. What about a 3 percent real growth?

Admiral RICHARDSON. Sir, we look forward to about a 5 percent growth is what the projections are.

Chairman MCCAIN. When do you project your services will achieve full-spectrum readiness under the present scenario?

Admiral RICHARDSON. For the Navy, that looks to be in the early 2020s.

Chairman MCCAIN. General?

General NELLER. It will be about that same time, Chairman. Full-spectrum in a future fight, though, is going to take more than that because the spectrum has expanded to cyber, to space, the information, long-range precision munitions, electronic warfare. So the capabilities that we have today are adequate, but they are not going to be adequate for the future.

Chairman MCCAIN. Both of you referred to the fact that according to various studies, in particular one from RAND, although that was one from several, that showed that our potential adversaries are closing the potential gaps that exist between our capabilities and theirs. Is that your view, Admiral?

Admiral RICHARDSON. Yes, sir, it is.

General NELLER. Yes, it is, Chairman.

Chairman MCCAIN. You know, one of the great disasters I have seen recently is the LCS. The minimum operational capabilities necessary to meet the warfighters' needs for the three LCS mission modules have been delayed by a cumulative 26 years and counting. To date, very few capabilities have reached IOC. Guns, boats, helicopters, parts of the mine hunting package without the ability to find mines or any antisubmarine warfare capability.

Who is responsible and who has been held accountable? We will begin with you, Admiral Richardson.

Admiral RICHARDSON. Sir, I will be the accountable person for that, and I am committed to making sure that we take the LCS fleet—

Chairman MCCAIN. When you say held accountable, have you been reduced in rank? Have you been—in other words, you have been held responsible. I said not only who is responsible but who has been held accountable. Any change in your lifestyle since we have had three LCS mission modules delayed by 26 years and counting?

Admiral RICHARDSON. Well, we have taken several measures to make that LCS fleet more capable. We are working to rationalize that program both from the way we organize and operate, the way we man, the way we train that force, and looking to increase the lethality and survivability of the LCS fleet as well. I will be accountable for that, sir.

Chairman MCCAIN. Everybody agreed that we needed one. All of a sudden, now we need three. How did that happen? Can you explain that to me?

Admiral RICHARDSON. Sir, we are committed to, as you said, moving towards a more capability and more lethal and survivable frigate program. And the bridge between now and that program when we let that contract in 2020 will not only contribute to the small surface combatants but also contribute to the health of the industrial base.

Chairman MCCAIN. When did it happen? We were told for most of the year, about 364 days, that all they needed was one, and all of a sudden, bang, now we need three. How did that process transpire? Can you tell me?

Admiral RICHARDSON. Sir, we continue to learn about the industrial base and we react as we get that information.

Chairman MCCAIN. I see. So for most of the year, you were given one set of information and then in the brief week to 10 days, we

were given additional information that called for two additional LCSs. Is that how the system works?

Admiral RICHARDSON. Sir, we get the information. We learn in real time and we provide you information as soon as we get it.

Chairman MCCAIN. Well, I would be interested in, if you do not mind, for the record how we jumped from one LCS to three just literally in a matter of days after months of being told that we would only need one. There is more there than meets the eye, Admiral, I say with great respect.

[The information follows:]

Admiral RICHARDSON. The Navy's 2016 Force Structure Assessment revalidated the requirement for 52 Small Surface Combatants (SSC). While a Littoral Combat Ship (LCS) provides valuable capability as a focused-mission ship, the Navy is transitioning to the more capable, multi-mission Guided Missile Frigate (FFG(X)). To allow adequate time to define the FFG(X) requirements, thoroughly evaluate design alternatives and mature the design, the Fiscal Year 2018 President's Budget (PB-18) defers the first year of FFG(X) procurement to fiscal year 2020 with additional LCS being procured in fiscal year 2018 and fiscal year 2019. Changes to LCS and FFG(X) procurement will have no effect on deliveries and deployments of LCS in the near term and will result in the FFG(X) having much greater warfighting capability and flexibility to meet Fleet and combatant commanders' requirements. The original PB-18 request included one LCS in fiscal year 2018, which, when combined with the LCS Congress added in the fiscal year 2017 Appropriations Act, would allow the Navy to leverage past and current investments in our shipyard workforce and infrastructure. To further reinforce the SSC industrial base, the Navy's PB-18 request was amended to include two LCS. Until a force of 52 SSCs is achieved, there is operational risk. The Navy is also seeing challenges in meeting the requirements for attack submarines (51 against a requirement of 66) and large surface combatants (87 against a requirement of 104). Operational risks associated with these shortfalls can be mitigated by using alternate platforms, such as amphibious ships or Expeditionary Mobile Base ships, to deliver the capabilities necessary to conduct the required missions.

Chairman MCCAIN. Secretary Stackley, the Navy breached the cost cap for CVN-78. Do you believe that it has?

Secretary STACKLEY. Sir, right now our estimate for CVN-78—we are trying to hold it within the \$12.887 billion number that was established several years ago. We have included a \$20 million request in this budget pending our determination regarding repairs that are required for the——

Chairman MCCAIN. Is that a breach of Nunn-McCurdy?

Secretary STACKLEY. Not at this point in time, sir. We are going to continue to evaluate whether that additional funding will be required. We are doing everything we can to stay within the existing cap, and we will keep Congress informed as we complete our post-delivery assessment.

Chairman MCCAIN. The problem is we have not been informed. So either bust the cap and breach Nunn-McCurdy or you notify us. You have not done either one.

Secretary STACKLEY. Sir, we have been submitting monthly reports regarding the carrier. We have alerted the concern regarding the repairs that are being required for the motor-turbine generator set, and we have acknowledged the risk associated with those repairs. However, what we are trying to do is not incur those costs—avoid costs by other means, and as of right now, we are not ready to trip that cost cap.

Chairman MCCAIN. Well, it is either not allowable or it is allowable. If it is not allowable, then you take a certain course of action.

If it is allowable, then you are required to notify Congress. You have done neither.

Secretary STACKLEY. If we need to incur those costs, they will be allowable costs. We are trying to avoid that at this stage in time, sir.

Chairman MCCAIN. I agree. But we were supposed to be notified. I can tell you that you are either in violation of Nunn-McCurdy, or you are in violation of the requirement that we be notified. You have done neither. There are two scenarios.

Secretary STACKLEY. Sir, we have not breached the cost cap. If it becomes apparent that we will need to go above the cost cap, we will notify Congress within the terms that you all have established.

Chairman MCCAIN. Okay. Well, I will get it to you in writing, but you still have not answered the question because when there is a \$20 million cost overrun, it is either allowable and then we have to be notified one way. If it is not allowable, Nunn-McCurdy is breached. But anyway, maybe you can give us a more satisfactory explanation in writing, Mr. Secretary.

[The information follows:]

Secretary STACKLEY. Section 122 of the John Warner National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2007, as amended, establishes a \$12,887 million cost cap (in FY 2013 dollars) on the total amount of procurement funds that may be made available for the CVN 78. The Navy is working diligently to hold costs within that cap.

The Navy has included a \$20 million request in this budget pending our determination regarding repairs required to the damaged Main Turbine Generator #1, which occurred during first-of-class shipboard testing. We will continue to evaluate whether that additional funding will be required, and will keep Congress informed as we complete our post-delivery assessment. If it becomes apparent that we will exceed the cost cap, we will notify Congress within the terms established by Section 122.

The President's budget request includes a down-select for a new frigate. What has changed from the previous frigate acquisition strategy?

Admiral RICHARDSON. Sir, I will speak to that. I will tell you that the threat has changed. It has become more challenging. The way we operate has changed, operating the fleet under new concepts. We want that frigate to be relevant in a distributed maritime operational concept. And so the combination of those two, with any changes in the fiscal environment, have caused us to readdress the requirements for the frigate.

Chairman MCCAIN. Does it frustrate you at all that the President's budget request includes a down-select for a new frigate in 2020?

Admiral RICHARDSON. No, sir. It is fine. We are hunkered down. We want to get to that transition as quickly as we can.

Chairman MCCAIN. It is going to take us 2 and a half years to have a down-select for a new frigate. Right?

Admiral RICHARDSON. By the time that we define the requirements, which we are just about done with, I will work with industry to find what I will call the knees in the curves and what is possibly technologically on a cost and schedule and risk that is definable. I think 2020 is an aggressive target. If we can go faster, we will.

Chairman MCCAIN. Why is it that there is one of these every 6 months, and it is a pretty complicated technology that we are talk-

ing about? Somehow it does not take 2 and a half years to include a down-select. Suppose we had a down-select in 2020. Then when would we first see the first frigate?

Secretary STACKLEY. Yes, sir. Our timeline right now—the CNO described complete requirements. Our next step is to go out to industry to share those requirements with industry. They will start their design efforts. We will put a request for proposals out in 2018 to get the proposals in 2019 with an award in 2020. We would expect industry to complete their detailed design. It will take them a year, year and a half to complete their detailed design while they order material, about a 3-year build span. So we would expect the frigate to be in the water ready for delivery in the 2024 time frame.

Chairman MCCAIN. So we are talking about 7 years.

Secretary STACKLEY. Yes, sir.

Chairman MCCAIN. Is that satisfactory to you?

Secretary STACKLEY. Given that we are just now producing the requirements document, as the CNO said, if we can accelerate that, we will. But what we do not want to do is incur additional risk. We do not want to take on the risk that they took on in the LCS program where they established non-realistic schedules and procedure when the design was not mature.

Admiral RICHARDSON. Sir, if I could add on to that. I think we are completely united with you to work with industry to accelerate this acquisition process as fast as we can. But as I know you know, moving into construction before you have a mature design is just a recipe for cost overruns and schedule delays that we have lived with before. And so we are working very closely with industry in very new ways to try and move this faster.

Chairman MCCAIN. Well, I have well exceeded my time. But the A-4 aircraft was—the request was 4 weeks and the aircraft was starting production several weeks later. Tell me what has changed, Admiral.

Admiral RICHARDSON. Sir, the process has changed quite a bit since the A-4 aircraft.

Chairman MCCAIN. Compare 7 years over a few weeks that the sophistication of the technology is such that it takes 7 years to start developing an aircraft as opposed to 4 weeks, or in the case of the SR-71, which in those days was not unsophisticated, a couple of weeks. There is something wrong with the acquisition process, and we have tried to put you in charge and engage. We have tried to get the process moved forward. Why should it take 2 and a half years for a manufacturer to come up with the technology to build an aircraft or a ship? Well, these are very vexing problems.

Senator Reed?

Secretary REED. Well, thank you very much, Mr. Chairman.

Secretary Stackley, last year in the Defense Authorization Act, we expanded some of the authorities under the National Sea-Based Deterrence Fund, including the ability to contract for continuous production of the common missile compartment for the *Columbia*. Can you estimate how much this has saved the taxpayer?

Secretary STACKLEY. Sir, across the board in terms of the *Columbia* program, we are leveraging everything that you all provided in terms of the National Sea-Based Deterrence Fund with the specific regarding the continuous production. And we do not target just the

Columbia, but what we really are looking at is the run of production. We have used numbers on the order of \$1.2 billion.

Senator REED. Of savings.

Secretary STACKLEY. Yes, sir, future savings.

Senator REED. Future savings.

Do you need any additional authority for the National Sea-Based Fund to accelerate these future savings and to increase them?

Secretary STACKLEY. In the 2018 budget request, no. But we are continuing to explore opportunities. Frankly, there will be significant opportunities because what we have got is a very unique ship construction program over a period of time, and to the extent that the business case supports it, we are going to want to be able to pull work to the left as best as possible to drive costs down and provide the stability that we need for that program.

There are going to be issues in the industrial base. Today we spend a lot of our time with the shipbuilders, but the issues that we are going to be tackling next are going to be in the industrial base that are layers below the shipbuilders where they do not have the stability. They do not have the large volume and they do not have the certainty that we will need to provide so that they can drive cost out of the material that they will be providing to the builders.

Senator REED. So essentially you are talking about the savings in the supplier base not the final construction phase.

Secretary STACKLEY. Yes, sir. Half the cost comes through the supplier base, and to the extent that we can reduce their costs, then we get a compounded benefit.

Senator REED. And Secretary Stackley or General Neller, this year you are asking for approval of a 7-year multiyear contract of the V-22. And the U.S. Code is 5 years. That is the law. Why do we need 2 additional years for this multiyear procurement contract?

Secretary STACKLEY. Yes, sir. We are coming to the end of production in this 7-year period for the V-22 program. And our procurement rates frankly have been stretched over a 7-year period. Typically aviation programs will see a tail-up at the end of production. So what we are trying to do is capture the end of production, avoid the tail-up with economic order quantity material procurements inside of the multiyear. We would be able to take care of the vendor base early and overall drive the cost out of the program to the extent possible. So it is more about affordability than any other factor, and between our 65 aircraft and potential FMS [foreign military sales], we are looking to provide as much stability as possible to the industrial base to drive those costs down.

Senator REED. So one of the primary factors here is the anticipated termination of procurement of the V-22. Is that correct?

Secretary STACKLEY. Yes, sir. We reach our inventory objective at the end of the 7-year period.

Senator REED. Thank you.

The LCS. The chairman has gone into great detail and I think very thoughtful detail about this vessel. Admiral Richardson, right now, my understanding—and correct me if I am wrong. It is not capable of the mine sweeping mission. It is not capable of the anti-

submarine mission. What missions is the ship capable of performing?

Admiral RICHARDSON. It is currently capable for its anti-surface warfare (ASW) mission. Sort of that module has been delivered and deployed. The ASW, antisubmarine warfare, and the mine counter-measure mission module's capability is on track to deliver in time for deployment in the early 2020s, prioritized the mine counter-measure mission because, as you know, we are running out—we are sunseting the current capability there. But we are devoted to maintaining a continuous capability for MCM.

Senator REED. There have been some comments that the LCS is difficult to keep up with the speed with the carrier task force that is moving as fast as it can to avoid detection or engagement. Is there any validity to that?

Admiral RICHARDSON. I will tell you I would take the question and say it is not really designed as a ship that would operate like that, moving across vast distances with a carrier strike group. We would employ that ship in a different way.

Senator REED. But as I understand—and again, I am certainly not the expert on naval operations, but as we move towards the Pacific and particularly as we encounter rising adversaries, it is more likely that we be engaged in these types of blue water operations. Is that fair?

Admiral RICHARDSON. That is fair. And that is why we have the plan to forward deploy those in Singapore and in theater so that they are there providing that presence, contributing to that distributed fleet level maritime operation.

Senator REED. And, Secretary Stackley, the chairman talked in detail about the carrier program, and I just want to understand. There is an issue with the catapult system, its ability to launch aircraft, particularly aircraft that have all of their fuel tanks in place. Apparently it can launch if there are no fuel tanks or a few fuel tanks. Is this issue of the catapult system different than the issues you addressed in terms of the overall capability and cost overruns of the carrier?

Secretary STACKLEY. I would not describe it that way, sir. What we are going through right now is developing the bulletin for launch and recovery of the various type model series aircraft in the fleet that will be operating off of the carrier. And so we started at Lakehurst where we have the land-based system, and they basically start slow and build up in terms of launching and recovering the aircraft. In that process with F-18s with fuel tanks attached, a vibration was detected. And so now what they are doing is going back through the software and adjusting the system to remove that vibration. And so today they are renewing that testing at Lakehurst in advance of when we will first do launch/recovery operations on the Ford later this summer.

I am going to call it a systems tuning effort that is taking place right now. Each aircraft is, frankly, going to be tuned by EMALS, the electromagnetic aircraft launching system, so that it optimizes the launch and recovery of those aircraft for that configuration.

Senator REED. And these problems will be—you are anticipating with the new ships these problems will be solved.

Secretary STACKLEY. Absolutely, yes, sir.

Chairman MCCAIN. And how much has been the cost of that experiment?

Secretary STACKLEY. I would have to get you the specifics regarding—

Chairman MCCAIN. A couple hundred million. Right?

Admiral RICHARDSON. The total system? Yes, sir.

Chairman MCCAIN. Senator Inhofe?

Senator INHOFE. In the committee, we have heard repeatedly in recent months from all the Services about the present global threat environment that we are in and our lack of adequate readiness. At our hearing, we had Dan Coats last month, the Director [of National Intelligence]. He highlighted the threats from North Korea, China, Russia, Iran, terror networks around the country. And as bad as the global threat situation is, it does not seem likely to get better in the future.

Now, the Navy plays a central role in American response to all of these threats. And it seems like—my observation is that we have heard less from the Navy about the threats and our readiness situation than we have the other Services. Would you like to get on record now? Do you agree with the rest of the Services about the level of threat and the inadequacy of our response? Any comments?

Admiral RICHARDSON. Sir, I completely agree, and I have been clear and consistent and on the record about the fact that our margin is eroding, that the threats are rising, and we need to move faster.

Senator INHOFE. And you too, General Neller?

General NELLER. Sir, I think we have been maybe not as animated but pretty consistent in our comments on our concern about the closing gap between potential adversaries and ourselves and our need for modernization—

Senator INHOFE. That closing gap. That is a scary thing. I think when you say maybe more animated, maybe we need to be more animated because—and I have said this several times—we at this table up here do not have the credibility that you guys in uniform have to let the American people know what this threat is. And so I would just encourage more.

General NELLER. Senator, I hear you. I would say if you read—and I will just state it. In our Force 2020, our Marine operational concept, the tenet is we are not currently organized, trained, and equipped to face a peer adversary in the year 2025. And that is where we need to go.

Senator INHOFE. General Neller, the first operation of the F-35 squadron, VMFA-121, declared its initial operating capability in 2015. Earlier this year, they relocated to Japan, becoming the first forward-deployed permanent F-35 squadron. The squadron participated in joint exercises with South Korean partners earlier this year, and we got lots of good reports. Would you kind of elaborate on how well they did?

General NELLER. Yes, sir. One hundred twenty-one did some operations on the Korean Peninsula. They just recently went to Alaska and operated in an Air Force joint combined operation up there, kind of a version of Red Flag up there. I have not gotten the classified report, but from every report that I have received, their ability to operate, taking advantage of their fifth generation capabilities,

be stealthy, not be seen, take advantage of that, and gain a high ratio of kills to losses over the adversary has been pretty consistent. I do not want to get into the specifics of that.

And their readiness, which was something with a new airplane, because as the CNO said, one thing that the appropriations in 2017 and what 2018 does, we have underfunded our parts and spares, not just for ground equipment but for aviation equipment. And so we are working on that. And their readiness has been about what we expected. We have run into some problems. I have met with the squadron CO [commanding officer] in Iwakuni, and there were some things we did not know about getting parts and spares in through a foreign country and some customs things, and we are working through that. They actually have better readiness in Alaska, being in the United States, than they did because of their ability to get access to parts. But they are doing actually a little bit better maintenance-wise, and operationally they are doing everything that we expected.

Senator INHOFE. Yes. Well, maintenance is another area. I wanted to get a couple things on the record. You know, we get the reports that I guess 62 percent or so, 63 percent of the F-18s are broken, are not working properly. Forty-seven percent of all of the naval aircraft are having problems. Our depots are critical. As chair of the Readiness Subcommittee, which I have been for a number of years, I understand the key role that depots play in sustaining our aging force. And we have an aging force that we have never had anything like before.

I have been encouraged by the Air Force depot operations at Tinker, and I have seen firsthand how they are extending the service life to planes that we never thought we would have to be doing this at this age. And they are keeping the airmen flying, all the while saving about \$2.4 billion. So they are doing a good job in the depots.

A GAO report—I think it was in June just a couple weeks ago—concluded—and quoting from this—“the readiness recovery for the Navy is premised on the adherence to deployment and maintenance schedules.” And they are critical that the Navy has had difficulty completing maintenance on time. Do you agree with that criticism, Secretary Stackley?

Secretary STACKLEY. Yes, I do, sir. And we have been pulling every lever we can to improve upon that. But that has been part of the challenges that we are dealing with.

Senator INHOFE. It is another challenge.

Secretary STACKLEY. In the particular case of the aircraft, we are bringing aircraft that had been flying above their historic fly rates into the depots, trying to extend their service life from 6,000 hours designed up to 9,000 and greater. And what that all adds up to is a lot of unknowns when you are bringing them in the depot that result in an extended period of time to take care of either adding to service life or taking care of the necessary repairs. So we are trying to learn from that history, become far more predictive so when the Super Hornets enter that same stage, that we have a far better engineering understanding of what needs to be done and we are better postured and prepared to do the work.

Senator INHOFE. A good clarification.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator McCaskill?

Senator MCCASKILL. Thank you, Mr. Chairman.

Gentlemen, I am sure all of you are acutely aware—and the chairman made some passing reference to it in his opening statement—about the atrocious level of readiness when it comes to F-18 Super Hornets currently in the Navy and Marine Corps. Recent numbers listed up to 62 percent of the F-18s and 74 percent of the Marine F-18s as unfit to fly and grounded pending needed maintenance. This readiness rate puts increased strain on those aircraft that are still air-worthy as they pick up the slack, which just exacerbates the problem.

I was heartened when I learned that a plan was being discussed to order 24 more of these tried and true aircraft on existing production lines. I was equally disheartened when that number arrived at our office as the number of 14.

Since this has been the number one slot in the unfunded priority list for the third year in a row, I need to understand how that 24 number got to 14 and what those 10 fighter jets—the money for those—what that was used to pay for.

Secretary STACKLEY. Yes, ma'am. Let me start with this and maybe the CNO would like to join.

We do not look at just the fiscal year 2018 column. We look at the total number of Super Hornets that we need to add to our inventory to address the challenges that we are going to be facing when the Super Hornet is going through the same service life extension program that the legacy F-18s are. And we think that we need a solid 80, and that number may go up. We will have to see our review during the POM-19 [program objective memorandum] process. To meet a solid 80 that we have laid in over the 5-year program.

In the near year, 2018, when we look at industrial base considerations, we also factor in foreign military sales. So we are working hard on the foreign military sales side, which I think you are well familiar with that involves a significant quantity of aircraft which, in addition to the 14 that we have laid into the budget, gives us that front-end stability. And then as you look in the following years in the FYDP, the 5-year defense plan, we get to our ultimate 80.

Bottom line is we believe we need a solid 80 as a threshold in terms of dealing with the risks associated with our TACAIR [tactical air] in the future. The 14 in fiscal year 2018 reflects a balance between our budget constraints and bringing in foreign military sales aircraft to manage across the industrial base. That is kind of the crux of it.

And one minor correction. The readiness issues that you cited for our strike fighters—those are our legacy F-18s that are suffering those numbers. Right now, the Super Hornets are doing well. They are doing well. They have not entered that stage of their service life where we are seeing the challenges that we are seeing today on the legacy, and we want to get out in front of that.

Admiral RICHARDSON. Ma'am I will add on to that.

First, I agree with everything that the Secretary said. And these aircraft will help maintain inventory as the Super Hornets enter that life cycle extension program. We are working very closely with

industry. As the Secretary said, we are learning the lessons of the legacy Hornets so that that process goes much smoother. But we are going to need about 80 aircraft to maintain inventory while they go into their life cycle extension.

Senator MCCASKILL. So the number that was arrived at was for production stability in light of budget constraints as opposed to using 10 of those jets to pay for some other system.

Admiral RICHARDSON. The first requirement was the total number of aircraft we need, and then we had to figure out how best to buy that within our budget constraints.

Senator MCCASKILL. Got it.

Back in 2016, General Neller—and at that hearing, I believe General Milley was here with you. We have been briefed. The staff has been briefed in January where the service representatives responsible for monitoring and providing briefings on the topic stated full gender integration appears to be moving forward as intended and, most significantly, stated no measurable negative impact on readiness.

With that briefing in January, I would like to repeat the question I asked of you in 2016 when I asked if you supported the measure to require women to register for the selective service. At that point in time, you indicated that you did, along with General Milley. I just wanted to double check and make sure that you still believe that it is an important step forward that we require all Americans to register for selective service, not just one gender.

General NELLER. It is my personal opinion, yes.

Senator MCCASKILL. Thank you very much.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Cotton?

Senator COTTON. Thank you.

Thank you, gentlemen, for your testimony.

Every other member of this committee so far has spoken about the budget, so I will as well. I will simply reiterate today and maybe every time in the future, as Cato did with Carthage, the Budget Control Act must be repealed. The 112th Congress was not the Constitutional Convention. The Budget Control Act is not the Constitution. Congress has made it clear that we cannot abide by those caps, so why do we simply not repeal it and do our constitutional duty of appropriating money every single year, in particular since every Senator on this dais from Deb Fischer to that end and Joe Donnelly to that end did not even vote on the Budget Control Act.

General Neller, I had the opportunity yesterday to attend the funeral of one of your marines at Arlington National Cemetery. Thank you for sending a representative there. Private 1st Class Larry Roberts was a sniper. He died in November, 1943 in the Tarawa Atoll. He, along with several others, could not be identified for decades, but ultimately, thanks to the work of Honor Flights and the Defense POW/MIA [Prisoner of War/Missing in Action] Accounting Agency his remains were identified and he was laid to rest. He had a small family, obviously, as an 18-year-old man who sacrificed his life 74 years ago. He did not have a wife or children. But the children of his parents' siblings were there to pay their respects. In some ways, I feel that the people who most need to know

about that funeral are your marines and your sailors and our soldiers and our airmen that if they go missing or captured or are killed, that our country will spare no expense. We will not rest. We will bear any burden to find them and bring them home and let them rest in honor the way they deserve.

You said earlier, General Neller, in response to a question from Mr. Inhofe that you were not organized to face a peer adversary in 2025. Could you explain more about why that is the case?

General NELLER. Congressman, since 9/11, we have organized, trained, and equipped the force to fight a counterinsurgency and conduct stability ops. The training that I had as a junior officer and then later as a regimental commander to fight primarily a combined arms fight against a peer ground combat force was not required. And so we did what we needed to do to meet the current threat. And we recognized several years ago—many of my predecessors—that we had started to lose our capability to conduct combined arms in the more traditional sense.

Now when you take the current operating environment and what we anticipate the future operating environment, when you add space, cyber, information, the long-range precision weapons, the use of different capabilities, active protection systems, unmanned aircraft, our adversaries have taken this time when we have been focused on CT [counter-terrorism] and the insurgencies to develop these capabilities. And although we still retain one-on-one against them, I think, an edge, the edge has closed. And so we need to look at our force and the capabilities we have.

So our intent is, with the end strength of 185,000 we have been given by the appropriations, to start that process, to increase the number of marines that do electronic warfare, increase the number of marines that do command and control, increase the number of marines that do cyber, increase the number of marines that do information, that do air defense and those capabilities that we think are going to be important in that type of an environment. And if we are able to grow the force, we will continue to add to that capability and, at the same time, remodernize the legacy force and make it more survivable and lethal.

Senator COTTON. To achieve decisive victory over a peer competitor in 2025, it sounds like you are stressing more the skill sets and the training that your marines have rather than the absolute number of marines you need?

General NELLER. You get into the question, Senator, as you know, of capacity and capability. So right now, the focus is on the capability sets. And it is going to take a long time. With all due respect to my own tribe, the infantry tribe, I can make a competent individual infantry marine in about 6 to 9 months. It is probably a little bit longer now because the requirements are much more complicated.

But the marines and, I would say, the sailors, the airmen, and the soldiers we are going to need in the future to do these other things are going to be expensive and are going to take time to grow and build. You've got to recruit them. You've got to find them. You've got to train them, and then you have got to keep them. So right now, we are focused on capacity—or on capability over capac-

ity, but eventually we are going to have to get to the capacity question.

Senator COTTON. Admiral Richardson, you face some of the same challenges with personnel. You have introduced a number of talent management programs to recruit, train, and retain the best people. Could you give us an update on that and maybe discuss the next steps, especially as it relates to pilots since we have seen the kind of pressures the Air Force faces with their pilots?

Admiral RICHARDSON. Yes, sir. And I agree completely with the Commandant in terms of what the stressors are and how to achieve that balance between capability and capacity. You have got to be there with credible options to provide decision-makers the options that the Navy and the Marine Corps team is responsible for delivering.

In terms of talent management, we have got our Sailor 2025 initiative which really is a bundle of about 40 different initiatives that get after that.

With respect to your specific question on pilots, the very most urgent thing we have to do is get their aircraft ready to fly. Our pilots joined the Navy and the Marine Corps to fly high performance aircraft. That is why they came. That is why they want to stay, and so that is our first priority.

Senator COTTON. Thank you.

Senator REED [presiding]. On behalf of Chairman McCain, Senator Blumenthal, please.

Senator BLUMENTHAL. Thank you, Senator Reed.

Welcome, gentlemen, and thank you for your extraordinary service and for your candid and forthcoming answers today.

Admiral Richardson, you know of my longstanding support for our undersea warfare superiority. And I was very, very gratified to see that the Navy has heeded my calls and others and added a second *Virginia*-class submarine in fiscal year 2021 where there was previously just one because of the beginning of the *Columbia*-class production. This signals that the Navy is confident that the industrial base has that capability and, I take it, ready to meet the challenge.

I see that the budget allows for an accelerated fleet plan for fiscal year 2021, but it deviates from the plan in fiscal year 2022, which has no additional money for attack submarines. Can you explain that fact?

Admiral RICHARDSON. Sir, we continue to work very closely with the industrial base within the fiscal guidance that we have to maximize and maintain our undersea superiority. As you know, sir, because you are so deeply involved, many parts of that industrial base have really been leaned out by the sort of minimum production rates that we have got, particularly the nuclear part of that industrial base where we are in many areas the sole customer and there is only one provider. So I have got the team looking at what is the capacity, provided stable and consistent funding that sent that signal of confidence from the government that they would invest in new production lines, et cetera to maybe increase the rates further still.

Senator BLUMENTHAL. Let me just cut through what I think you are saying. You have doubts about the capability of the industrial base to produce that additional submarine in fiscal year 2022?

Admiral RICHARDSON. No, sir, no doubts. I just want to make sure that we are understanding the theoretical limits of that base to see how far we can go.

Senator BLUMENTHAL. Well, I want to make sure that we understand the practical limits and what we meet and exceed those limits because we need to produce that additional submarine in fiscal year 2022. Would you agree?

Admiral RICHARDSON. We will take every submarine that we can get right now, sir.

Senator BLUMENTHAL. Well, I do not know quite how to put it more bluntly, but I hope that we can work together because I will do whatever is necessary to make sure that we have both the funding and the capability in terms of training and skill education and so forth in Connecticut, which is where we produce submarines, to make sure that we meet that schedule because I consider it vital to our national security.

Admiral RICHARDSON. Yes, sir. I agree.

Secretary STACKLEY. Sir, can I offer—

Senator BLUMENTHAL. Yes. I am sorry. Mr. Secretary?

Secretary STACKLEY. In the defense strategy review leading into the 2019 budget request, we are going to be taking a very hard look at this. Our domination of the undersea domain is clear today. We have to ensure that we do not lose that grip, and the CNO's future fleet plan highlights the need for additional attack submarines.

That all said, we are just today at the point in which we are producing two *Virginia*-class submarines per year. We are going to add the *Ohio* replacement, the *Columbia 2*. That will get us to three. Going the next step to three *Virginias* per year, commensurate with the *Columbia*-class, that is another element of risk.

So while we are going to look at it hard and we are going to determine what needs to be done, we have not done that yet. We will do that with full collaboration with the Congress because we all have to be in this together. So as we go through the review, as we identify the risks, the steps that would need to be taken, we will work closely with you and the other interested members of committees to determine what is possible and then how to get there.

Senator BLUMENTHAL. Thank you. I look forward to working with you on that issue.

General Neller, in your testimony, you note that the CH-53K is, quote, "the only maritime heavy lift helicopter capable of supporting current and future warfighting concepts." I take that statement and others in your testimony as a strong endorsement of this program. Can you please explain to the committee why you consider this aircraft so important and why the funding should be authorized for the additional helicopters in the NDAA, please?

General NELLER. Well, Senator, we need a marinized aircraft to stay aboard ship so it is not affected by corrosion, and we have to be able to lift all parts of the ground combat element ashore. The CH-53K is going to lift a third more than any other helicopter in the world, including the CH-53 Echo we have now, which was

fielded in 1981. So the capabilities of this airplane—it is a completely new airplane, composite body, wider, incredibly more powerful, and we believe it is going to be more reliable, which will drive the cost down. So we could put money back in the 53 Echo, but we decided several years ago that that just was not cost effective, and we are resetting those airplanes, the Echoes, now because their readiness was actually near that or maybe even more dramatically bad than the F-18s. So we need this airplane. We need new iron.

The aircraft is on schedule. We are watching the price very closely because there are some price concerns, but I think we are in a good place. But we would ask that we get the support to continue to procure this airplane. And I will do my very best to monitor the progress and make sure it is on time and on schedule and on cost.

Senator BLUMENTHAL. Well, I just thank you and conclude by saying I agree strongly that the CH-53E, as you say in your testimony, should be replaced, not extended, and I hope the committee will join in that view. Thank you.

Senator REED. Thank you.

On behalf of the chairman, Senator Rounds, please.

Senator ROUNDS. Thank you, sir.

Gentlemen, thank you for your service to our country.

I would like to talk about readiness. I would like to talk specifically about spare parts and maintenance. General Neller, I think to Senator Inhofe's question, you were pushing pretty hard to talk about the need for spare parts and the need to be able to repair the equipment that you have got. I would like to give you an opportunity to share just how serious the situation is right now and the need to continue to improve the availability of parts for all aspects of the operations that you are responsible for, sir.

General NELLER. Well, thank you, Senator.

As I have learned as we have gone through the fiscal year 2017 and the 2018 budget, particularly the aviation but to some degree with the ground equipment, we have not funded parts and spares at our requisite level. You would think it would have been funded at 100 percent but it was funded well below that, in some cases at 75 percent. So if you fund readiness or parts and spares at 75 percent, the best you can expect is 75 percent readiness. You want 100 percent readiness, you've got to pay for the parts and spares and that costs money.

So to Senator McCaskill's comment about F-18s, right now of the F-18s that we require, we have 75 ready basic aircraft, but of those that are on the line, 47 are short parts right today. Now I get parts. I can fix those airplanes. Now, they may be on a schedule of service.

And I can say that same about ground equipment.

So we are making it and we are making the ready force as forward deployed on the backs of our soldiers, sailors, airmen, and marines that are out there taking parts off one end item and putting it on another to get that one ready to go, so they've got to do all the work twice. I do not want them to have to do that because it takes extra work and then it goes back to what the CNO said. Okay, we are the top dog in this league and you are going to give me the parts to fix this stuff. And my aircrew want to fly, and the maintainers should not have to do the work twice.

So we would ask your support, I think, in the proposed budget for 2018, and you will see some more of that in the supplemental is focused on continuing that. What we have started now is a beginning movement toward improved readiness. There is slight but consistent improvement. I mean, the number of ready basic aircraft that we have on the line is almost 90 more than it was a year ago. It is still not where it needs to be. No one is declaring victory. But if we get continued support for high level parts and spares, we will continue to make progress.

Senator ROUNDS. Admiral Richardson, I have kind of got the same question for you, and that is when it comes to spare parts but not just spare parts but also munitions. Do you have the munitions and the spare parts that you need to do your job?

Admiral RICHARDSON. Well, with respect to aviation, it is one team with the Marine Corps. It is naval aviation that we talk about. And so those problems that the Commandant highlighted—that is a naval aviation situation. And so we share that. And I would say that we both share also the shortfall in munitions. And so the budget request before the Congress now includes almost record level funding for parts funded to the maximum executable value there to restore those parts and then also includes funding for more munitions.

Senator ROUNDS. Which munitions are you short today?

Admiral RICHARDSON. What we would call the preferred munitions. So these are precision munitions. Those are the ones that are most used and will be most useful in the fight, and then undersea weapons as well, torpedoes.

Senator ROUNDS. Senator Inhofe also talked a little bit about depot and depot activity. I am just curious. You do depots particularly for aviation, and you operate them. You are having challenges right now because you have got a whole lot of F/A-18s that have got to undergo a lot of work, work that has not been done in the past but it needs to be done now because of their age.

It seems to me that the Air Force would be challenged in the same way. They have got aircraft that they are putting hours on as well.

Is there a formal avenue for Air Force and Navy depots to share information concerning best practices?

Admiral RICHARDSON. Sir, there is an avenue. I would have to check on exactly the formality of that. But we are collaborating and learning lessons back and forth in just about everything that regards aviation.

Senator ROUNDS. Is there a formalized process to look at best practices at a depot in terms of where, one, the Navy or the Air Force are working and learning the best ways to do it and sharing systems analysis between the two?

Admiral RICHARDSON. There is.

Mr. Secretary, do you want to—

Secretary STACKLEY. Sir, that is clearly an opportunity where we can do better. It is an informal process. There is close dialogue right now between the systems commands, Navy, Marine Corps, Air Force. But when we look at the practices across the depots, they are very different. And so now we are informally pulling out

the best practices. It is an opportunity that we have got to take advantage of and we are working on it.

Senator ROUNDS. Thank you. Thank you, sir.

My time has expired.

Senator REED. Thank you very much.

On behalf of the chairman, Senator Donnelly, please.

Senator DONNELLY. Thank you, Mr. Chairman.

Thank you all for your service.

I appreciate the commitment you made to improving the mental health and resiliency of our servicemembers and families. I brought this up to every service and to Secretary Mattis earlier this week. As you may know, Congress passed the Sexton Act as a part of the fiscal year 2015 NDAA requiring every service provide a robust annual mental health assessment for every servicemember. It is the law.

I have been told in the past that the Sexton Act requirements would be fully implemented in the Navy and Marine Corps by the date of October 2017. Admiral, can you confirm you are still on target?

Admiral RICHARDSON. Sir, we are still on target.

Senator DONNELLY. General, can you confirm you are still on target?

General NELLER. Yes, sir, to the best of my knowledge.

Senator DONNELLY. Thank you.

General, I would also like to invite you, if you have the time. We have Naval Surface Warfare Center-Crane in Indiana. They do a lot of work for the Corps, do a lot of terrific work for the Corps. And if you can figure out a way to get there, we would love to have you.

General NELLER. Yes, sir. I will do that because the parents of this young man live in Dubois and I need to go back and see them anyway.

Senator DONNELLY. I will go with you.

Admiral Richardson, one of the many areas of Crane's work that we have discussed is their contribution to the netted Navy vision. Can you tell us more about your current plans on that and what we can do to support that vision?

Admiral RICHARDSON. Sir, the netted Navy vision really is that we would provide a complete level of connectivity between our Navy and other joint service sensors, including maybe even private sector sensors, connect those through our platforms, our command centers, and into our payloads. Key to that will be making sure that we have the confidence in all of our systems down to the chip level that these things are free of tampering, that they are integral and cannot be hacked into or do not have any kind of a software in them. This is the type of work that Crane does for us, getting down to the microscopic level to make sure that we are getting what we pay for.

Senator DONNELLY. General, what is your biggest concern right now as the commander of the Corps, the biggest challenge that you face?

General NELLER. I think the overall readiness of the force, and that is more than just the material readiness and the airplanes, the helicopters, the tanks, the LAVs [light armored vehicles], the

weaponry. I believe that that is fixable. My concern is the tempo that we are operating under. And we are going to get young men and women that want join and we are still recruiting, but for the first time, I am seeing that our career force, particularly our senior enlisted, are starting to show the effects of 15 to 16 years of war. And we need them to stay because they are the ones that keep this thing going, and then they teach the young marines that come in what right looks like.

So I have some concerns about that, and part of that concern I think they have is then you want to see that there is commitment from leadership and commitment from the Nation to not just recognize what they have done the last 15 years but also to make sure that they have got the new equipment and the new gear and the new capabilities they need to be successful, if and when they have to go back and fight again.

Senator DONNELLY. Thank you.

Admiral, what is your biggest concern right now?

Admiral RICHARDSON. Sir, very similar to the Commandant's, the current pace of operations and the relative pace of improvement, and the gap between that challenge and sort of the stable level of support that they need. And that has manifested itself in the major discussion we have today in terms of readiness. It will continue to manifest itself in the future in terms of modernization. And that will come back and start to affect our most valuable asset, which is our people where you have been focused like a laser on making sure we take care of the people. Once that happens in an all-volunteer force, that is very difficult to recover. It takes a long time to build a sergeant or a chief petty officer, and that is a difficult thing. If they leave, that is hard to recover.

Senator DONNELLY. The last question I would like to ask is just in the last few days, an Iranian naval vessel flashed a laser on a Marine helicopter. Have you and the Commandant worked out a scenario to make sure that our men and women are protected, that we take appropriate steps, and that we have this figured out in advance as to what we are going to do?

Admiral RICHARDSON. Yes, sir. All of those commanders in theater have the equipment, the rules of engagement, and the authorities they need to make sure that they and their teams are protected.

Senator DONNELLY. Thank you, Mr. Chairman.

Senator REED. On behalf of Chairman McCain, Senator Ernst, please.

Senator ERNST. Thank you very much.

Thank you, gentlemen, for joining us today. We certainly appreciate your dedication and service.

We have heard a number of points made about acquisition and the fact that we need to do this in a much more efficient manner. And, Secretary Stackley, I would like to start with you, sir.

I was pleased to hear that the Navy has actually increased their outreach to small businesses as a way to speed up the failures that we have seen in the acquisition process. And our small businesses can provide the Department with a lot of much needed products. As a matter of fact, we have a very small company in Iowa, in small town Iowa, that provides a pump that is on every single

Navy ship. And what additional authorities can we provide to the Department in order to speed up the acquisition process? And how do we increase the outreach that we have to those small businesses?

Secretary STACKLEY. Yes, ma'am. Let me first start with the authorities. I believe we have tremendous authority already, and what we have got to do is become better practitioners in terms of using those authorities.

Senator ERNST. And how do we do that?

Secretary STACKLEY. I press on our acquisition team. It is like go use every authority that you have got, use the great weight of the government behind you to tackle some of these issues. Do not let, frankly, the bureaucracy become the problem. So I think we have authorities that we need, and we are not hesitant to come to you all to—frankly, it is not more authority that we need—unlock some of the burdens that we have got so we can speed up. And I know that the CNO and the Commandant and I with our acquisition team—we are trying to push the boundary. We want to be told to slow down and not the alternative.

With regards to small business, this takes a lot of work and it is work that is well worth it. I can tell you that yesterday I walked into the office of the Acting Assistant Secretary of the Navy, side by side with the Commander of Naval Sea Systems Command. We were sitting down to talk to one small business on one matter that this small business had getting through a certification with the Naval Sea Systems Command.

Driving to do this, because we are not going to win foxhole by foxhole in the small business arena, but I have got to train every acquisition manager, professional that small business is your best friend. We have a phrase that we use that small business is big business for the Department of the Navy. They bring innovation. They bring speed. They bring, frankly, a very friendly cost structure. But they are not well adept at dealing with the large government. So what we have got to do is tailor our processes for them, engage with them, make them a part of the team and not have them intimidated or otherwise blocked from entry.

So, first, in terms of authorities, I think we are well equipped with authorities. We will not be hesitant to come and request additional authorities or relaxations of some of the existing language that encumbers us. And with regards to small business, we look for every opportunity, every forum. What I have got to get is every program manager, every acquisition professional to recognize that—it does not have to be a Boeing or a Lockheed or a Northrop Grumman or a General Dynamics that you are dealing with. You have to start to deal with the small businesses that bring the innovation and are so good for the Navy.

Senator ERNST. Very good. I appreciate that, Secretary. So the takeaway I think for the committee is that you have the authorities you need. You need perhaps less of the regulation and rules, less burdensome oversight. Is that correct?

Secretary STACKLEY. Yes, ma'am. What has happened over the decades is language has been added provision by provision, authorization act by authorization act telling us how to do our business. And what we are recognizing—I think what everybody is recog-

nizing—is all of these interlocking requirements are, in fact, slowing us down. What we need is good order and discipline, but if we have too much prescriptive language in telling us how to do our job, it will slow us down. So we have got to work. We have got to tailor where we can within our authorities, and we have to work with you all to identify where we have what I would call dead language that requires us to do things that add no value but that do cost us time and money.

Senator ERNST. Very good. Thank you. So peeling back some of those regulations will be important.

And just very briefly, General Neller, while we are on acquisition, a question to you. Why is the Marine Corps just now beginning to look at the M-320 grenade launcher for the infantry when the Army has been using this for the past 8 years? I might think that is a little bit of waste of money if the Army has successfully used this for a number of years in combat.

General NELLER. Senator, I saw that article today, and that is the first time personally. I mean, we talk about weapons. In fact, General Shrader was in my office. We talked about ammo, M-27, different types of weapons that we are looking at and trying to create as much commonality with the Army because they can buy in economy of scale. No one has ever come up to me and said, hey, the M-203 is not getting it done. We need a new grenade launcher. So I will have to get back to you. Clearly, though, if it is a better, more effective, more efficient way to deliver that particular munition, then we are all over it.

Just real quick, I am way out of my lane on small business, but I will tell you that we talked a lot about stability of the budget. And every one of those big contractors out there you talked about is really made up, I have learned, of a bunch of small businesses. You know, the big guy can survive if there is inconsistency in the funding. That small business—they cannot because they've got to buy product. They've got to put on workers. And if there is a CR, you cannot go. That is what kills us because that is where our parts and spares come from in many cases, from these small businesses. So that is why it so important that we get budget stability.

But I will get back to you and I owe you an answer on the grenade launcher.

[The information follows:]

General NELLER. The Marine Corps is always interested in acquiring combat systems that will enable our marines to successfully execute their missions and dominate on the battlefield. I will certainly ask Headquarters Marine Corps to consider pushing forward on this new grenade launcher to take advantage of what the Army has already learned.

Senator ERNST. Absolutely. Thank you, gentlemen.
Yes?

Admiral RICHARDSON. If I could just pile on the acquisition piece. We are talking with industry, and those industries that do business both in the private sector and the government. I think I mentioned in my written statement it is almost like two worlds in terms of achieving quality and predictability. So just to Secretary Stackley's point, they estimate that that overhead costs us 20 percent. And that 20 percent impedance is often just too high for small business to get over. And so I think that we help the Navy, we help the gov-

ernment, we help the taxpayer, and we help small business by cutting through that. It is a significant amount.

Senator ERNST. Thank you very much, gentlemen. I appreciate it.

Senator REED. Thank you, Senator Ernst.

On behalf of Chairman McCain, Senator Kaine.

Senator KAINE. Thank you.

And thanks to all the witnesses for your testimony.

I just have one question. It is kind of a long-term question that I would like you to address. And, Admiral Richardson, if you would be first.

We are grappling with, in some of these hearings, the proposal to grow the Navy from 308 ships to 355. And I am on the Budget Committee too, and we have folks who are on the Budget Committee. We have folks who are appropriators as part of this committee. If you are growing the Navy to that level, there are other changes that you are going to be contemplating as well, depending upon the mixture of ships. Some of the ships have aviation support elements to them. So what might that mean for naval and marine aviation? Many of those ships have marine expeditionary units connected to them. What might that mean for the Marines and particularly end strength numbers?

And I know you are probably early into the thinking about this, but let us look down the road a little bit. If we get over some of the concerns about sequester and we start to budget based on priorities instead of trimming our priorities to deal with budget uncertainty, as we grow to 355, what should we expect from you to us around additional changes like aviation, personnel, et cetera? And if you could each tackle that, that would be helpful.

Admiral RICHARDSON. Sir, I will be happy to start. You have hit the nail right on the head, sir. And the idea or the concept is wholeness. And so I would advocate that we do not—as we grow the Navy, we have to grow it in balance. So certainly there is a fundamental role for capacity, more ships. But as we do that, we are going to have to make sure, to the point that has been very clearly made today, we buy the infrastructure to support those ships, the pier space, the power, everything they will need to dock those ships, the crews to man them, the parts to maintain them, the maintenance programs, if there is an aviation component to that, that we need to buy the aircraft. And so maintaining that balance as we grow will be absolutely critical, otherwise we will just have a large and potentially hollow Navy. We will need to maintain that wholeness.

Senator KAINE. Secretary Stackley?

Secretary STACKLEY. Yes, sir. I think the CNO captured it pretty well. Separately I can describe that the CBO [Congressional Budget Office] has put out a report that describes the cost for a 355-ship Navy. I think they have captured some of those additional costs so that we can go into this eyes wide open. In the near term, building that Navy you described going from a 308-ship Navy to a 355-ship Navy—we are not at that 308-ship Navy yet. So we do not get to 308 ships until about the 2022 time frame.

So we are building out the infrastructure, building up the manpower, the things that we need to support a 308-ship Navy today. What we need to be doing is planning on those additional elements

that would go as we continue to grow the size of the force. And it is not just about ships. It is going to be the aviation element. It will be the Marine Corps element.

And when you take that 355 number and you say what is the difference between 308 and 355, the biggest elements are attack submarines, destroyers, or a cruiser replacement, one carrier, and then getting our amphibians up to the full complement. So rather than just talk about a number of 355, you start to look at those specific elements. What do we need to grow that capability, and what are we going to do in the interim because it is going to take a while to get there.

Senator KAINE. General Neller, how about the Marines' not just platforms but some of the personnel that might be involved in growing at that level?

General NELLER. Senator, as the Secretary said, the majority of the growth is going to be—we get to 38 amphib ships. We are doing things with Marine forces now on land that we would prefer to be doing from the sea. So I think at our structure now, we could support the manning. There are some other things. We put combat cargo—

Senator KAINE. So you might shift some land-based—

General NELLER. We would take people from doing things they are doing now. Then we would take advantage of the ships.

Now, I will also tell you, though, that there are other things, as the Secretary and the CNO said. You know, every amphib ship—I mean, I've got to put marines on there. I've got to put Marine aviation on there. I've got to put Marine combat cargo personnel on there. But I have also got to have LCACs [landing craft air cushions] and LCUs [landing craft utilities]. I've got to have those surface connectors. And you look in the budget. That is something that is in the supplemental. That is a program. It is not a lot of money. But those connectors allow us to do the job and to go from over the horizon to put that force ashore, to exchange forces at sea at the sea base. So the connectors are something that would probably have to be grown, and certainly we would not get there if we do not fund the current program that we have.

Senator KAINE. Thank you, Mr. Chair.

Thanks to the witnesses.

Senator REED. Thank you.

On behalf of Chairman McCain, Senator Sullivan, please.

Senator SULLIVAN. Thank you, Mr. Chairman.

And, gentlemen, thank you for your service and testimony.

Last year around this time, we had done essentially what the Joint Chiefs had requested of the Congress. Our Appropriations Committee moved a defense appropriations bill out of committee—it was very bipartisan, I think only one dissenting Senator—on to the Senate floor. Last summer, we moved to vote on it, and unfortunately it was filibustered. So we went to the usual playbook of a CR [continuing resolution], omnibus at the end.

A number of us want to try and do that again, not filibuster it, but get a no-kidding budget out on the floor, voted on. Would that be your preferred course for the men and women in the military that we do that? Admiral?

Admiral RICHARDSON. Yes, sir, by far the preferred course to pass the budget using normal procedures.

Senator SULLIVAN. General?

General NELLER. Yes, sir.

Senator SULLIVAN. Mr. Secretary?

Secretary STACKLEY. I would say it is the only acceptable course, sir.

Senator SULLIVAN. Well, we are going to try and do that. And hopefully there will not be another filibuster and hopefully there will not be another continuing resolution. That is what we should be doing. It is good to hear that that is exactly what you want and the other courses of action are not helpful to our troops. Is that not correct? You are all nodding.

Admiral RICHARDSON. Yes, sir.

Secretary STACKLEY. Yes, sir.

General NELLER. Senator, I think that would go back to reinforce what the CNO said. I think it would restore confidence in the rank and file of all men and women in the Armed Forces that they understand that what is happening in this city, they get it that we get it, and——

Senator SULLIVAN. And they are watching. Like that filibuster last year, people said, oh, nobody saw that. The troops saw that.

Admiral RICHARDSON. You would be amazed, sir, at how insightful and tuned in your sailors and marines and soldiers are. They are watching this closely. The Commandant and I both get out around the world to talk to forward-deployed forces. At an all-hands call, a junior sailor will stand up and ask these questions. This is the sense that we do not get it that is arising. So I fully support that, sir.

Senator SULLIVAN. Thank you.

I wanted to just mention, you know, a number of us, the chairman, myself have been working with the service chiefs and DOD on the importance of the Pacific laydown of our forces, the Marines, the Navy, the Air Force. As the chairman said, we need to get this right. We need to make this strategic not tactical. If we do not get it right, we are going to be paying for it for the next 50 years. I have talked to Secretary Mattis about this.

I just want to mention we look forward to working with you because I do believe it needs to be military, executive branch, and this committee and the Congress to make sure we get that right. So I just want to mention I look forward to continuing to working with you, the other service chiefs, and OSD [the Office of the Secretary of Defense] on this important initiative to getting our Pacific forces laydown correct because a lot of us do not think it is optimized right now. It, in some way, has been static for decades, and we want to work with you on that.

Admiral Richardson, I want to talk a little bit about the Arctic. The Department of Defense in January this year came out with a new Arctic strategy. It was directed by this committee and the Congress. It is much better than the old one. It talks about FONOPS [Freedom of Navigation Operations], opening sea lanes, and lines of communication and commerce, transportation, protecting the sovereignty of the Arctic, the resources particularly as countries

like Russia and China continue to build up forces and capabilities in the region.

I read the Arctic's 2014 road map put out by the Navy, the Navy's Arctic road map. As we pursue 300 to 355 ships, in this strategy it talked about the importance of looking at ice hardening some of these ships. What ships would you see we would need to look at ice hardening? And do you believe this Arctic strategy needs to be updated now that the Secretary of Defense has put out a much more robust strategy that was directed by this committee?

Admiral RICHARDSON. Sir, I think that the answer to all your questions is precisely the effort that we are undertaking this summer as we refresh our strategy in light of the national defense strategy review that we are doing.

Senator SULLIVAN. So are you going to update this strategy?

Admiral RICHARDSON. We will update that strategy, yes, sir.

Senator SULLIVAN. And in terms of ice hardening ships, we have a 355-ship fleet that we are looking at.

Admiral RICHARDSON. Right.

Senator SULLIVAN. What kind of ships would you believe we need to ice harden so we can conduct the kind of FONOPS that the current strategy lays out but, to be perfectly blunt, we do not have the capability to do it?

Admiral RICHARDSON. It is absolutely true, we do not. We do not have the capacity or the capability. And so I owe you those answers as an output of the strategic review, sir. I do not want to give you a guess right now, but it would be those types of ships that would have decisive impact.

Senator SULLIVAN. And one final question. During your confirmation hearing, you mentioned the importance of working with the Coast Guard to cut through the red tape to work on upgrading and building out an icebreaker fleet. Right now, we have two icebreakers. One is broken. The Russians have 40. They are building 13 more. They are controlling what General Mattis called strategic terrain of the Arctic. Have you made any progress with the Coast Guard on that?

Admiral RICHARDSON. We have made some progress. We have formalized our arrangements in terms of acquiring icebreakers. We have set up an office to get started on that. We are looking at now the requirements for that icebreaker. We are bringing all of our shipbuilding expertise to make sure that we support the Coast Guard in executing their mission. And so we have made some good progress this year.

Senator SULLIVAN. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN [presiding]. Should an icebreaker cost \$1 billion, Admiral?

Admiral RICHARDSON. Sir, it does not seem that way, but we are working with the Coast Guard to review that.

Senator SULLIVAN. And take 10 years to make?

Admiral RICHARDSON. Sir, it goes back to you need to get faster in acquisition.

Chairman MCCAIN. Senator Gillibrand?

Senator GILLIBRAND. Thank you, Mr. Chairman.

Welcome, all of you, and thank you for your extraordinary service.

General Neller, can you give us an update on the progress that you have made with the Marines United misconduct?

General NELLER. Well, Senator, since I last appeared in front of this committee, we had a number of initiatives we have taken. We formed a task force of a number of marines, men and women, who gave us more insight into this. We have worked with NCIS [Naval Criminal Investigative Service]. They have gone through literally thousands and thousands of pictures, looking for individuals they could identify. We have had people come forward. There were eventually 65 subjects. Fifty-nine were sent to commands for disposition. Many of them—there was not sufficient evidence to forward them. To date, there were 33 dispositions. The rest are still under investigation, resulting in one administrative separation, five NJPs [non-judicial punishments], 20 adverse administrative actions, and no action. There were also two other NJPs, and there is one pending a court martial.

So we have not stopped. We have required every marine to sign an administrative acknowledgement that they understand what their responsibilities are on social media and that actions that would degrade, defame, be derogatory, discrediting to another marine or to the institution make them potentially subject to the Uniform Code of Military Justice. I know that the Congress has worked and we are working with the Congress on certain legislation about the use of someone else's picture on social media without their permission. I have gone personally, as all of my leaders have gone, and spoken to literally tens of thousands of marines and made them understand what their responsibilities are.

And more importantly, I think—and I have said this publicly and I will say it here in front of this committee—the social media things that we have seen have been—were just indicative of a problem with our culture that we did not properly respect or value the contributions of women in our Corps. And that is the problem we have to fix.

Senator GILLIBRAND. So out of the 65 subjects, none have been court martialed?

General NELLER. One is pending, ma'am.

Senator GILLIBRAND. And what does that mean?

General NELLER. That they are in the process of getting the article 32 and whether they will end up going to a court martial.

Senator GILLIBRAND. And were any of the people—were any of the 65 subjects commanders?

General NELLER. Not to my knowledge, but I would have to take that for the record and get back to you.

[The information follows:]

General NELLER. No, none of the 65 subjects were commanders. Judge Advocate Division (JAD) reviewed all reports that have been input into the DASH system since the beginning of the Marines United scandal. No commander has been the subject of a complaint. JAD also confirmed this information with the Equal Opportunity and Diversity Management Branch (MPE) in Manpower and Reserve Affairs. JAD and MPE work together to track reported cases of social media misconduct.

Senator GILLIBRAND. I am concerned that for those who were found to have been—are being held responsible that you chose NJPs. Why did that happen?

General NELLER. In going through this process, it became apparent to me and the leadership that there was some perception that there were not certain actions that commanders could take. And you know that I cannot prescribe an action to be taken by a commander because that would be considered undue command influence. But we have made it clear and we have given commanders a guidebook as part of this process. These are your options. These are the things you can do based on your investigation. The one thing you cannot do is nothing. You have to investigate this and come to some conclusion.

So this is not over. This is not going to end. And we have tried to set this up, myself, the Assistant Commandant, the Sergeant Major, where this education process, changing our culture, task the human talent management, the things that we are doing with it for diversity in the force are going to go forward as we try to change the culture.

But as far as specific actions against specific people, I have to be careful and I allow commanders to take their responsibilities as command and we follow through on these things and make sure there is going to be some adjudication, just like I can tell you any allegation of sexual assault made in the Marine Corps—I can tell you exactly how every single one of those allegations, whether substantiated or not—how they ended up and where they were adjudicated at.

Senator GILLIBRAND. Well, I am concerned about it because our percentage of cases going to court martial are going down. Our percentages of convictions are going down. So I am very concerned about the judgment of the commanders when they make these judgments that they are not taking these crimes seriously enough. I mean, I am very troubled that they chose to do NJP instead of taking these cases to court martial. It is not an example of having no evidence. You know which photos are posted. You know where they came from. There are evidentiary trails to be made. So I would not say that it is likely that these are cases where they just could not prove their case. I think it sends the wrong message. If you are not taking these crimes seriously as an enormous disruption of good order and discipline, I fear that it is not going to change behavior.

General NELLER. Senator, I understand your concern. On the court martial I would tell you that the Marine Corps, with regard to sexual assault, has the highest number of cases or percentage of cases taken to court martial and convictions. On this particular social media, again, we are still in the process. This is not over and we will see what happens. But I understand your concern, and I will get back to you as we further progress in this process.

Secretary STACKLEY. Ma'am, if I could just add one comment. I have been separately reviewing these side by side with the CNO and the Commandant. And one thing that we collectively came to agreement on was we need to strengthen our regulations to give commanders greater options and ability to prosecute deeper. And so we have put out an interim change to naval regulations that

would give them greater authority to prosecute these cases going forward.

And at the same time, I know that Congress is looking at an act that would strengthen our case. And I would ask that our general counsel and JAG [Judge Advocate General] continue to work with Members, both on the Senate and the House side, to ensure that it has the teeth that we are looking for so that we can prosecute these individuals.

Chairman MCCAIN. Senator Peters?

Senator PETERS. Thank you, Mr. Chairman.

And to each of our witnesses today, thank you for your service and your testimony today.

Senior leaders have stated that the littoral combat ship is one of the Navy's most capable platforms. The LCS continues to meet stated Navy requirements and operational demands—it is my understanding from both combat commanders—and helps us achieve a goal of a global presence to reassure our allies, deter our adversaries, and ensure our peace, freedom of navigation, and international maritime commerce.

In addition, because the LCS closes critical capability gaps that exist in today's fleet, the continuation of the LCS program will also enhance the Navy's warfighting posture.

And these are reasons that I have often looked to to continue to support the LCS program and was pleased to hear the administration has requested a second LCS in the fiscal year 2018 budget request.

Admiral Richardson, could you describe the Navy's requirement for small surface combatants and whether the budget request for two LCS allows the Navy to meet that requirement?

Admiral RICHARDSON. Sir, we are committed to making the LCS program as capable as possible. We are working through the engineering and reliability issues that we saw with the first few ships. We have a stated requirement for 52 small surface combatants, and LCSs contribute to that requirement.

Senator PETERS. Thank you.

And, Secretary Stackley, you have previously testified about the importance of maintaining active shipyards and uniquely skilled workforce, including the need to avoid, I believe, "the sawtooth effect of hiring and firing at shipyards." The Navy says it wants to ensure continued production of the LCS and the frigate. Could you please explain what that means? And is one ship through a yard every other year enough?

Secretary STACKLEY. Yes, sir. Right now, we are establishing a full and open competition for the frigate in 2020, and both of our LCS builders are strong competitors for that future frigate. So we want to ensure that they are a healthy competitor and they maintain their viability in the interim.

You described one ship every other year per shipbuilder. When we submitted the budget, the budget that is on the Hill reflects one ship in 2018. Congress added one ship in 2017. So our strategy at the time was we would take the three ships in 2017, combined with one in 2018, to ensure that each of the builders has a ship in 2017 and 2018 while we continue to look at 2019 and what unfolds in the industrial base in the interim.

That is being revisited with regard to—there is a minimum sustaining rate, which would be one per year, and then there is the what we refer to as optimum or economic rate, which is the three ships every 2 years per builder.

So we are straddling those numbers and the decision was to add another ship in 2018, and that amended budget submit is pending.

Senator PETERS. Thank you.

I would like to talk a little bit about the future of warfare as we look out in the next 10 years and how it will change dramatically. I recently met with the leadership from the Army Capabilities Integration Center, and we discussed what the future battlefield will look like and the pros and cons of autonomous vehicles, artificial intelligence, all of these new cutting-edge technologies that will create opportunities but also some tremendous challenges for us to meet.

So my question is, both Admiral Richardson and General Neller, just a broad question. How do you envision robotics and autonomous technology transforming both sea and amphibious warfare? And, General Neller, I read recently in "Seapower" about a technology demonstration at Camp Pendleton which showed off some futuristic applications, including drones, robots, mobile networks, autonomous systems, unmanned underwater craft, unmanned boats that can swarm, some pretty interesting things that you are working with in the Marine Corps. If you could elaborate on that for me, please. And then, Admiral Richardson, if you would follow up.

General NELLER. Senator, I think there is huge, huge opportunity here with robotics and artificial intelligence. At the same time, I think there is some risk. I know right now that we could probably have an autonomously driven vehicle, but then if I have that vehicle in a convoy, who is going to operate a weapon system on that? If that vehicle breaks down and has a flat tire, who is going to fix that flat tire? Because I have got no driver. I cannot autonomously fix a flat tire. The same thing with any vehicle. You start to take advantage of technology and you reduce the number of crew. Then, okay, somebody has got to fight the fire on the ship. Somebody has got to pull security while you repair the vehicle. Somebody has got to man the weapon system while somebody sleeps. So there are these trades. So I think that is what we are struggling with.

The things we saw in California—there were a number of vendors out there, a lot of small businesses, a lot of people who have a lot of ideas that took certain things that we think have promise. There were about four or five of them that we are going to continue to work with and see if we can turn them into programs. And I have to get caught up in the acquisition matrix where it slows us down.

So I think there is a lot of there there, whether it be unmanned aircraft. One of my highest priorities is to create a group, four or five, unmanned aircraft that can take off and land from the deck of a ship and to use that to replace attack helicopters. So I think that is something that has got to happen because we do not want to be tied to a long runway. We want to be able to come from the sea.

So all those things. You pick an area. Whether it is under sea, on the land, in the air, there is a lot of opportunity there and we continue to work with both our marines and our sailors and industry to try to take advantage.

Admiral RICHARDSON. Sir, I will pile on and say not only unmanned but autonomous—I think that there are a number of uses. And we are pursuing with aggression unmanned undersea, unmanned surface, and unmanned aircraft.

I would say in addition to unmanned and related to autonomy is this idea of information warfare and the role of information in whether it is cyber, space, or whatever. That is going to be a decisive difference, and so we have stood up the Digital Warfare Office to unite our efforts across the Navy to give us a coherent approach to information warfare as it pertains to the future of naval combat.

Senator PETERS. Thank you very much. Appreciate it.

Chairman MCCAIN. Senator Warren?

Senator WARREN. Thank you, Mr. Chairman.

And thank you to our witnesses for being here.

I heard Senator Gillibrand earlier mention the problem of sexual harassment online and the problem with the loophole in the law. Senator Sullivan and I have an amendment to close that loophole, and I just want to say thank you very much, Mr. Secretary and General Neller, for supporting that. I think we could make an important difference here.

I want to quickly ask about the importance of our non-military agencies and programs to the Navy mission. Admiral Richardson, would a significant reduction in funding to the State Department and other non-defense security agencies and programs make the Navy's job easier or harder to do?

Admiral RICHARDSON. Harder, to be blunt about it, ma'am.

Senator WARREN. I will take blunt.

Admiral RICHARDSON. So the lack of diplomacy and those sorts of other elements of national power—if those are not there, it makes our mission harder.

Senator WARREN. Thank you very much. I appreciate that. I have asked every combatant commander basically the same question and gotten pretty much the same answer over and over. And I think it is really important.

Now, Admiral Richardson, we spend a lot of time in this committee talking about how many ships you need. Last year, the Navy conducted its own assessment and determined that the number was 355. But as you recently reminded us in your paper, "The Future Navy," not all ships are created equal, and actually some have better technology, better upgraded capabilities. In fact, you said that even a 355-ship Navy using current technology is insufficient. Admiral, can you just say a word more about what that means and what kind of technology you think the fleet is lacking?

Admiral RICHARDSON. First, ma'am, if I could, it was not just our assessments, but there is a family of assessments out there that talk about the size of the Navy, the future of the Navy, and they all converge around the mid-300s in terms of number of platforms. So we feel that we are on pretty solid ground there.

My point was, though, that if we just continue to build more of the Navy we have today, that will be insufficient to be superior and

to meet our Nation's needs in the future. And so not only do we have to increase capacity, but the capability of those platforms each has to be increased. And then, as we talked about, networking them together, that combined capability, the ability adapt and combine differently through a network also has to be pursued.

Senator WARREN. Right, and that makes a lot of sense to me that we need to be building with an eye toward the technologies of the future and what will give us a competitive advantage there.

In the same paper, you talk about a modular approach where the hull of the ship is built to last for decades, but the sensors and systems on board can be swapped out as technology advances. And it seems to me that makes a lot of sense because we keep what still works and we upgrade the parts that do not. But that sure is not how we are building ships today.

Secretary Stackley, given your prior acquisition experience, what changes do you think we would need to make to our acquisition system in order to achieve Admiral Richardson's vision?

Secretary STACKLEY. Yes, ma'am. First, I describe that we are on that path. The fundamental first thing that we have got to do is move across the board to what we refer to as open systems architecture so that we are not tied to a design that is effectively owned by whoever the original equipment manufacturer was, and then we are tied to that organization to upgrade our ships. In an open systems design, we would be able to bring all of industry to bear to tackle our capability needs and that same design would foster a modernization approach that is timely and affordable. So step one is open systems architecture.

Step two is we, the government, have to have access to both the intellectual property and the data rights, but we have to know what we are going to do with that so that we can upgrade along the way.

But a third, critical part, which is not so much about acquisition, more about the way we do business, is a tighter link between our intel communities and our technical community so that we are looking far enough ahead to understand where is the threat going and we can technically get there faster. And what we want to do is we want to move at the speed of technology, not the speed of administration. So the question that we have to be continually asking ourselves is when will technology allow us to get us there and then drive, drive in that direction and not let the process control our speed.

And then the last—it is in line with the authorization act from 2017—is greater access to commercial. So you all have given us the ability to use alternate approaches to acquisition and emphasized the need to go greater commercial. We cannot carry the development bill on our backs. We have to look at where is commercial technology going and design our ships in this open systems approach so we can leverage that development on the commercial side to help our warfighting problems.

Senator WARREN. Thank you.

I am going to try to stay close to my time limit and just say I am going to submit some questions for the record about the progress you are making toward that and also about the budget on research. And I will put those in the record.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator Wicker?

Senator WICKER. Thank you.

Secretary Stackley, Senator Reed asked you earlier about the catapult issue, and you indicated that the Navy is fixing the problem. Can you confirm that the first *Ford*-class carrier will be ready for operations in 2020 with the first deployment in 2022?

Secretary STACKLEY. Yes, sir. That is exactly the schedule. We are on path of that schedule. With specific regards to the electromagnetic aircraft launching system, that land-based testing associated aircraft by aircraft is taking place as we move forward, and the first launch and recovery of aircraft to test the shipboard system is targeted for August. And then what we will do is we will march through each type model series aircraft well in advance of the 2020 timeframe.

Senator WICKER. So problems, yes, but it is not going to slow you down.

Secretary STACKLEY. Correct.

Senator WICKER. In terms of the deployment goal.

Admiral Richardson, in January of this year, I understand that for the first time since World War II, there were no aircraft carriers deployed anywhere, none of ours. Is that correct?

Admiral RICHARDSON. There was a time earlier this year when we had nobody on deployment. It was a very short period of time.

Senator WICKER. Well, how long of a period of time was it?

Admiral RICHARDSON. Like a week or something.

Senator WICKER. How many aircraft carriers do we have?

Admiral RICHARDSON. We have 10 aircraft carriers right now.

Senator WICKER. And so what was the reason for that? Obviously, that is unusual. What happened there?

Admiral RICHARDSON. A lot of it was just a matter of scheduling, and we have a number of aircraft carriers in maintenance. And so it is just the ratio of the demands to the supply and adhering to our OPTEMPO requirements.

Senator WICKER. So nothing to be concerned about, not noteworthy.

Admiral RICHARDSON. Sir, this is the road to 355. That is the major concern is that we avoid these types of problems going forward, that our Navy is big enough and capable enough to meet all of those demands.

Senator WICKER. So if I mentioned that on the floor later on today, that would be a good point to make. Is that right, sir?

Admiral RICHARDSON. That we need a larger Navy? Yes, sir.

Senator WICKER. Now, Secretary Stackley, let me ask you about the V-22 and the DDG destroyers and the *Virginia*-class submarines and multiyear authority. I asked Secretary Mattis Tuesday about these three multiyears, and he told this committee there is no doubt they could save money. And he committed to helping us in this regard, particularly with the Office of Cost Assessment and Program Evaluation, or CAPE.

What are your views on this, and can you help us in this regard?

Secretary STACKLEY. Well, absolutely the multiyears will save money. That is our big push for why we want get those across. And with regards to the CAPE's assessment that goes with this budget

submission, we have their assurances. I have seen the letters that are coming over to the Hill today to meet your timelines.

Senator WICKER. So there will be letters coming over today for a preliminary assessment.

Secretary STACKLEY. Yes, sir.

Senator WICKER. That is excellent news. Thank you very much. I did not know that until now. So that is a positive development.

One more thing. Secretary Stackley, on page 11 of your testimony, you describe two types of unmanned underwater vehicles (UUV), a large and an extra large UUV. Will these large and extra large UUVs count as ships toward the 355-ship goal? Why or why not? Is an intelligence assessment the limit of the capability of these proposed systems, and how far away are we from having these types of capabilities?

Secretary STACKLEY. Let me first describe that we are not planning on counting these in our 355. They are not inside the 355-ship force structure assessment that the CNO has accomplished. However, I think he has also been clear in this future fleet plan to describe how we have to leverage these capabilities because it is going to take us decades to get to 355 ships. But these capabilities are within our reach today, and they do a great job in terms of filling gaps that we have today with our smaller size Navy and they do missions that we cannot do with our submarines and our surface ships. So, no, they do not add to the 355.

In terms of level of maturity, I was just out on the West Coast a few weeks ago looking at an example of an XLUUV, extremely impressive capability, fairly mature technology. Now what we have to do is explore how we would employ such vehicle inside of our concept of operations and what that means in terms of installing capabilities on board. Right now, it is a platform without specific capabilities. We have to decide what mission, and then the installation of those.

Senator WICKER. Do you anticipate capabilities beyond intelligence assessment?

Secretary STACKLEY. Yes, sir. I think we are already working on—I think the CNO should probably answer that, but I think we are already working on concept of operations that go along that line.

Senator WICKER. Mr. Chairman, if the CNO could respond briefly.

Admiral RICHARDSON. Sir, we could see them delivering payloads to different areas. The access that an undersea vehicle give is something—that, combined with underwater payload, you can conceive of a whole number of missions in terms of what those things can deliver well beyond intelligence.

Senator WICKER. How soon?

Admiral RICHARDSON. How soon for?

Senator WICKER. Might we have that?

Admiral RICHARDSON. We are pushing as hard as we can. I am looking for something in the next few years.

Senator WICKER. Less than a decade?

Admiral RICHARDSON. Far less than a decade.

Senator WICKER. Thank you.

Thank you, Mr. Chairman.

Chairman MCCAIN. Senator King?

Senator KING. Mr. Chairman, thank you very much.

Following up on this last point about the multiyear, I am totally in favor of multiyear contracts. It stabilizes the industrial base, saves the taxpayers money. I think it is a very sensible way to go. But, Admiral Richardson, you testified a few minutes ago moving into construction before you have a mature design is a recipe for disaster. And that has been my judgment from all these hearings we have had, whatever the weapon system is.

My only concern about a multiyear on the flight III destroyers is whether we have a mature design. CRS [Congressional Research Service] says that a stable design is generally demonstrated by having built at least one ship to that design and concluding, through testing and operation, that the design does not require any substantial change during the contract.

So that is what worries me about the multiyear on the new flight III destroyer. Admiral Richardson, if you have any thoughts on that. I just want to be careful. It is not a question of doing it. It is a question of when we do it in terms of the maturity of the design.

Admiral RICHARDSON. Yes, sir. I will start and Secretary Stackley can finish.

That is a very mature design. First, it is a modification to an existing design. It is not a clean sheet design. We are at a very mature point in terms of the design aspects of that flight III destroyer.

Secretary STACKLEY. If I could add. We measure various metrics and things, and the first thing you look for is that you complete a critical design review before you go into the contracting phase. And in fact, the critical design review for the flight III was completed last November.

The next thing that we have been focused on is level completion of design, and today the flight III design is about 86 percent complete and everything is on track for it to be 100 percent complete prior to start of construction.

Senator KING. That would be 100 percent complete prior to bidding or prior to start of construction?

Secretary STACKLEY. Prior to start of construction.

Senator KING. Well, those are two different things. It is hard to bid on something that is not fully designed.

Secretary STACKLEY. Sir, I would tell you that we have never been in a position where we bid on a new ship program of any sort where it is a totally complete design.

Design is broken down into different phases. So the phase of design that is necessary for the shipbuilders to complete their bid will be done. The next phases that they will press into are the details associated with taking this design and breaking it down to the design products that the mechanic on the factory floor needs.

Senator KING. When do you under this scenario—you say the letters are coming over today. When would you assume going through the steps that bids would be submitted?

Secretary STACKLEY. For the multiyear?

Senator KING. Correct.

Secretary STACKLEY. I would expect probably within 6 months.

Senator KING. Within 6 months of now, by the end of this year. Is that what you are suggesting?

Secretary STACKLEY. Yes, sir.

Senator KING. And by that time, you are presuming we would be beyond event the 86 percent design.

Secretary STACKLEY. Yes, sir.

Now, I would describe—I would use some other shipbuilding programs as examples. The Columbia program that is our number one priority that we are totally focused on—we were on this design for 10 years prior to contract award—her target is 83 percent complete design at start of construction because she is a new ship design. So that is at start of construction.

We are looking at 100 percent at start of construction and greater than 83 percent when they submit the bids. And the most recent new ship program that was competed was the Coast Guard offshore patrol craft, and the point in time when industry submitted their competitive bids for about a \$2 billion-plus program, they were maybe 50 percent complete.

Senator KING. And I would say we do not know the outcome of that yet. That ship has not been built.

Secretary STACKLEY. Yes, sir.

Senator KING. So we do not know where that is going.

Let me change the subject. First, Secretary Stackley, I want to compliment you on the testimony you gave about small businesses. You are absolutely right. We had some appalling testimony here 2 or 3 months ago from representatives of the technology industry who said that the smaller Silicon Valley companies will not even bid. They do not want to get involved with the Pentagon because it is too complicated and too burdensome. So anything you can do to clear the way for many of these small, innovative companies in terms of regulations, time, forms, paperwork I think is to be commended.

Secretary STACKLEY. I would just add two things. One, we have assigned every deputy program manager across the Department of the Navy as the small business advocate for all their program responsibilities. And I will give you one example. I got an email from a small business the other day who described how he can save \$40 million on our carrier program, and the problems that he was having matching up with, as the CNO described, the impedance mismatch with the large government. So I have taken his notion. I put him side by side with the deputy for shipbuilding working the carrier program to break that logjam free. It does require that level of effort, but the savings, the opportunities are huge.

Senator KING. Excellent. I really appreciate it.

Mr. Chairman, could I ask one follow-up question?

A lot of the testimony today I think has rightfully focused on not only the 355-ship Navy but the deployability, if you will, of the Navy we have. And I would appreciate it, for the record—and this may exist in various documents, but it would be nice to see it in one document—of what is the percentage of readiness of all of the equipment. For example, General Neller, you mentioned there are 47 out of 70 F-18s that are lacking parts. I would like to know what that figure is for destroyers, amphibians, submarines.

In other words, it does not matter what the nominal Navy is. The real question is what ships do we have that are ready to fight. And I would like to see an analysis—God forbid there was a two-front attack or the major problems we are anticipating or preparing for. If it occurred tomorrow, how much of the fleet and the personnel are trained and equipped, all of those things so we can compare, as I say the nominal Navy with the ready-to-fight Navy.

Admiral RICHARDSON. Senator, we track that, and I will get on your calendar and we will walk you through that.

Senator KING. I would very much appreciate that. I think that is important. I just think we need to fully understand that. And I commend you for focusing in this budget on these issues of getting a higher level of maintenance and repair.

General Neller, one final question. You have 185,000 as your end strength, but that is at a one-to-two dwell-to-deployment. That seems to be a high stress level on your people. Talk to me about the deployment-dwell ratio.

General NELLER. Senator, at 185,000, in the aggregate it is about one-to-two. There are some communities that are below that, harder than that. There are some that are better. When I came in the Marine Corps in the 1980s, we were a one-to-three force. That is the long-term sustainable I think not just for the maintenance of our gear and the training of our force but also for our families. So we have been at one-to-two. We can continue to sustain it, but I think now we are seeing both the effects on retention of senior career marines and on the wear and tear on the gear because if you are turning stuff a third faster, you are going to put more miles and hours on the stuff.

Senator KING. And if retention goes down, that is going to cost the taxpayers a lot of money.

General NELLER. Then so now you have to—if you cannot retain your experienced middle management and you have got to do more maintenance on gear that is already older, you start to get in a spiral, and then now we find ourselves where we are. And we are starting to dig ourselves out, but it is going to take time and it is going to take resources and stability in the budget.

Senator KING. Thank you. Thank you very much, gentlemen.

Senator REED [presiding]. Senator Perdue, please.

Senator PERDUE. Thank you, Chair.

First, I want to apologize, Admiral and General Neller. I have only been here 2 years, but I want to apologize to you. Congress has defrauded the American people. And worse, it has defrauded in my opinion the men and women in uniform for the last 43 years. In the last 43 years, our budget process has only funded the Federal Government four times. One hundred seventy-eight CRs have been used in those 43 years, and the last time we funded the Federal Government fully was before 1980. We have 25 work days in the United States Senate between now and the end of this fiscal year. Twenty-five. There is no chance that we are going to fund this Federal Government the way that budget law in 1974 prescribes that would allow us to debate and fully fund our military. This has got to stop. I want to apologize for that.

I want to move to my question.

Just know there are some people working to try to change that. I would tell you I've got your back and others have, but I do not know that yet because this is such an institutional dysfunction, and it puts our men and women at risk. It puts the future of this country at risk because it endangers it. We have talked nothing but dollars and cents today. If you had the money, it would not be a problem. We have got the innovation, the technology, the capital. It does not matter. We could defend our country. We are not giving you the money you need. I have a question about that.

In the world, Admiral, there are about 400 submarines totally in the world. Is that directionally correct?

Admiral RICHARDSON. That sounds about right, yes, sir.

Senator PERDUE. In the Asia-Pacific, Admiral Harris tells there are about 230 of those are in the Asia-Pacific region, including the Indian Ocean as well. How many submarines do we have allocated to the Pacific right now—attack submarines, not the boomers, just the attack submarines.

Admiral RICHARDSON. On a neighborhood of 30.

Senator PERDUE. A little less than 30. Right? That is what Admiral Harris—he confirmed that.

And our plan in 2020, say, the next 10 to 15 years—we have 52 attack submarines in our inventory today. Our plan in the Navy is taking that down to 42. So we basically have 30 attack submarines trying to keep up with over 200 submarines in that area. And 160 of those, by the way, of the 230 are China, Russia, and North Korea.

Sir, how are we going to mitigate that? And give us some confidence that those 30 boats are going to be able to protect us in the Pacific.

Admiral RICHARDSON. Sir, we are going to mitigate that in every way we can. That will be a combination of some of the unmanned undersea vehicles that we talked about. That will help. We are looking to increase production of submarines. And so the addition of the submarine in 2021 was one step in that direction. We are looking to see what the industrial base can bear with respect to taking that even higher. We are looking at life extensions of the current submarines. So it will help us through that trough. But I tell you we will be below requirements. The new requirement is 66 submarines.

Senator PERDUE. That is part of the 355—

Admiral RICHARDSON. Yes, sir.

Senator PERDUE.—long-term plan, 30-year plan. I think the number that CBO estimates is \$26 billion a year—Secretary, is that right—for the next 30 years. That is \$800 billion on those.

Secretary STACKLEY. Yes, sir.

Senator PERDUE. And we do not have a capital budget in the Federal Government. That is one of the problems. We do this on cash flow year to year to year. That is the biggest problem I have found coming from the business world. You are buying multi-million dollar—billion dollar platforms. One of the SSBNs is what? Ten billion dollars a copy I think. Is that not about correct, Admiral? The SSBN, the new *Columbia*-class?

Admiral RICHARDSON. We are looking at a per unit cost about half that.

Senator PERDUE. That is good news.

But we are trying to replace 14 *Ohio*-class with 12 *Columbia*-class. What period of time is that projected over? And is that still in your current thinking, the current plan?

Admiral RICHARDSON. Yes, sir. And there is good engineering logic behind that. By virtue of putting a life-of-the-ship core into one of those SSBNs, we eliminate the need for a long midlife refueling overhaul. And so we get more operational availability of that submarine. That allows us to cover down on the same mission in the strategic triad with—

Senator PERDUE. By the time we get to commissioning those 12 *Columbia*-class, how far past the useful life will the *Ohio*-class submarines be? In other words, what kind of gap—

Admiral RICHARDSON. There is zero margin in that plan. It is end to end. We have stretched the *Ohio*-class out to longer than any other class of submarine we have ever built. And so there is no more margin for that transition. In fact, we go down to 10 SSBNs for a while in that transition period, really kind of banking on reliability of the submarines to get us through that.

Senator PERDUE. Thank you, guys, for your service. Thank you. Thank you, Mr. Chairman.

Senator REED. Thank you very much, Senator Perdue.

And on behalf of Chairman McCain, let me thank you for your testimony and your service.

And on behalf of the chairman, I will announce that the committee is adjourned.

[Whereupon, at 11:51 a.m., the committee adjourned.]

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR DAN SULLIVAN

F-35B/C IMPORTANCE

1. Senator SULLIVAN. Secretary Stackley, Admiral Richardson, and General Neller, how important is the F-35B/C program for the future of naval and marine aviation and would you agree that realistic training—which requires large amounts of airspace and high-end threat representation—is necessary for the success of the F-35B/C?

Secretary STACKLEY, Admiral RICHARDSON and General NELLER. The F-35 with its 5th generation capabilities underpins future Navy and Marine Corps manned aviation, and realistic training is essential. Having training ranges of the right size with the right capabilities to conduct, monitor, and then reconstruct and debrief the exercise, along with maintenance and support, are all critical to effective and efficient training.

JOINT PACIFIC ALASKA RANGE COMPLEX (JPARC) IMPORTANCE TO F-35 TRAINING

2. Senator SULLIVAN. Secretary Stackley, Admiral Richardson, and General Neller, the Joint Pacific Alaska Range Complex (JPARC), which has the largest joint overland training area in the U.S. with airspace the size of Florida, Surface to Air Missile and Close Air Support Training, and a dedicated Air Force Aggressor Squadron, is an ideal location for Navy and Marine F-35s to train to both high-end and near-peer threats and low-intensity operations. Can you elaborate on how the Navy and Marines plan on training in the JPARC, a range with unique characteristics that enables realistic F-35 training?

Secretary STACKLEY, Admiral RICHARDSON and General NELLER. The Navy and Marine Corps routinely participate in training exercises based at JPARC, including Red Flag-Alaska and Northern Edge. The Marine Corps routinely conducts Aviation Combat Element coordinated training at ranges in Arizona and South Carolina and has recently conducted F-35 specific training at JPARC. Navy Carrier Air Wings conduct the majority of their advanced pre-deployment training at the Fallon Range

Training Complex in Fallon, Nevada. The Fallon infrastructure has been developed over considerable time and expense to support the coordinated operations and specialized training required for carrier-based operations. The JPARC facility has almost 5 times the training airspace (13,000 vs 65,000 square miles) available at Fallon. As air combat and strike warfare continue to evolve, with longer range intercepts and enhanced standoff strike capabilities, additional space for air combat maneuvering and training could become an important consideration in selecting training locations. The Navy and Marine Corps will continue to consider JPARC as a potential training location as the F-35 training plan continues to evolve.

QUESTIONS SUBMITTED BY SENATOR DAVID PERDUE

MARINE CORPS DEPOT READINESS

3. Senator PERDUE. General Neller, you stated in your written testimony that, “We have reset 92 percent of our ground equipment, with 65 percent returned to Operating Forces and our strategic equipment programs.” Marine Corps Logistics Base, Albany, is one of only two depots in the nation for the Marine Corps, and it is responsible for rebuilding and repairing ground combat and combat support equipment to support Marine installations on the East Coast and the ongoing conflicts in CENTCOM [Central Command]. The base in Albany had over \$200 million of equipment damaged in a tornado in January, which also negatively impacted readiness and required acquisition strategies to be revised. How does the fiscal year 2018 budget request seek to remedy this damage and restore Marine Corps readiness?

General NELLER. The Marine Corps has one organic depot with two production plants; one located in Albany, GA and the other located in Barstow, CA. Marine Corps Logistics Command is on track to execute \$33.1 million in fiscal year 2017. Future funding is planned as follows: Fiscal year 2018—\$61.2 million; fiscal year 2019—\$52 million; and fiscal year 2020—\$103.8 million. The funding plan will meet the immediate requirements associated with remedying the damage resulting from the tornado and will help restore the Marine Corps’ readiness. In the USMC Fiscal Year 2018 Unfunded Priorities List, we requested \$43.4 million for a combat vehicle warehouse in Albany, GA. We have received authorization for that amount from the HASC [House Armed Services Committee] and SASC [Senate Armed Services Committee]. HAC-M [House Appropriations Committee-Military] has also appropriated that amount. We look forward to continuing to work with Congress to fund this important project.

4. Senator PERDUE. General Neller, how does this damage impact your acquisition strategy for the year?

General NELLER. The January 2017 tornado has not shown any significant adverse impact on execution of sustainment activities for military equipment in accordance with acquisition strategies, applicable to fiscal year 2017, developed by Program Executive Officer/Marine Corps Systems Command. To date, no military equipment has been identified as requiring replacement, via re-acquisition, as a result of damage caused by the storm. The availability of a production plant in Barstow, CA (one of two as part of the Marine Corps’ organic depot), along with remote storage activities throughout the Continental United States, has enabled diversion of military equipment and Operating Material and Supplies (OM&S) for organic storage in support of acquisition and fielding operations.

5. Senator PERDUE. General Neller, how soon do you expect to see the full amount of the damage at this depot repaired?

General NELLER. The Marine Corps’ strategy is to repair the all of the tornado related damage to military equipment over the next three years. Funding is planned as follows: Fiscal year 2018—\$61.2 million; fiscal year 2019—\$52 million; and fiscal year 2020—\$103.8 million.

QUESTIONS SUBMITTED BY SENATOR LUTHER STRANGE

FORCE STRUCTURE NEEDS

6. Senator STRANGE. Admiral Richardson, the Navy is continually assessing force structure and has conducted its latest force structure assessments during the past year. Please explain what these studies show. In particular, without considering Washington budget politics and budget caps from previous Congresses, how many

ships does the Navy really need to meet today's global threat, and within that number how many LCS/Frigates are realistically needed?

Admiral RICHARDSON. To meet today's global threats, many recent studies conclude that naval forces most effectively provide credible options to national leaders, and recommend the need for a larger and more capable naval fleet that can arrive more quickly to address the growing pace of maritime security challenges. This will require building more ships as well as innovation to incorporate new technologies and new operational concepts. The Navy's 2016 Force Structure Assessment identified a requirement for 355 ships to achieve national tasking and goals, of which 52 ships are small surface combatants (LCS/Frigates). While the Navy has been on a growth path in recent years, an exponential change will be required to reach and sustain sufficient numbers faster—and that change is dependent upon relief from the Budget Control Act, continuing resolutions, and fiscal uncertainty.

EFFECTS OF BUDGET REQUEST

7. Senator STRANGE. Admiral Richardson, how can the Navy possibly meet growing force structure goals with a 66 percent reduction in the LCS/Frigate shipbuilding rate, as proposed in your budget request?

Admiral RICHARDSON. The Navy's 2016 Force Structure Assessment revalidated the requirement for 52 small surface combatants. While the Littoral Combat Ship (LCS) provides capability as a focused-mission ship, the Navy is transitioning to the more capable, multi-mission Guided Missile Frigate (FFG(X)). To allow adequate time to define FFG(X) requirements, thoroughly evaluate design alternatives and mature the design, the fiscal year 2018 President's Budget (PB-18) defers the first year of FFG(X) procurement to fiscal year 2020 with additional LCS being procured in fiscal year 2018 and fiscal year 2019. The Navy is exploring all options to grow the force, including increases in shipbuilding, extending the service life of current ships, and reactivating ships. Informed by the National Defense Strategy, the fiscal year 2019 budget will prioritize building a more lethal Navy. Increasing naval power is contingent upon stable and increased funding above the current Budget Control Act defense spending caps.

REQUIRED OPERATIONAL CAPABILITY

8. Senator STRANGE. Admiral Richardson, what will be the effect on the fleet in terms of required operational capability to conduct combat operations if Congress agrees to cut the LCS/Frigate shipbuilding rate from the current 3 ships per year profile to only 1 ship per year? Is this prudent?

Admiral RICHARDSON. The Navy's 2016 Force Structure Assessment revalidated the requirement for 52 small surface combatants (SSC). While the littoral combat ship (LCS) provides valuable capability as a focused-mission ship, the Navy is transitioning to the more capable, multi-mission guided missile frigate (FFG(X)). To allow adequate time to define the FFG(X) requirements, thoroughly evaluate design alternatives and mature the design, the fiscal year 2018 President's Budget (PB-18) defers the first year of FFG(X) procurement to fiscal year 2020 with additional LCS being procured in fiscal year 2018 and fiscal year 2019. Changes to LCS and FFG(X) procurement will have no effect on deliveries and deployments of LCS in the near term and will result in the FFG(X) having much greater warfighting capability and flexibility to meet Fleet and combatant commanders' requirements. The original PB-18 request included one LCS in fiscal year 2018, which, when combined with the LCS Congress added in the fiscal year 2017 Appropriations Act, would allow the Navy to leverage past and current investments in our shipyard workforce and infrastructure. To further reinforce the SSC industrial base, the Navy's PB-18 request was amended to include two LCS. Until a force of 52 SSCs is achieved, there is operational risk. The Navy is also seeing challenges in meeting the requirements for attack submarines (51 against a requirement of 66) and large surface combatants (87 against a requirement of 104). Operational risks associated with these shortfalls can be mitigated by using alternate platforms, such as amphibious ships or expeditionary mobile base ships, to deliver the capabilities necessary to conduct the required missions.

INDUSTRIAL BASE

9. Senator STRANGE. Secretary Stackley, there are 21,000 men and women at two shipyards, and 1,200 suppliers in 45 States, who support the current littoral combat ship shipbuilding program. Should Congress agree to cut its shipbuilding rate by 66 percent as proposed in your budget, what is the impact on the shipyards, the workforce, efficiency, competition, and price? Are any of these factors positively affected?

Secretary STACKLEY. Recognizing the criticality of the Small Surface Combatant industrial base, the Administration amended the fiscal year 2018 budget request to add a second littoral combat ship (LCS) after an assessment of the impact to the industrial base due to procuring only one LCS in fiscal year 2018. Lockheed Martin/Fincantieri Marinette Marine and Austal USA have each invested considerable capital resources to modernize and upgrade their facilities to support serial production, and the LCS shipyards are currently producing two ships a year on average. Reductions in procurement rate would increase the price of LCS. At lower build rates, fixed costs allocated across a smaller workload base will result in higher overhead rates. Impacts on production efficiency and competition are less predictable and it is incumbent upon the Department to structure its acquisition strategy for the remaining ships of the LCS program alongside the subsequent Frigate program such that these impacts are mitigated to the extent possible. While procuring at a less than optimal rate is undesirable, the Department's intent to procure LCS beyond the 32-ship objective previously set for the program is motivated by our intent to support the industrial base as we transition to the future Frigate, but constrained by the limitations imposed by the Budget Control Act. Including the fiscal year 2018 amended budget request, there are 21 ships in the backlog across the two shipbuilders. This backlog provides a significant amount of workload to mitigate the impact of procuring fewer ships in fiscal year 2018 and fiscal year 2019, allowing them to maintain stability and be competitive for the Frigate award in fiscal year 2020.

EFFECTS OF CUTS

10. Senator STRANGE. Secretary Stackley, we have all be down this road before. What happened to weapon system unit costs when B-2 bomber production quantities were cut from 100 to only 20 aircraft? Or the Seawolf submarine when production was cut from 30 to only 3 hulls?

Secretary STACKLEY. Originally, the Seawolf submarine program was established to procure 29 submarines. In December 1991, the *Seawolf* construction profile was restructured due to the reduced threat resulting from the end of the Cold War. In January 1992, the *Seawolf* program was terminated following the procurement of the lead ship, SSN 21. Congress later restored the second *Seawolf* submarine, SSN 22, in May 1992. Subsequently, the 1993 Secretary of Defense bottom-up review recommended the construction of a third Seawolf submarine in an effort to bridge the production gap and preserve the industrial base until construction of a new submarine design in 1998. The Fiscal Year 1996 National Defense Authorization Act authorized the third *Seawolf* (SSN 23) submarine. Reduced production quantities resulted in unit cost increase of *Seawolf* submarines. At lower build rates, the fixed costs allocated across a smaller workload base resulted in higher overhead rates and the loss of bulk economy procurement. The weapon system unit cost can be represented by the average procurement unit cost (APUC) which includes non-recurring costs of \$672 million spread across the ship program. The APUC for 29 *Seawolf*-class ships was \$1,305 million in 1990 base year dollars. After the class reduction, the APUC for three *Seawolf*-class ships was \$2,606 million in 1990 base year dollars.

MEETING GLOBAL THREATS

11. Senator STRANGE. Secretary Stackley, if you truly want to grow the Navy and respond to serious emergency global threats, why would the Navy not expand the LCS/Frigate program rather than cut it way back at this time?

Secretary STACKLEY. The Navy's 2016 Force Structure Assessment revalidated the warfighting requirement for a total of 52 small surface combatants. While the littoral combat ship (LCS) provides capability as a focused-mission ship, the Navy needs to transition to the more capable, multi-mission guided missile frigate (FFG(X)). To allow adequate time to define FFG(X) requirements, thoroughly evaluate design alternatives and mature the design, the Fiscal Year 2018 President's Budget (PB-18) defers the first year of FFG(X) procurement to fiscal year 2020 with additional LCS being procured in fiscal year 2018 and fiscal year 2019. Consistent with the Secretary of Defense's three-phase campaign, PB-18 focuses on restoring readiness and addressing pressing shortfalls in fiscal year 2017-2018, in order to build a strong foundation for growing a larger, more capable, more lethal force starting in fiscal year 2019. This will ensure today's Navy is fully ready and that our 275 ships are properly maintained to reach the end of their service life. Informed by the National Defense Strategy, the fiscal year 2019 budget will prioritize building a larger force. Increasing naval power is contingent upon stable and increased funding above the current Budget Control Act defense spending caps.

LCS SHIPBUILDING PROGRAM

12. Senator STRANGE. Secretary Stackley, you are in your current position in large part because you are widely respected for your abilities to manage complex weapon system acquisitions. In your professional opinion, would you say that the LCS/Frigate shipbuilding program before Congress is “optimal”? “Efficient”? “Good”?

Secretary STACKLEY. At the current production rate, the littoral combat ship (LCS)/frigate shipbuilding program is efficient and the ships are providing capability that fills a gap in the fleet. The Navy’s fiscal year 2018 budget request includes two LCS, which, when combined with the LCS Congress added in the fiscal year 2017 Omnibus, would keep both LCS shipyards operating, not at their most efficient, but at or above a sustaining rate required to keep them competitive for the pending guided missile frigate (FFG(X)) program. The Navy’s 2016 Force Structure Assessment revalidated the warfighting requirement for a total of 52 small surface combatants. While LCS provides much needed capabilities as focused-mission ships, the Navy also needs to transition to the more capable, multi-mission FFG(X) to increase the operational capabilities required by fleet commanders. As maritime threats continue to evolve and as the operating environment becomes increasingly complex, the Navy is placing greater emphasis on distributed operations, highlighting the need for a FFG(X) with improved lethality and survivability as a part of the full complement of 52 small surface combatants (SSC). The President’s Budget 2018 submission programs the first year of FFG(X) procurement in fiscal year 2020 to provide adequate time to define FFG(X) requirements, thoroughly evaluate design alternatives, and mature the design. In view of this potential and otherwise devastating gap to the industrial base, and within the constraints of the Budget Control Act and the priorities of the fiscal year 2018 budget, the Department’s current request for two LCS in fiscal year 2018 reflects the best balance between requirements, budget, and industrial base.

DUAL SOURCE ACQUISITION STRATEGY

13. Senator STRANGE. Secretary Stackley, the Nation has invested about \$14 billion in the LCS program so far, achieving two successful and competitive production lines, which actually was your decision and recommendation to Congress in the first place. What are your plans to maintain a competitive dual source acquisition strategy, and a level playing field between vendors, for the LCS/frigate program?

Secretary STACKLEY. As critical elements of the Navy’s small surface combatant family of ships, the littoral combat ship (LCS) provides much needed capability as a focused-mission ship while the guided missile frigate (FFG(X)) will provide an even more capable, multi-mission ship to increase fleet commander flexibility in operations. To allow adequate time to define FFG(X) requirements, thoroughly evaluate design alternatives and mature the design, the President’s Budget (PB) 2018 submission defers the first year of FFG(X) procurement to fiscal year 2020 with additional LCS being procured in fiscal year 2018 and fiscal year 2019. The Navy’s fiscal year 2018 budget request continues the competitive dual source strategy by including two LCS, which, when combined with the LCS Congress added in the fiscal year 2017 Omnibus, would keep both LCS shipyards viable ahead of the pending FFG(X) competition, allowing the Navy to leverage past and current investments in our shipyard workforce and infrastructure. To meet the requirements for the FFG(X), the Navy will conduct a full and open competition between U.S. shipbuilders for this future ship class. The acquisition plan calls for a competitive downselect to a single design employing mature capabilities. This competitive single design approach for the 20-ship class should provide the best overall performance and cost, when factoring planned procurement rates and sustainment costs. This approach also leverages the investment to date in the LCS program as the two LCS shipbuilders have optimized their operations towards this sized ship and this production rate.

QUESTIONS SUBMITTED BY SENATOR BILL NELSON

ENCROACHMENT ON TEST AND TRAINING RANGES

14. Senator NELSON. Secretary Stackley, encroachment of activities incompatible with military test and training operations on our bases and ranges remains a major problem. In 2006 Congress established the Military Mission Line, prohibiting oil and gas activities, and any activities conducted in preparation for oil and gas activities, in the Eastern Gulf in order to protect the test and training range there. The Department of Defense has said that the “vital importance of maintaining this morato-

rium cannot be overstated.” Secretary Stackley, how important is it to test operations as well as training and readiness to continue to prevent this kind of encroachment in the Joint Gulf Range Complex (JGRC)?

Secretary STACKLEY. The Eastern Gulf of Mexico operating areas and warning areas provide critical opportunities for advanced weapons testing, joint training exercises, and operational and unit level training. Emerging technologies such as advanced fighters and sub-surface systems will require testing and training space free from interference in the future. It is vital to maintain our ability to conduct testing and training operations in the Eastern Gulf of Mexico without encroachment, and we support maintaining the Military Mission Line moratorium. The Department of the Navy supports domestic energy development that is compatible with the military mission, and is willing to explore opportunities to develop energy without encumbering military readiness activities.

MAJOR RANGE AND TEST FACILITY BASES

15. Senator NELSON. Secretary Stackley, last year’s National Defense Authorization Act (NDAA) expressed my concern and the concern of this committee that our Major Range and Test Facility Bases are unable to maintain pace technologically with our advanced 5th and 6th generation weapons delivery systems and new hypersonic systems. Secretary Stackley, how do you see high fidelity simulation upgrades at these ranges factoring into effective testing of our newest weapons delivery systems and munitions?

Secretary STACKLEY. Continued high fidelity simulation upgrades at the Major Range and Test Facility Bases (MRTFB) are critical to keep pace with both U.S. advanced 5th and 6th generation weapons delivery systems and the threats they are intended to operate against. Navy MRTFB Ranges and Laboratories are working in collaboration to develop advanced high priority threats and threat laydowns to be utilized at the MRTFB to conduct effective testing of new 5th and 6th generation systems. The Joint Simulation Environment (JSE) is in development to support test and evaluation of advanced 5th and 6th generation weapons systems and associated warfighting tactics. The JSE combines a mix of immersive simulation, hardware in the loop, advanced ground test with aircraft installed systems, and flight test techniques to deliver a robust 5th and 6th generation Live—Virtual—Constructive (LVC) environment for test and training. The Navy and Air Force are working in collaboration to develop robust 5th/6th Generation Enterprise Modeling and Simulation (M&S)/LVC test and training solutions which focus on the ability to assess capability performance vice platform centric evaluations. Additionally, the Navy will also look to leverage capabilities which will be developed under the Air Force / TRMC Hypersonic Test Investment Program (HyTIP) established in response to a 2016 Resource Management Decision. Beyond the MRTFB, the Navy is working to integrate simulation and test capabilities across the Naval Research & Development Establishment to create a multi-domain development, prototyping, assessment, and test environment to support 5th/6th gen innovation and evaluation. As weapons and threats grow in complexity, it will be critical to complement live flight test/training on DOD Ranges with a continuum of M&S, LVC methods, and advanced ground test in labs and chambers to fully understand 5th/6th generation performance and test/train in future warfare environments. The Navy MRTFB is fully engaged in ensuring Ranges, Labs, Chambers, and M&S are prepared to support the 5th/6th generation challenges.

NAVY RESERVE AVIATION

16. Senator NELSON. Secretary Stackley and Admiral Richardson, Navy Reserve aviation “hardware units”—squadrons flying tactical air, maritime patrol, and rotary wing platforms—have been systemically disestablished over the last 5 years. With the exception of HSM-60, these units are all flying the oldest variants of their aircraft in the fleet—F/A-18A, HH-60H, and P-3—with no plan to transition them to more current series. This reduction severely limits opportunities for aviators to serve at a cost effective level of readiness, whether they be Selected Reserve or full time support personnel. Further reduction of communities limits the professional opportunities for full time support personnel. Secretary Stackley and Admiral Richardson, what is the Navy’s plan to retain qualified, experienced aviators in the ready reserve?

Secretary STACKLEY and Admiral RICHARDSON. Navy Reserve aviation is an invaluable part of the Total Force. Navy Reserve provides both operational support and strategic depth across a broad spectrum of Naval Aviation mission sets. In addition to the platforms you mentioned above, the Navy Reserve provides 100 percent

of the Navy's organic intra-theater cargo lift capability flying C-40 and C-130 aircraft.

The Department of the Navy has no plans to reduce Navy Reserve aviation capability over the Future Years Defense Plan. The Reserve component has successfully affiliated separating Active Duty aviators at a rate of over 70 percent since 2010.

Under the recently released officer bonus policy the Navy Reserve offers four aviation bonuses:

1) Selected Reserve aviators receive a \$10,000 bonus when they affiliate with the Navy Reserve.

2) Full time support department head aviators are eligible for up to \$25,000 per year based on aviation manning requirements and type, model, series of aircraft.

3) Full time support commanding officer aviators are eligible for \$18,000 per year to remain past their command tours.

4) Selected Reserve and Full Time Support aviators are eligible for aviation incentive pay of up to \$840 per month based on years of aviation service.

Historically, aviation bonuses have proven effective in addressing retention problems in specific communities and experience levels in order to attract and retain high-quality personnel to meet fleet requirements. As a result, we have been highly effective in retaining this talented pool of officers within the current force structure.

STRATEGIC LAYDOWN PLAN

17. Senator NELSON. Secretary Stackley and Admiral Richardson, the Navy has long held the belief that strategic dispersal of capital ships—particularly the aircraft carrier—is important. In the Pacific Fleet, our carriers are dispersed between Washington, California, and Japan. In the Atlantic Fleet, all of our nuclear carriers—including new carriers under construction—are stationed in Hampton Roads. Does the Navy still believe there is a need to disperse our carrier fleet on the East Coast to reduce risk from natural or man-made disaster?

Secretary STACKLEY and Admiral RICHARDSON. The Navy remains committed to the strategic dispersal of the CVN force. Additional East Coast CVN homeports would reduce risk and provide strategic flexibility in the event of natural disaster, man-made calamity, or attack. Current fiscal constraints dictate that the Navy continue to defer the investment to build new capacity or repurpose existing infrastructure to develop another East Coast CVN homeport. The Navy's current SLD Plan (SLD17) does not reflect another East Coast CVN homeport; however, SLD18 will re-evaluate the strategic dispersal of our CVN force in light of the fiscal and strategic environment.

18. Senator NELSON. Secretary Stackley and Admiral Richardson, if cost is the issue in carrying out dispersal of our nuclear powered aircraft carriers are there savings to be had by reducing risk in dispersing our non-nuclear capital ships—namely amphibious assault ships, which are virtually co-located with our aircraft carriers on the East Coast for the most part?

Secretary STACKLEY and Admiral RICHARDSON. The Navy remains committed to the strategic dispersal of our force. Additional East Coast dispersal would reduce risk and provide strategic flexibility in the event of natural disaster, man-made calamity, or attack.

Current fiscal constraints dictate that the Navy continue to defer the investment in another East Coast CVN homeport. Additionally, there are no savings from dispersing additional amphibious assault ships on the East Coast. For example, Mayport has limited pier space as a result of current homeporting of an amphibious readiness group and littoral combat ships. The Navy's current Strategic Laydown and Dispersal Plan (SLD17) does not reflect another East Coast CVN homeport or additional amphibious assault force dispersal; however, SLD18 will re-evaluate the strategic dispersal of our CVN and amphibious assault ship forces in light of the fiscal and strategic environment.

AMPHIBIOUS FLEET OPERATIONS

19. Senator NELSON. Admiral Richardson and General Neller, the inherent flexibility of amphibious ships and the Navy-Marine Corps team is in high demand. In the past year, we have seen amphibious ships support everything from humanitarian support to Haiti following the devastation of Hurricane Matthew to delivering ordinance against ISIS [Islamic State of Iraq and Syria] across combatant commander areas of operation. Do we have enough amphibious ships and associated units to meet the challenges posed by our near-peer competitors?

Admiral RICHARDSON and General NELLER. If the Navy and Marine Corps were to fully meet COCOM demand, we would require more than 50 amphibious war-

ships in the battle force inventory. Based on the best analysis and keeping affordability in mind, the Commandant and I have determined the force structure to support the deployment and employment of 2 MEBs simultaneously and provide surplus capacity to respond to contingencies with the necessary depth to conduct maintenance is 38 amphibious warships. The 2016 Force Structure Assessment also holds the amphibious warship requirement as 38 ships. With the delivery of PORTLAND by the end of 2017, amphibious warship inventory will be 32 and reach 33 in fiscal year 2019. To grow to and sustain 38, we will need relief from the Budget Control Act (BCA), and stable, predictable annual budgets with an end to Continuing Resolutions. The procurement of highly capable LPD 17 and LHA 6 ship classes coupled with increased investments in maintenance and modernization of legacy ships is critical to closing our amphibious warship shortfall. The amphibious warships embarked with a combination of technologically superior MV-22, F-35B, RQ-21, and other future autonomous/robotic systems will enable the Navy/Marine Corps fighting team to operate in uncertain and contested environments and to disperse and aggregate forces over a much larger area. Indeed, we are now deploying our Amphibious Ready Groups (ARGs) in a distributed manner, allowing a single ARG/MEU to concurrently meet prioritized operational requirements of multiple combatant commanders.

20. Senator NELSON. Admiral Richardson and General Neller, for the past 16 years, the Marine Corps has focused on counter-insurgency operations, largely in landlocked locations. As you prepare for potential future conflicts, like in Asia-Pacific, the Marines are returning to their amphibious roots. What are you most concerned about in conducting amphibious assault and other maritime operations in an anti-access area-denial environment?

Admiral RICHARDSON and General NELLER. Anti-ship missiles and enemy aircraft are a significant risk to conducting amphibious and force sustainment operations that enable sea control and project naval power ashore in a contested environment. For this reason the Amphibious Ready Group (ARG) or a larger Amphibious Task Force (ATF) would require temporary and localized battlespace superiority at the time and place of our choosing, realized through organic shipboard enhancements or holistic battle force deployment/employment ("up-gunned" ESG's or SAG's) force protection measures before conducting Joint Forcible Entry operations in a contested area. Employing the MAGTF as the "inside force" is a critical enabler for sea control and power projection in a peer contested environment. The sophistication, reach and lethality of modern anti-ship threats dictates the need for persistent and integrated ISR and layered mobile defense with suppression, space effects, cyber, and/or electronic attack over an extended area; adequate point defense systems for the amphibious ships, preferably with the defense in depth afforded by escorts with greater anti-ship missile defensive capability; and fully networked/integrated organic embarked F-35Bs with defensive counter air capabilities, all supported through survivable and resilient logistical nodes. Mining is also a significant risk to amphibious operations, whether in the deep water, shallow water, very shallow water, surf zone, or beach zone, each present unique challenges (technology, manpower, etc.) with detection and neutralization. The Navy is in the process of transforming from legacy ship integrated organic systems to the Modular MCM Force, requiring a careful balance of maintaining/integrating legacy capability while procuring new technology and refining accompanying tactics, techniques, and procedures. The Navy and Marine Corps are working closely to address capability gaps in MCM and assault breaching capabilities. Regarding other maritime operations, the inherent flexibility of amphibious forces affords combatant commander's the opportunity to distribute capabilities to both enhance our effectiveness and complicate the enemies' problem, potentially reducing the risk of operating in a contested environment.

U.S. SOUTHERN COMMAND NAVAL OPERATIONS

21. Senator NELSON. Secretary Stackley, Admiral Richardson, and General Neller, transnational crime and smuggling networks pose a significant threat to the United States. Many of these networks access the U.S. via the SOUTHCOM region. Secretary Stackley, in your written testimony, you specifically mention successes of two patrol coastal ships stationed in Mayport. What more can the Navy Marine Corps Team do to support the operations conducted by Joint Interagency Task Force South and SOUTHCOM?

Secretary STACKLEY and General NELLER. Support to the Joint Task Force and SOUTHCOM is coordinated and prioritized through the Joint Staff and the Secretary of Defense with forces manned, trained, and equipped by the service chiefs

and the Military Departments. The Navy and Marine Corps have a long history of supporting SOUTHCOM exercises and will continue to do so as capability and capacity allow. In the near term, subject to the approval of the Secretary of Defense, the Marine Corps plans to continue the rotational deployment of a Special Marine Air Ground Task Force (SPMAGTF) to conduct training and other Theater Security Cooperation activities.

Admiral RICHARDSON. Navy continues to source forces to capacity, however, we do not have sufficient force structure to meet all global combatant commander demand. Navy's annual force offering serves as the CNO's best military advice to the Chairman and Secretary of Defense for the global employment of naval forces. In addition to annual Global Force Management (GFM) resourcing, Navy continues to seek opportunities to provide increased presence to SOUTHCOM via non-GFM actions, such as providing presence during changes in ship homeport transits and littoral combatant ship (LCS) class testing. Additionally, to meet today's global threats, many recent studies recommend the need for a larger and more capable naval fleet that can arrive more quickly to address the growing pace of maritime security challenges. The Navy's 2016 Force Structure Assessment identified a requirement for 355 ships to achieve national tasking and goals, of which 52 ships are small surface combatants (LCS/Frigates), some of which could provide presence to SOUTHCOM. While the Navy has been on a growth path in recent years, an exponential change will be required to reach and sustain sufficient numbers faster—and that change is dependent upon relief from the Budget Control Act, continuing resolutions, and fiscal uncertainty.

QUESTIONS SUBMITTED BY SENATOR JEANNE SHAHEEN

SHIPBUILDING

22. Senator SHAHEEN. Secretary Stackley and Admiral Richardson, do you agree that the Navy's shipyards require significant infrastructure investment in order to support the increasing maintenance and modernization needs of the fleet and sustain operational availability? What challenges do you see to implementing these needed improvements and how do you recommend overcoming them?

Secretary STACKLEY and Admiral RICHARDSON. Significant investments are required to modernize naval shipyard (NSY) infrastructure. Requirements are being developed by the Navy in three phases:

Phase 1: 2013 NSY Infrastructure Report to Congress (RTC)—Near term requirements that preserve and maintain functional capability and maintain safety and habitability of existing plant; includes seismic, dry dock certification, and flood prevention requirements. The original 17 year plan was based on the 6 percent investment level. Funding was increased to support a 15 year plan as a result of the Nuclear Enterprise Review. Current investment levels are adequate to maintain existing mission-essential infrastructure functionality but do not provide appreciable productivity improvements across the four naval shipyards.

Phase 2: Dry Dock Plan—Identifies NSY dry dock investments needed to support CVN 78 class, SSN 774 class, and known future class requirements, as well as dry dock investments needed to resolve flooding, seismic, and material condition/certification issues. This plan is currently being finalized by the Navy, and is expected to be completed by August 15, 2017. This study will be updated to include all Fleet dry dock requirements, which is expected to be issued by February 2018.

Phase 3: NSY Infrastructure Optimization Plan—This optimization plan will identify NSY infrastructure investments needed to support increasing maintenance and modernization needs, improve shipyard throughput, and return mission days to the Fleet. These requirements will be prioritized by return on investment and improvements to depot maintenance execution. Estimated completion date for initial issuance of this plan is February 2018.

Challenges expected in implementing the Phase 2 and 3 infrastructure investment plans are budget uncertainty, competition for funding with other warfighter requirements, de-confliction of facility and dry dock improvements at the public shipyards with ongoing ship maintenance workload, and environmental and historical constraints. Mitigations include identifying and planning robust infrastructure requirements with defendable returns on investment and mission impacts, robust pre-solicitation market research and outreach to private industry, smart scheduling of infrastructure investments to prevent impacts to submarine and CVN availabilities, early identification of environment and historical constraints and engagement with appropriate stakeholders during project development.

DRY DOCKS

23. Senator SHAHEEN. Secretary Stackley and Admiral Richardson, dry dock capacity is a driving factor in scheduling and executing maintenance on our ships and submarines, and I understand the Navy is reviewing a plan to increase the dry dock capacity across our shipyards. Could you please discuss the importance of increasing dry dock capacity and provide an update on the plan?

Secretary STACKLEY and Admiral RICHARDSON. With the introduction of new ship classes, upcoming inactivation and reactor compartment disposals, environmental vulnerabilities, and current projected workloads, dry dock constraints in the public and private shipyards will directly impact the scheduling and execution of maintenance on ships and submarines.

The dry docks at the public shipyards require investments to increase physical capacity, upgrade electrical equipment and utilities, and mitigate seismic vulnerabilities. The current workload forecasts indicate that private shipyard dry docks will be at capacity from fiscal year 2018 through fiscal year 2021. To assess the ability of public and private shipyard dry dock capacity to support future maintenance requirements, the Naval Sea Systems Command is performing an overarching study using a three-prong approach:

- A public naval shipyard study is under way to assess current dry dock capacity and survivability. This study is expected to complete by August 15, 2017.
- The Navy Surface Fleet Availability Scheduling Team has performed a study identifying steps to mitigate private shipyard dry dock constraints through fiscal year 2018, including use of coast-wide bid contracts to allow for out of homeport dry docks as required. A private sector dry dock review covering fiscal year 2019 through fiscal year 2021 is in progress. Potential options include use of dual-docking to reduce dry dock durations, review of frequency of docking, and use of out of homeport dry docks. This review is expected to be complete by January 2018.

A feasibility analysis and dry dock investment study to support Fleet-wide maintenance availability schedules at the private shipyards through 2040 is expected to be complete by February 2018.

ACCELERATED PROMOTION PROGRAM

24. Senator SHAHEEN. Secretary Stackley and Admiral Richardson, the Accelerated Promotion Program (APP) allows the public shipyards to compete with the private sector by guaranteeing engineers hired into the four public shipyards at the GS-5 or GS-7 levels will be eligible for a one-time accelerated promotion to the next higher-grade after successful completion of a six-month training program. Do you believe the Accelerated Promotion Program benefits the shipyards with workforce retention? What other difficulties do you experience in retaining the workers who have received specialized training?

Secretary STACKLEY and Admiral RICHARDSON. Yes, the APP greatly benefits the public naval shipyards in their ability to attract and retain engineering talent. The largest pay differential for entry level engineers at the naval shipyards and the private sector exists in the earliest stages of a shipyard engineer's career. At the point an engineer typically reaches his or her full performance level at the GS-11 or GS-12 level, their annual pay is typically comparable to job market levels in the area. The APP allows the naval shipyards to progress engineers to their full performance level earlier, assuming satisfactory performance and training progression is achieved. Retention of shipyard employees who have specialized training continues to be a challenge for all four naval shipyards in Portsmouth, Norfolk, Puget Sound and Pearl Harbor. Competition for these critical skills, and the leadership qualities these naval shipyard employees possess, are highly sought after by private industry. The ability of the private sector to offer higher salaries in competitive job markets like the Puget Sound region or the Chesapeake-Tidewater area, impacts the ability to retain employees. In addition to APP, the naval shipyards have been using the full suite of available tools to help retain these highly skilled personnel including, retention incentives, student loan repayment programs, quality step increases, performance award programs, child day care programs, rehired annuitants to help mentor and develop newer employees, and increased coaching, mentoring, and development programs.

QUESTIONS SUBMITTED BY SENATOR MAZIE HIRONO

SHIPYARD MAINTENANCE

25. Senator HIRONO. Secretary Stackley and Admiral Richardson, the Navy's 2018 budget request includes a significant increase for ship maintenance. The Navy intends to increase the maintenance workforce from 33,850 to 34,988 at the four public shipyards. The Navy's current training regimen for new depot maintenance workers takes time to train and educate these new employees to become significant contributors to the team. It will take some time to train these new shipyard employees and for them to gain the needed experience. What is the Navy doing to fill vacancies for more experienced individuals? What is the current status of recruitment and retention at our shipyards?

Secretary STACKLEY and Admiral RICHARDSON. The Navy plans to increase the total naval shipyard maintenance workforce from 33,850 to 36,100 full-time equivalent (FTE) employees by fiscal year 2020, as requested by the President's Budget for 2018. The four public shipyards recruit new employees through the use of job fairs, outreach to local high schools and trade skill schools in their respective areas, along with extensive travel to career fairs at colleges and universities throughout the United States in search of the best candidates possible. The public shipyards also actively recruit and use exiting veterans hiring authorities to leverage the experience and skill sets gained by military personnel that are leaving or have left military service. Since naval ship maintenance is a unique skill set, vacancies created by the more experienced employees leaving are normally filled by less senior but experienced employees progressing through their careers within the shipyards, and then those lower level positions which require less experience are typically backfilled through external hiring.

Recruitment and retention of shipyard employees continues to be a challenge for all four naval shipyards. There is strong competition from the private sector for the critical skills and leadership qualities experienced shipyard employees possess. The ability of private companies to offer higher salaries, particularly in a competitive job market like the Puget Sound region or the Chesapeake-Tidewater area, impacts the shipyard's ability to retain employees. The public shipyards have been using the full suite of available hiring flexibilities to meet its hiring needs within the constraints and limitations of budgets and local market factors. Tools such as relocation and recruitment incentives for its mission-critical and hard-to-fill positions, superior qualification appointments to try and meet local job market salary variations, as well as direct and expedited hiring authorities are being employed. To help retain personnel the shipyards are using Accelerated Training and Promotion Programs, retention incentives, Student Loan Repayment Programs, Quality Step Increases, performance award programs, rehired annuitants to help mentor and develop critical skills, and increased coaching, mentoring and development programs. The Navy will continue to pursue all available opportunities to recruit and retain employees at our public shipyards.

Table 1 shows the recent hires, attritions, and onboard personnel at the naval shipyards.

Table 1: Naval Shipyard Hires and Attritions, Fiscal Years 2013–2017

	FY13	FY14	FY15	FY16	FY17 (June) *
Hires	1,720	3,574	5,241	3,295	1,369
Attritions	2,071	1,959	2,245	2,339	1,533
Onboard	28,932	30,610	33,545	34,508	34,344

* The Navy expects 2,975 new hires and 2,215 attritions by the end of fiscal year 2017 with a total onboard of approximately 35,238.

FOCUS ON THE ASIA PACIFIC

26. Senator HIRONO. Admiral Richardson and General Neller, as the department continues to focus our military forces on the threats faced in the Asia-Pacific, there are clearly challenges in terms of available resources with all of the competing threats around the world. The United States' focus in the Pacific is on strengthening alliances; encouraging a more interconnected region; and building U.S. military capabilities. How does the fiscal year 2018 budget proposal affect the military focus on the Pacific region and readiness of our troops?

Admiral RICHARDSON and General NELLER. The Indo-Asia-Pacific region remains a key part of the defense strategy. The President's Budget for fiscal year 2018 (PB-18) supports development of advanced capabilities to pace the threats in the region and provide a quantum capability upgrade to the overall force posture in the Pacific.

The Asia-Pacific rebalance was a guiding principle of our fiscal year 2018 strategic laydown plan, and the President's Budget 2018 investments in readiness and infrastructure are essential to generating the combat ready forces that support the Department of Defense's global posture. The Marine Corps continues to strategically deploy platforms with the most advanced capabilities to the Asia-Pacific theater.

CORROSION

27. Senator HIRONO. Secretary Stackley, Admiral Richardson, and General Neller, estimates show that corrosion costs the DOD about \$20 billion per year; however, only very limited resources are spent on corrosion mitigation efforts to include research and development. Corrosion impacts all of the Services. It affects ground combat vehicles, ships and aircraft. Pretty much any system our military uses. It has been reported that over half of the Marine Corps' F-18 fleet is grounded due to corrosion. Is the Department of the Navy's corrosion prevention effort resourced and empowered to lead anti-corrosion efforts within the Navy? Is it important to think about and plan for anti-corrosion efforts in the early acquisition phases for our major programs such as aircraft, ships and ground vehicles? How are Navy and Marine Corps efforts in battling corrosion tied to the Department of Defense's Office of Corrosion Policy and Oversight?

Secretary STACKLEY and Admiral RICHARDSON. Is the Department of the Navy's corrosion prevention effort resourced and empowered to lead anti-corrosion efforts within the Navy?

Yes, the Department of Navy (DON) maintains an established, department-wide corrosion Cross Functional Team (CFT) to address corrosion concerns. This program comprises the DON System Commands (SYSCOMS) working together to address both common and platform-specific corrosion issues. The program works on reducing corrosion through research and development efforts, adding corrosion-resistant product designs, training and educating the fleet on preventative and corrective corrosion maintenance, and developing technically sound and operationally viable maintenance procedures for the system life cycle.

Each of the SYSCOMS directs engineers, scientists, and subject matter experts to address corrosion-related issues that occur over the lifecycle of all Navy assets. Over the last two years (fiscal years 2015 and 2016), the DON has resourced and spent an average of \$10.1 billion on combating and controlling corrosion.

Is it important to think about and plan for anti-corrosion efforts in the early acquisition phases for our major programs such as aircraft, ships and ground vehicles?

Yes, the DON follows the guidance for acquisition laid out in Department of Defense Instruction (DODI) 5000.02, requiring planning for corrosion control of all DON acquisitions. This planning influences the development of the Systems Engineering Plan (SEP), Life Cycle Sustainment Plan (LCSP), and the Test and Evaluation Master Plan (TEMP). The DON has anti-corrosion efforts for aviation, ship, ground, space, and naval warfare, as well as facilities and infrastructure acquisition programs. As an example, the *Virginia*-class program has implemented numerous new construction corrosion control and corrosion avoidance materials, including: the use of high solids paints in tanks, voids, and free-floods with expanded use of powder coatings; nonmetallic sail coatings; and inherently corrosion resistant composite materials for gratings, access plates, and covers.

How are Navy and Marine Corps efforts in battling corrosion tied to the Department of Defense's Office of Corrosion Policy and Oversight?

The Navy Corrosion Control and Prevention Executive (CCPE) serves as the Department's primary contact with the DOD Office of Corrosion Policy and Oversight (CPO) as required by title 10 USC §2228. The DON CCPE collaborates with the DOD CPO and the other service CCPEs to coordinate policy and share best practices that lead to cross-service, force multiplier initiatives. The DOD CPO supports these initiatives and DON efforts by funding research and development of corrosion control products and processes.

General NELLER. Is the Department of the Navy's corrosion prevention effort resourced and empowered to lead anti-corrosion efforts within the Navy? The Marine Corps Corrosion Prevention and Control Program (CPAC) for ground combat equipment is resourced and empowered to lead anti-corrosion efforts within the Marine Corps concerning ground combat equipment. The Marine Corps has designated a Corrosion Executive within the CPAC Program Management Office (PMO) who is responsible to coordinate with the Department of the Navy's corrosion executive and the Department of Defense Office of Corrosion Policy and Oversight. This interaction allows for productive collaboration to leverage Department of Defense-wide corrosion initiatives and align them for application associated to multi-domain oper-

ating concepts while meeting the expeditionary nature of Marine Corps operating concepts.

Is it important to think about and plan for anti-corrosion efforts in the early acquisition phases for our major programs such as aircraft, ships and ground vehicles? Yes, corrosion is not only a sustainment concern; it needs to be addressed from program/system/equipment inception through disposal (i.e., “cradle to grave”). Corrosion Prevention and Control (CPC) at the early stages in a system development can result in a reduction of Total Ownership Cost (TOC). On ground combat equipment, the Marine Corps has established and implemented a robust centralized Corrosion Prevention and Control (CPAC) Program that focuses on extending the useful life through up-front research, engineering and sustainment activities within our Marine Corps Systems Command, Systems Engineering and Acquisition Logistics (SEAL) group. This approach extends to our acquisition professional program managers within Marine Corps Systems Command and Program Executive Office (PEO) staffs to reduce the down-stream maintenance requirements and associated readiness costs through the identification, implementation and development of corrosion prevention and control products, materials, technologies and processes throughout not only the acquisition of a new system, but throughout its entire lifecycle.

CYBER FUNDING

28. Senator HIRONO. Admiral Richardson and General Neller, as Russia, China, and other adversaries develop cyber capabilities to actively challenge and attack the United States and its allies, it is evident that we are continuing to bolster the capabilities to counter these attacks. The fiscal year 2018 budget request includes approximately \$8 billion for cyber spending, which is a 16 percent increase from last year's amount. How does the proposed budget address the concern with building a capable cyber force and increasing the number of cyber positions in the military Services? What is the primary focus for your cyber forces?

Admiral RICHARDSON. The Navy is committed to developing a capable cyber force to defend Navy networks and to support Joint Cyberspace Operations. Navy cyber force investments in fiscal year 2018 focused on service specific investments in Defensive Cyber Operations (DCO) and in maturing and operating the Navy's contribution to the Joint Cyber Mission Force (CMF). The CMF conducts full-spectrum cyberspace operations and is a key element in protecting the fleet from cyber-attacks while preserving America's strategic influence in key regions around the world.

Navy fiscal year 2018 cyber investments are designed to improve cyber space situational awareness and continue to build support for key CMF requirements for access platforms, cyber tools to include Cyber Protection Team Deployable Mission Support Systems, and other critical CMF equipping issues, such as a persistent training environment needed for all CMF teams to become fully operational and maintain warfighting ability. Investments will also improve the CMF training pipeline, to include new dedicated student billets to minimize lag time spent awaiting training. The increase in the fiscal year 2018 cyber budget funding also supports positions for Cyber Tool Developers and support contractors, who will develop tactics and tools to improve our rapid capability development in the dynamically changing cyberspace domain. DCO investments will improve overall cyber situational awareness, by adding personnel to monitor and analyze cyber sensor data as well as Research, Development, Testing and Evaluation to deliver technical enhancements to support them. Together these investments will provide significant improvements to Navy networks resiliency, which is needed to counter the increasing cyber threat.

General NELLER. The Marine Corps is committed to developing a capable cyber force to defend Marine Corps networks and to support Joint Cyberspace Operations. Cyber force investments in fiscal year 2018 focused on service specific investments in Defensive Cyber Operations (DCO) and in maturing and operating the Navy's contribution to the Joint Cyber Mission Force (CMF). The CMF conducts full-spectrum cyberspace operations and is a key element in protecting from cyber-attacks while preserving America's strategic influence in key regions around the world. Fiscal year 2018 cyber investments are designed to improve cyber space situational awareness and continue to build support for key CMF requirements for access platforms, cyber tools to include Cyber Protection Team Deployable Mission Support Systems, and other critical CMF equipping issues, such as a persistent training environment needed for all CMF teams to become fully operational and maintain warfighting ability. Investments will also improve the CMF training pipeline, to include new dedicated student billets to minimize lag time spent awaiting training. The increase in the fiscal year 2018 cyber budget funding also supports positions for cyber tool developers and support contractors, who will develop tactics and tools

to improve our rapid capability development in the dynamically changing cyberspace domain. DCO investments will improve overall cyber situational awareness, by adding personnel to monitor and analyze cyber sensor data as well as Research, Development, Testing and Evaluation to deliver technical enhancements to support them. Together these investments will provide significant improvements to network resiliency, which is needed to counter the increasing cyber threat.

FREEDOM OF NAVIGATION OPERATIONS

29. Senator HIRONO. Admiral Richardson, China continues to build out the man-made islands they have reclaimed from the South China Sea. What are your thoughts on the importance of Freedom of Navigation exercises? What is the current status of U.S. FONOPS? Are the Navy and PACOM still making the requests to conduct these operations?

Admiral RICHARDSON. U.S. national security and commerce depend upon the freedoms of navigation and overflight, as recognized in U.S. policy and international law. For decades, the U.S. has challenged restrictions on freedom of navigation and overflight through the U.S. Freedom of Navigation (FON) Program. The FON Program combines diplomatic action and non-confrontational, operational assertions of navigation and overflight rights to maintain U.S. operational flexibility. FON operations are conducted in an open, even-handed manner, challenging excessive maritime claims based on principle rather than identity of the coastal State asserting the claim. For example, in fiscal year 2016, DOD challenged the excessive maritime claims of 22 different coastal States including allies, partners, and other countries. FON operations in the South China Sea are only a small portion of the overall program in the Asia-Pacific region and throughout the world. That said, we continue to regularly conduct FON operations in the Asia-Pacific, as we have routinely done in the past and will continue to do in the future. Summaries of these operations are released publicly in the DOD annual FON Report, 2016 report, please see Appendix A.

APPENDIX A

February 28, 2017



**U.S. Department of Defense (DoD)
Freedom of Navigation (FON) Report
for Fiscal Year (FY) 2016**

Below is a summary of excessive maritime claims that were challenged by DoD operational assertions and activities during the period of October 1, 2015 through September 30, 2016, in order to preserve the rights, freedoms, and uses of the sea and airspace guaranteed to all nations under international law:

Claimant	Excessive Maritime Claims
Albania*	Prior authorization required for foreign warships to enter the territorial sea (TTS); excessive straight baselines.
Brazil	Consent required for military exercises or maneuvers in the exclusive economic zone (EEZ).
Cambodia	Excessive straight baselines.
China*	Excessive straight baselines; jurisdiction over airspace above the EEZ; restriction on foreign aircraft flying through an Air Defense Identification Zone (ADIZ) without the intent to enter national airspace; domestic law criminalizing survey activity by foreign entities in the EEZ; prior permission required for innocent passage of foreign military ships through the TTS.
Croatia	Prior notification required for foreign warships to exercise innocent passage in the TTS.
India*	Prior consent required for military exercises or maneuvers in the EEZ; security jurisdiction claimed in the contiguous zone.
Indonesia*	Limits on archipelagic sea lane passage through normal routes used for international navigation; prior notification required for foreign warships to enter the TTS and archipelagic waters; restriction on stopping, dropping anchor, or cruising without legitimate reason in seas adjoining TTS.
Iran*	Restrictions on right of transit passage through Strait of Hormuz to Parties of the United Nations Convention on the Law of the Sea; prohibition on foreign military activities and practices in the EEZ.
Italy	Claimed historic bay status for the Gulf of Taranto.
Japan	Excessive straight baselines.
Malaysia*	Prior authorization required for nuclear-powered ships to enter the TTS; military exercises or maneuvers in the EEZ requires prior consent.
Maldives*	Prior authorization required for foreign ships to enter the EEZ.

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Malta	Passage by foreign warships through the TTS subject to prior consent or prior notification.
Oman*	Prior permission required for innocent passage of foreign military ships through the TTS; requirement for innocent passage through the Strait of Hormuz (an international strait).
Pakistan*	Prior consent required for foreign warships to conduct military exercises or maneuvers in the EEZ.
Philippines*	Claims archipelagic waters as internal waters.
South Korea	Excessive straight baselines; prior notification required for foreign military or government vessels to enter the TTS.
Taiwan*	Prior notification required for foreign military or government vessels to enter the TTS.
Thailand	Excessive straight baselines; consent required for military exercises in the EEZ.
Tunisia	Excessive straight baselines.
Venezuela*	Prior permission for overflight of the EEZ and Flight Identification Region (FIR).
Vietnam*	Prior notification required for foreign warships to enter the TTS.

*Note: * designates multiple challenges to the claim(s) during the reporting period.*

