DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 2014 AND THE FUTURE YEARS DEFENSE PROGRAM

WEDNESDAY, APRIL 17, 2013

U.S. SENATE,
SUBCOMMITTEE ON STRATEGIC FORCES,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

NUCLEAR FORCES AND POLICIES

The subcommittee met, pursuant to notice, at 2:30 p.m. in room SR–222, Russell Senate Office Building, Senator Mark Udall (chairman of the subcommittee) presiding.

Committee members present: Senators Udall, Sessions, and Fischer.

Majority staff member present: Jonathan S. Epstein, counsel.

Minority staff member present: Robert M. Soofer, professional staff member.

Staff assistant present: Lauren M. Gillis.

Committee members' assistants present: Lenwood Landrum, assistant to Senator Sessions; and Peter Schirtzinger, assistant to Senator Fischer.

OPENING STATEMENT OF SENATOR MARK UDALL, CHAIRMAN

Senator UDALL. The Subcommittee on Strategic Forces will come to order. This afternoon we will receive testimony from the Department of Defense (DOD) regarding nuclear matters for fiscal year 2014. Let me thank all of our witnesses today for taking time from your busy schedules to testify.

Let me start with a quick administrative note. Following this open session, we will move to the Office of Senate Security in the Capitol Visitor Center, Room SVC–217, for a closed session. To accommodate that, I'd like to wrap up this open session by 3:30 p.m. So then I'd ask that we go straight into questions after Senator Sessions and I make some brief opening remarks here. If you have any opening statements, we'll be happy to enter those into the record.

In that spirit, I'm going to keep my remarks very brief. I want to start by saying that I'm honored to chair this subcommittee and to work with the distinguished ranking member, Senator Sessions. He is deeply rooted in these policy matters and he's going to have

to train me over these next months as we work together and create a partnership.

I don't have to tell you here today that the Strategic Forces Subcommittee oversees some of the most critical and sensitive elements of our national security infrastructure. Colorado and Alabama have key roles to play in those no-fail missions. I'm looking forward to working with Senator Sessions and all of our members in the bipartisan fashion that's been a hallmark of the Senate Armed Services Committee (SASC) and this subcommittee for many years as we pursue our important work.

With that, let me make some short comments regarding the fiscal year 2014 budget. The 1251 Report, which was originally required by the 2010 National Defense Authorization Act (NDAA) and then was revised in section 1043 of the NDAA for Fiscal Year 2012, is required to be part of the President's annual budget submission. The report gives a 10-year projection into the investments being made in our nuclear deterrent by DOD and the Department of Energy (DOE).

As was the case last year, the report is late and we understand it may be June before we see it. I believe that Chairman Levin and Ranking Member Inhofe intend to mark up the SASC bill in June, so I'll be asking Assistant Secretaries Creedon and Weber to talk about that issue, explain what happened, and give us some idea of when Congress might see the report.

The fiscal year 2014 numbers do show that even in times of sequestration we are making the best possible effort to move forward with a strategy to keep our deterrent maintained. The fact that we were able to fly our B–2 and B–52 bombers in the recent joint exercise Full Eagle with South Korea was an important sign of the many nations that rely on the U.S. deterrent as a part of their overall national security strategy.

I want to commend today's witnesses, those that serve under them, and DOD as a whole for the hard work put into that effort. I know it was not easy, but it was important.

On a final note, to my knowledge, Congress has yet to see any changes to the nuclear force structure as a result of the New Strategic Arms Reduction Treaty (START). We thought that was coming in the fiscal year 2013 budget, but we're still waiting for that information. It is important—I know my ranking member agrees—that the commitments made as a part of New START are upheld, so I'll be looking for some updates on when that guidance might be expected.

Finally, I would like to say a word of thanks to all of our witnesses for your longstanding commitment to ensuring the safety and surety of our nuclear deterrent. You and the military men and women that you lead do demanding and often unsung work to keep our country safe around the clock. Thank you for your service.

With that, let me turn to Senator Sessions for his opening statement and then we'll move on to questions.

STATEMENT OF SENATOR JEFF SESSIONS

Senator SESSIONS. Thank you, Senator Udall.

It's a pleasure to have you here.

In a very odd way, perhaps, I believe what we'll do this year, maybe next year, is very significant as to what our nuclear situation is going to be in the years to come, because there's real ambivalence in the White House, there just is. I was disappointed and concerned about the Secretary of Defense. He answered the questions pretty well at his confirmation hearing, but the Nuclear Zero report I consider well outside the mainstream of American nuclear policy.

Senator Ben Nelson and I were passed "America's Strategic Posture," the final report of the Commission on the Strategic Posture of the United States. We required that because we thought the Cold War is over and the war on terrorism was evolving and our weapons are aging; what are we going to do? So we put the best minds in the world—you had William Perry, who challenged nuclear weapons, he thought we could reduce nuclear weapons. He was Secretary of Defense under President Carter; James Schlesinger, who was—Perry was Clinton's and Schlesinger was Carter's and Reagan's. You had John Glenn, Morton Halperin, Lee Hamilton, Fred Ikle, Keith Payne, and James Woolsey.

They came out with a report that acknowledged changes, but concluded we should maintain basically our bipartisan long-term strategy for defending America and that nuclear weapons weren't obsolete, they do play a role in the world today that cannot be wished away, that our allies are worried about our commitment with regard to nuclear weapons to protect them and to use them, and we're behind on modernization, which they said had to be fixed.

So they reached a very valuable bipartisan recommendation, and then with New START, as you mentioned, we reached an agreement that, with the President, to begin the modernization proliferation. We talked about, had a commitment to funding.

I have acknowledged—but I don't want to see this as any kind of weakness in my view, but, Mr. Chairman, I've acknowledged that maybe we don't need to build, spend $10, $11 billion on two buildings. I saw the biggest steel mill, the virtually newest, the biggest industrial project in the United States, several years ago. It was near my home town. It was a $4.7 billion steel mill. It was unbelievably big. So to say each one of these buildings are going to cost more than that made me a bit nervous.

I'm not saying we can't save some money. But the production, the ability to guarantee that we modernize and be able to produce new pits and do the things that are necessary has to be there. I'm willing to work with you if we can keep the costs down some, but I really think that we're going to have to—if we're not able as a Nation or as Congress and the administration to reach an accord on this, it may become a big issue for us. We may have to have a big national discussion about this whole issue and take the cases to the American people and see where it comes out. We've been able to avoid that for a long time. We've had a pretty much bipartisan agreement.

So, as I raised it with the Secretary of Defense and the Chairman of the Joint Staff this morning, we are behind on the ballistic missile submarine and the air-launched cruise missile by 2 years. The decision has not been made on the follow-on intercontinental

ballistic missile (ICBM) program, the Service Life Extension Program (SLEP) for the B61 bomb, and the W88 and W77 warheads are 2 years behind schedule.

So we want to talk about where we are on these programs, because if this continues then we will have reached a permanent fall-behind level and I think it would be hard to catch up.

Thank you for letting me go a little bit longer than I would normally do. But I've tried to just lay out the fact that we'll have an important year, Mr. Chairman. You're not new to all these issues and you know what's going on. So I look forward to working with you.

I would just say this. As I said at an international conference, nuclear weapons in a limited number of nations' hands cannot be said to have caused wars or certainly it hasn't caused a nuclear war yet. There's been a certain degree of uneasy stability in the world, but it's been stability to the degree we normally haven't seen throughout history.

I think a case can be made that nuclear weapons are a force for good, but if we allow North Korea to have them and Iran to have them and then the South Koreans and the Japanese and the Saudis and the Egyptians—everybody wants nuclear weapons and we have a problem out there. If we keep reducing our numbers and it gets so low that a competing nation thinks, "we can be a peer competitor of the United States of America, we can build that many weapons and put us in a situation that creates instability in the world that doesn't now exist."

So as we wrestle with how to make the world a safer place, let's be careful we don't do something that's counterproductive.

Thank you.

Senator UDALL. Thank you, Senator Sessions.

We're going to, if it's acceptable to the Senator from Nebraska, go right to questions. We want to welcome the Senator from Nebraska to the subcommittee, to our first hearing of this Congress. We know Nebraska has long had an influence in this subcommittee and we look forward to working with you.

I'm certainly inclined to defer to you if you'd like to start off the questions, Senator Fischer. I know your time's valuable. Senator Sessions and I will be here for the entire hearing, but if you'd like to begin by asking some questions, please, the floor is yours for 5 minutes.

Senator FISCHER. Thank you, Mr. Chairman. It is an honor to be on this subcommittee. It is a very important subcommittee, not just for our country, but also for the State of Nebraska. So I thank you for your kind welcome. It's good to be here, and thank you, Ranking Member Sessions, as well.

There's just a couple of things I wanted to touch on today, if I could. First of all, with the Minuteman III ICBM. Madam Secretary, if I could visit with you about that, I'd appreciate it. Exactly a year ago your prepared statement before the House Armed Services Committee stated: "A 2-year Air Force study examining options and required capabilities for a follow-on system is nearly complete." This year your statement reads: "A 2-year Air Force analysis of alternatives, examining options and required capabilities for

a follow-on system ground-based strategic deterrence is projected to be complete in 2014."

So have we examined the options and required capabilities for that follow-on system?

STATEMENT OF HON. MADELYN R. CREEDON, ASSISTANT SECRETARY OF DEFENSE FOR GLOBAL STRATEGIC AFFAIRS

Ms. CREEDON. Thank you, Senator, and I will also ask General Kowalski to weigh in on this as well as he's closer to the actual conduct of the study.

I know this has taken a lot longer than we anticipated, but one of the things that we want to make sure that we fully examine is all the options. So that ranges from a complete replacement to additional ways to extend the current 2030, which is when the current system in its present condition will be sustainable.

One of the other things that is also going on in the context of the Air Force, which is also a little bit why this study has taken a bit longer, is the Air Force is also very carefully analyzing exactly how the current system is degrading, so that they have a much better understanding of how they might extend the life of this if that is the alternative that's chosen.

So we really need to do this, finish the study. As the President has said, this is an integral part of the triad and the present policy, obviously, is to maintain the triad.

[The prepared statement of Ms. Creedon follows:]

PREPARED STATEMENT BY HON. MADELYN R. CREEDON

Chairman Udall, Ranking Member Sessions, distinguished members of the Strategic Forces Subcommittee, thank you for the opportunity to testify today on our nuclear forces and the policies and programs that support them. I am pleased to join assistant Secretary Weber, Lieutenant General Kowalski, Rear Admiral Benedict, and Major General Harencak who are here today for this discussion.

The Office of Global Strategic Affairs (GSA) leads the Department of Defense's efforts to execute the President's vision toward a world without nuclear weapons, while recognizing that as long as nuclear weapons exist, the United States must maintain a safe, secure, and effective nuclear deterrent. The great men and women of GSA lead the Department's work with our international allies and partners to ensure and strengthen stability and deterrence in the international system. GSA is also responsible for policy development on a range of issues, including countering the proliferation of weapons of mass destruction (WMD); ballistic missile defense; and dealing with the emerging security threats in the cyber and space domains.

I will address a number of issues today, including the global strategic balance; progress and force structure under the Treaty between the United States and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START); the 2010 Nuclear Posture Review (NPR) implementation study; budget uncertainties; force modernization; and nuclear command, control, and communications. Additionally, I stand ready to answer any questions that the subcommittee may have.

GLOBAL STRATEGIC BALANCE

The United States has come a long way from a high point of approximately 31,000 nuclear warheads at the height of the Cold War in 1967 to about 5,000 in our stockpile today. The number of deployed strategic nuclear warheads reported under New START for the United States as of March 1, 2013 stands at 1,654. For the Russian Federation, the figure is 1,480. By any measure, this represents significant, demonstrable disarmament progress.

Reporting and inspections that are done under New START have given us a strong understanding of deployed Russian strategic nuclear weapons, but we have significantly less confidence in the numbers of Russian non-strategic or "tactical" nuclear weapons.

Russia also maintains a robust nuclear warhead production capability to regularly remanufacture warheads rather than conduct life-extension programs, as the United States does. It is also modernizing its delivery systems. It is fielding a mobile variant of the Topol-M intercontinental ballistic missile (ICBM), a new Borey-class missile submarine with Bulava submarine-launched ballistic missiles (SLBMs), and replacements for its nuclear air launched cruise missile (ALCM). It is also developing a new heavy ICBM to replace aging Cold War-era systems, which is planned go into service by the end of this decade.

China continues to invest in nuclear weapons and delivery systems in order to enhance the mobility and survivability of its nuclear deterrent. Its broad range of missile-development programs includes an effort to replace some liquid-fueled systems with more advanced solid-fueled systems. It is also pursuing a sea-based deterrent with the development of the JL–2 submarine launched ballistic missile intended for deployment on the Type-094 Jin-class ballistic missile submarine. Although China continues to upgrade its nuclear missile force, we estimate that it has not substantially increased its nuclear warhead stockpile in the past year, since I last briefed this subcommittee.

Iran continues to defy the calls of the international community for transparency into its nuclear activities. Its refusal to cooperate fully with the International Atomic Energy Agency (IAEA) and the possible military dimensions of Iran's nuclear program continue to heighten U.S. and international concerns that Iran is pursuing the development of a nuclear-weapon capability.

North Korea continues to violate its international obligations and commitments, including denuclearization. Its announcement on February 12, 2013 of a third nuclear test, following on the heels of its December 12 Taepo Dong-2 launch, and its subsequent threatening rhetoric are the latest reminders that North Korea's nuclear and ballistic missile programs, and proliferation activities, pose threats to U.S. national security, Asia-Pacific regional security, and nonproliferation efforts worldwide.

The array of nuclear-armed or nuclear weapons-pursuing states around the world certainly complicates the global security environment. The United States and Russia together, however, still account for a vast majority of the world's nuclear weapons, even after the central limits of New START are reached in February 2018. For this reason, our focus for the next stage of arms control remains bilateral efforts with Russia.

NEW START TREATY

The New START treaty entered into force on February 5, 2011. It allows the United States to continue to field a credible and flexible nuclear deterrent force while also providing a framework for bilateral reductions in strategic nuclear weapons systems. When fully implemented, the New START treaty will result in the lowest number of deployed nuclear warheads since the 1950s. The treaty limits both the United States and the Russian Federation to 1,550 accountable warheads on deployed ICBMs, deployed SLBMs, and heavy bombers. Strategic stability will be maintained through a robust triad of strategic delivery systems under the treaty's limit of 700 deployed ICBMs, deployed SLBMs, and deployed heavy bombers and 800 total strategic delivery systems. The United States can meet national security requirements under these limits.

A key contribution of New START is its extensive verification regime. I am pleased to report that the United States has been fully implementing the measures that are included in this regime. Since entry into force, the United States and Russia have each conducted 40 onsite inspections. Each side has fully used its respective inspection quotas for the treaty's first 2 years, and both sides are well into the third year of inspections. Each side is exchanging updates to its respective databases on strategic offensive arms, twice per year as agreed under New START, and each has exchanged telemetric information on selected ICBM and SLBM launches. Delegations from the United States and Russia have also met five times under the Treaty's Bilateral Consultative Commission to address implementation issues.

The United States is on track to meet New START's central limits by the February 5, 2018 deadline. We look forward to continuing robust bilateral cooperation and dialogue with the Russian Federation as we fully implement the treaty.

FUTURE ARMS CONTROL EFFORTS WITH RUSSIA

As the 2010 Nuclear Posture Review stated, New START is the first step by this administration in lowering the numbers of nuclear weapons and delivery systems deployed by the United States and Russia. We intend to pursue further bilateral reductions and transparency with Russia that would cover all nuclear weapons—de-

ployed and non-deployed, strategic and nonstrategic—while ensuring that we maintain our commitments to stability with other nuclear powers, deterrence of potential adversaries, and assurance of our allies and partners.

Because of improved relations with Russia, strict numerical parity in nuclear weapons is no longer as compelling as it was during the Cold War. On the other hand, large disparities in nuclear capabilities could raise concerns on both sides and among U.S. allies and partners, and may not be conducive to maintaining a stable, long-term strategic relationship, particularly at lower numbers. Therefore, as the NPR stated, we will place importance on Russia joining us as we pursue additional reductions in nuclear stockpiles.

The timing and framework for the next round of negotiations are not settled, but we are working now to establish the appropriate conditions. The administration has been clear that future discussions with Russia should include non-strategic nuclear weapons, consistent with the Senate's Resolution of Advice and Consent to Ratification for New START.

NUCLEAR POSTURE REVIEW IMPLEMENTATION STUDY

The administration has been conducting an NPR implementation study to review our nuclear deterrence requirements and operational plans to ensure they address today's threats. Once the President reviews the results of the study and makes decisions regarding its recommendations, the administration will revise employment guidance and operational plans accordingly. The President's decisions regarding the study recommendations will also provide the foundation on which we can develop specific proposals regarding further nuclear reductions that we can use as the basis for discussions with Russia.

The implementation study focuses on the five key strategic objectives established in the Nuclear Posture Review:

- Preventing nuclear proliferation and nuclear terrorism;
- Reducing the role of U.S. nuclear weapons in U.S. national security strategy;
- Maintaining strategic deterrence and stability at reduced nuclear force levels;
- Strengthening regional deterrence and reassuring U.S. allies and partners; and
- Sustaining a safe, secure, and effective nuclear arsenal.

The analysis is not yet complete, but our preliminary view based on work to date, is that further reductions consistent with the national security environment will be possible and that continuing modernization of our nuclear capabilities is essential. The details of this work are highly sensitive, but as already promised by the Secretary of Defense, the Department is committed to sharing relevant aspects of the analysis with the senior leaders of the defense committees when approved by the President. The Secretary is committed to keeping Congress fully informed of policy developments and our plans for adjustments to both the nuclear force and its supporting nuclear complex.

BUDGET/UNCERTAINTIES

The current fiscal situation continues to put pressure on the entire Department of Defense. As sequestration cuts are implemented and as budgetary uncertainties continue, the Department will make difficult decisions and assume more risks. These risks, however, will not alter our prioritization of the nuclear mission and our commitment to U.S. extended deterrence and assurance of allies and partners. We will make every effort to minimize adverse effects on our mission and to ensure the capabilities and readiness of our forces.

For as long as nuclear weapons exist, the United States will maintain a safe, secure, and effective nuclear stockpile. A modern, responsive nuclear weapons infrastructure is the foundation of our nuclear deterrent and the Department of Defense, in partnership with the Department of Energy (DOE)/National Nuclear Security Administration (NNSA), will take the steps necessary to ensure its long-term sustainment and modernization. Those steps, and how the administration proposes to fund them, were originally laid out in the fiscal year 2011 "Section 1251 Report." Ongoing fiscal challenges and greater-than-anticipated program costs have forced a reexamination of the 1251 strategy and supporting programs. As a result, the administration has worked to identify cost savings in a sensible and strategic way. We will protect important modernization programs, while continuing to meet our other defense, deterrence, and assurance commitments. We have made difficult choices and are accepting risk through program delays where feasible and other programmatic adjustments.

One such adjustment has been the development of an enduring strategy for plutonium capability that includes re-use of existing plutonium pits to meet near-term requirements. This has allowed for a deferral of the Chemistry and Metallurgy Research Replacement-Nuclear Facility (CMRR–NF) that has, in turn, freed funding for construction of the Uranium Processing Facility (UPF). Design work on the UPF continues, and is scheduled for completion in mid-fiscal year 2014.

These decisions reflect careful consideration on the part of the DOE/NNSA, in close consultation with the Department of Defense, and the difficult choices that have been made in order to operate within the budget constraints imposed by the current fiscal environment. Our prioritized stockpile plan supports the President's commitment to modernizing the Nation's nuclear infrastructure and the importance of the nuclear mission.

FORCE MODERNIZATION

The 2010 NPR concluded that the United States will maintain a triad of ICBMs, SLBMs, and nuclear-capable heavy bombers; the President's fiscal year 2014 budget supports its modernization. As Secretary of Defense Hagel has stated, "providing the necessary resources for nuclear modernization of the triad should be a national priority," and that is the policy of this administration.

As we move to lower numbers under New START, sustaining the sea-based leg of our nuclear deterrent remains a vital requirement. The service life for the Trident D–5 SLBM has been extended to 2042 and construction of the first of the *Ohio*-class replacement submarines is scheduled to begin in 2021.

The administration plans to sustain the Minuteman III (MMIII) ICBM system through 2030. Solid Rocket Motor (SRM) flight tests and surveillance efforts are ongoing and by 2017 will provide better estimates for component age-out and system end-of-life timelines. Guidance system and fuse replacement are also expected to be needed prior to 2030. A 2-year Air Force Analysis of Alternatives examining options and required capabilities for a follow-on system, Ground-Based Strategic Deterrence, is projected to be complete in 2014. This will allow a program to further extend the life of the MMIII or to develop a follow-on ICBM. The ICBM Demonstration Validation Program is maturing technologies for insertion into future SRM and guidance programs. Follow-on ICBM activities will be closely coordinated and leveraged with efforts to modernize the MMIII through 2030.

A key modernization issue is sustainment of the large-diameter solid-rocket motor industrial base, pending a decision whether to produce a follow-on system. Strategic rocket motor demand has been on a steady decline for the last two decades, placing a heavy burden on Navy and Air Force resources to keep it viable. Planned investments offer the Department and our industrial partners the opportunity to right-size rocket motor production capacity for the short term while retaining critical skills for the future.

The United States will maintain two B–52H strategic bomber wings and one B–2 wing. Both bombers, however, are aging. Sustained funding and support is therefore required to ensure operational effectiveness through the remainder of their respective service lives. The President's Budget Request supports upgrades to these platforms; for example, providing the B–2 with survivable communications, a modern flight system, and upgraded defensive systems. The Department has begun a program for a new, long-range, nuclear-capable, penetrating bomber that is fully integrated with a family of systems supporting intelligence, surveillance, and reconnaissance (ISR) assets. In addition, as air-launched cruise missiles (ALCM) age, the Department is planning to compete an analysis of alternatives in May for an ALCM follow-on system called the long-range standoff (LRSO) missile. We plan to sustain the ALCM and work with DOE/NNSA to sustain the W80–1 ALCM warhead until the LRSO can be fielded.

ALLIANCE COMMITMENTS

Our commitment to the North Atlantic Treaty Organization (NATO) remains strong and continues to be a positive force in the international security environment. Last year, NATO completed a rigorous analysis of its deterrence and defense posture, formally publishing the Deterrence and Defense Posture Review (DDPR), which clearly states that nuclear weapons and missile defense are core components of NATO's overall capabilities for deterrence alongside conventional forces. To implement the principles and results of the DDPR, the Alliance also updated long-standing nuclear guidance. We also work closely with our NATO allies through the Nuclear Planning Group, which is the senior alliance body on nuclear policy and posture issues. This forum provides a critical venue for discussions among NATO allies on a broad range of nuclear policy matters, including the safety and security

of nuclear weapons and the development of common alliance positions on nuclear policy.

The special relationship between the United States and the United Kingdom remains strong. Instability in the international system caused by aggressors such as North Korea and the nuclear aspirations of Iran threaten both of our states, and these shared threats strengthen our commitment to bilateral cooperation across the nuclear domain. One way in which this cooperation is evidenced is the Common Missile Compartment program. This joint effort provides significant cost-sharing benefits to both states and helps ensure that the next generation of our respective SSBN fleets remains technically sound and strategically viable. In this era of declining defense budgets and overall fiscal uncertainty, this type of collaboration is increasingly important. We value the United Kingdom's continuous at-sea deterrent and the vital contribution it brings to our allied nuclear deterrence mission.

To support U.S. extended deterrence and assurance commitments, the Department plans to provide a nuclear capability to the Joint Strike Fighter to replace existing dual-capable aircraft (DCA) in Europe. Our plan remains to integrate nuclear delivery capability into the F–35 during Follow-on Development block upgrades of the aircraft. To allow for more maturity in the Follow-on Development program, the Air Force (in coordination with the Joint Program Office) now intends to deliver nuclear capability to the F–35 for deployment after calendar year 2024. The Air Force has plans in place to ensure there will be no gaps in our ability to meet extended deterrence commitments to our allies and partners as the F–35 DCA capability comes on-line.

We continue to engage the Republic of Korea on nuclear matters through the Extended Deterrence Policy Committee, which serves as a bilateral forum to enhance the effectiveness of extended deterrence on the Korean Peninsula. This work has taken on greater urgency in light of North Korea's continued provocative actions that have increased tensions. Our recent B–52 and B–2 missions demonstrate that we are unequivocally committed to our defense of the Republic of Korea, to deterring aggression, and to ensuring peace and stability in the region.

With our Japanese allies, we continue to participate in an ongoing Extended Deterrence Dialogue, co-chaired by the State Department, which covers nuclear and missile defense issues.

This dialogue is actively strengthening our alliance by resolving questions and providing frank discussion on a range of strategic issues. Its value lies in the trust and understanding built between partners, and the opportunity it engenders to think creatively about deterrence challenges before they arise.

NUCLEAR COMMAND, CONTROL, AND COMMUNICATIONS

The Department of Defense is committed to sustaining and improving our Nuclear Command, Control, and Communications (NC3) architecture. Over the past year, the Department has begun formulating a long-term strategy to modernize critical NC3 capabilities, while also enhancing NC3 support in regional contingencies.

The Deputy Secretary of Defense is leading this effort to ensure our NC3 system remains enduring and secure against a broad range of threats and challenges. In this context, the Department is prioritizing resources to address known capability gaps while incrementally building toward a modern NC3 architecture that will ensure timely decision-making support for the President and address the full spectrum of 21st century deterrence challenges.

CONCLUSION

The current fiscal environment and ongoing budget uncertainties will continue to pose significant challenges as we move forward in the sustainment and modernization of our nuclear deterrent. As a result, we will continue to adjust programs in order to meet the Nation's deterrence and defense requirements while taking into account a declining Department of Defense budget. Despite this uncertainty, the administration remains firmly committed to safe, secure, and effective nuclear stockpile and modernized platforms to deter potential adversaries and reassure our allies and partners around the world.

STATEMENT OF LT. GEN. JAMES M. KOWALSKI, USAF, COMMANDER, AIR FORCE GLOBAL STRIKE COMMAND

General KOWALSKI. Senator Fischer, the 2-plus years really encompasses two studies. The first was what we often called the pre-analysis of alternatives or capabilities-based assessment. During

that assessment you survey the entire universe of possibilities for a follow-on weapons system and then you scope it down so that you have a reasonably sized number of alternatives to look at as you go into the analysis of alternatives (AoA).

So that was completed. It was signed out by the Chief of Staff of the Air Force back in October 2012, and then we went into the AoA. We had some bureaucratic delays as the study plan went back and forth. The study is about to begin. It will take about a year and it will report out next year.

But we've put a lot of work into this and we're comfortable that we have a very sound and structured plan to go forward with this analysis and truly look at all of the possible alternatives out there, and to weigh all the different attributes that we think we'll need as we think about this weapons system beyond 2030.

[The prepared statement of Lieutenant General Kowalski follows:]

PREPARED STATEMENT BY LT. GEN. JAMES M. KOWALSKI, USAF

INTRODUCTION

Chairman Udall, Ranking Member Sessions, and distinguished members of the subcommittee; thank you for allowing me to represent nearly 25,000 Air Force Global Strike Command (AFGSC) airmen and civilians and to appear before you for the third time as their commander. I will use this opportunity to update you on our mission, the status of our forces, and the challenges we will face over the next few years.

AIR FORCE GLOBAL STRIKE COMMAND MISSION

Since the standup of AFGSC in 2009, our mission has been to: "Develop and provide combat-ready forces for nuclear deterrence and global strike operations—Safe, Secure, and Effective—to support the President of the United States and combatant commanders."

AFGSC Nuclear Mission

At the core of our mission statement are three reinforcing attributes: "Safe-Secure-Effective." These were outlined in President Obama's 2009 Prague speech where he said: "Make no mistake: as long as these weapons exist, the United States will maintain a safe, secure, and effective arsenal to deter any adversary, and guarantee that defense to our allies." The attributes of "safe, secure, effective" serve as the foundation of every nuclear-related activity in AFGSC, from the discipline shown in the smallest task, to how we prioritize our planning and programming for the Future Years Defense Program. The effects of our nuclear force, as outlined in the 2010 Nuclear Posture Review, are to ensure strategic stability, to support the regional deterrence architecture, and to assure our allies and partners.

AFGSC Conventional Mission

Our conventional bomber forces defend our national interests by deterring, or should deterrence fail, defeating an adversary. Two capabilities are fundamental to the success of our bomber force: first is our ability to hold heavily defended targets at risk, and second is our ability to apply relentless and persistent combat power across the spectrum of conflict. The U.S. force of penetrating and stand-off heavy bombers, with their capacity for long-range and long-endurance while carrying large and varied payloads, are well-matched to our Nation's global responsibilities and are in high demand by the regional combatant commanders.

AIR FORCE GLOBAL STRIKE COMMAND FORCES

The two Numbered Air Forces under AFGSC, 8th Air Force and 20th Air Force, have a storied history back to the Army Air Corps. Eighth Air Force operations in Europe during World War II paved the way for victory over Nazi Germany. Twentieth Air Force ended the war in the Pacific by dropping atomic bombs on Hiroshima and Nagasaki. Today, these organizations continue to serve critical national security roles as Component Numbered Air Forces for U.S. Strategic Command (STRATCOM) and as Task Forces for on-alert nuclear forces.

Twentieth Air Force

Twentieth Air Force commands the Minuteman III (MMIII) intercontinental ballistic missile (ICBM) fleet and our UH–1N helicopter force. Within the Triad, our 450 dispersed and hardened missile silos provide the foundation for strategic stability with other major nuclear powers by presenting any potential adversary a near insurmountable obstacle should they consider an attack on the United States. No adversary can credibly threaten an attack on this force without depleting their own arsenal.

Minuteman III

We continue to execute our long-range plan of modernization and sustainment for the MMIII. This plan includes a new booster, Transporter Erector vehicle and reentry system Payload Transport vehicle.

The ICBM Cryptography Upgrade, Code System Media, and the Strategic Targeting and Application Computer System programs have been fully funded, providing for hardware and software upgrades to allow the secure transmission of critical codes and targeting data via modern media. These upgrades will reduce security risks and the number of manhours needed for the annual cryptographic code change at our Launch Facilities and Launch Control Centers.

We are also upgrading ICBM Launch Control Centers with advanced extremely high frequency communications. This program provides connectivity with the National Command Authority. This past year we advanced the Minuteman Minimum Essential Emergency Communications Network Program, which upgrades and modernizes cryptographic devices and enhances and secures the Emergency Action Message network. We began weapon system testing in April 2012 and fielding is scheduled to begin June 2013 in simulators before being installed in operational ICBM sites in February 2014.

In coordination with Air Force Materiel Command and the Air Force Nuclear Weapons Center, AFGSC resolved test range safety issues with ICBM flight test components to restore operational test launches after a 10-month delay. In 2012, the ICBM test community executed two operational test launches and multiple simulated and smaller scale tests. Operational testing is currently funded through fiscal year 2015 with four operational test launches scheduled per year to satisfy test requirements outlined by STRATCOM and the National Nuclear Security Administration.

We continue to closely examine emerging needs including propulsion, guidance system upgrades and fuze refurbishment to ensure MMIII weapon system remains reliable and ready through 2030. We will transition these technologies to the Ground-Based Strategic Deterrent.

Ground-Based Strategic Deterrent

The MMIII, fielded in the 1970s with a planned service life of 10 years, has proven its value in deterrence well beyond the platform's intended lifespan. The Ground-Based Strategic Deterrent (GBSD) is the program intended to replace the MMIII and we will start the Analysis of Alternatives (AoA) this July. Initial capabilities were identified, validated by the Joint Requirements Oversight Council, and approved in August 2012 by the Air Force Chief of Staff. The analysis is critical to inform near-term recapitalization programs so technologies and components can be leveraged into GBSD approaches. Completion of the GBSD AoA is projected for late fiscal year 2014. Navy representatives are fully engaged with our GBSD team, investigating the benefits and risks of commonality, with the objective to reduce future design, development, and manufacturing costs for strategic systems.

UH–1N

AFGSC is the lead command for USAF UH–1N in support of two critical national missions: nuclear security for AFGSC and Continuity of Operations/Continuity of Government taskings for the Air Force District of Washington.

Although the UH–1Ns are over 40-years old, we expect to fly them for at least another decade. We must sustain the helicopter's current capabilities and selectively modernize them to minimize existing capability gaps and avoid increased sustainment costs brought on by obsolescence. These efforts include installing crashworthy seats, making the cockpit fully night vision compatible, replacing obsolete sensors to better support our security mission and the National Search and Rescue Plan, and performing some delayed safety and sustainment improvements. We will continue to look, both inside the Air Force and across the Department of Defense, for ways to reduce risk with the current fleet and close our capability gap. Moreover, the UH–1N's deficiencies in range, speed, and payload can only be remedied through

replacement with a new platform. Our way ahead for UH–1N replacement is the Common Support Helicopter program, which is currently unfunded.

Eighth Air Force

Eighth Air Force commands the B–2 Spirit and B–52H Stratofortress bomber forces and directs the bombers' conventional and nuclear operational readiness. The B–2 gives the United States the ability to attack heavily defended targets, while the B–52H serves as the premier high-altitude standoff bomber. Our dual-role bomber fleet is the most visible leg of the nuclear triad, allowing decisionmakers to demonstrate resolve through generation, dispersal or deployment.

B–52H

Our emphasis on 2012 as the "Year of the B–52" highlighted the bomber's storied 60-year operational history and the airmen who have worked tirelessly to keep the aircraft flying. The B–52 is able to deliver the widest variety of standoff, direct attack, nuclear and conventional weapons in the Air Force, and remains a universally recognized symbol of American airpower.

AFGSC continues to pursue funding to complete the Combat Network Communications Technology (CONECT) upgrade. This upgrade resolves sustainability issues with aging cockpit displays and communications while also providing a "digital backbone" to take the B–52 past 2040 and allow integration into the complex battlespace of the future. CONECT replaces aging displays, adds a radio, provides beyond line-of-sight communications and situational awareness, efficient machine-to-machine retargeting, and connectivity to the net-centric command and control environment. The CONECT program successfully passed Milestone C and stands ready for your continued support.

The B–52 gets additional combat capability through fielding of the Miniature Air Launched Decoy (MALD). The B–52 and F–16 are currently the only aircraft to use this decoy. Additionally, AFGSC is programming for an internal weapons bay modification which will increase payload by 66 percent for advanced precision weapons such as MALDs, Joint Direct Attack Munitions, and Joint Air-to-Surface Standoff Missiles.

We have a number of ongoing sustainment efforts underway, to include a replacement landing gear anti-skid controller, the upgraded Forward-Looking Infrared Sensor and a wiring replacement program.

Additionally, AFGSC continues to pursue a safe, secure, and effective nuclear arsenal on the B–52 with the Service Life Extension Program for the Air Launched Cruise Missile (ALCM). The intent is to extend the ALCM through 2030 until the Long-Range Standoff Missile (LRSO) becomes operational.

Finally, we executed all fiscal year 2012 scheduled Nuclear Weapons System Evaluation Program testing requirements by launching six B–52H ALCMs and executing nine B–2 gravity bomb missions with 100 percent reliability. Overall, the B–52's ALCM weapon system reliability increased by over 10 percent and it remains a strong and capable nuclear deterrent.

B–2

2013 kicks off our "Year of the B–2" to celebrate the 20-year anniversary of the first B–2 delivery to the USAF. During this year, we will focus on the weapon system's sustainment, readiness, and especially the airmen who keep this stealthy bomber flying.

In the fiscal year 2014 budget, we advocated for full funding of the B–2 Defensive Management System upgrade. This avionics improvement enhances aircrew situational awareness and increases aircraft survivability in heavily defended airspace against modern 21st century integrated air defense systems.

We installed the B–2 Extremely High Frequency Increment 1 upgrade on the first two operational aircraft. This modification improves onboard computers and provides a fiber optic backbone enabling future programs. Operational testing of these aircraft was completed this year and we are nearing full nuclear certification of the modified systems. We are on track to complete installation on the remaining aircraft by 2016, 4 months ahead of schedule.

AFGSC continues to evolve B–2 conventional combat capability by fielding vital programs such as the Massive Ordinance Penetrator (MOP). Our Nation's ability to hold hardened, deeply buried targets at risk was bolstered by successful testing and fielding of the MOP, and this 30,000-pound weapon is now operational. This year we also tested a new B–2 low observable field modification which cuts maintenance by about 10,000 hours per year and we are on track to complete this installation 3 years ahead of schedule. Finally, we completed the $1.4 billion B–2 Radar Modernization Program, ensuring full compliance with the Federal Communications

Commission mandates while maintaining the B–2's ability to navigate and target its weapons.

The B–2 enterprise strives to maintain the proper balance of fleet modernization efforts, test, aircrew training, and combat readiness. The dynamics of a small fleet continue to challenge our sustainment efforts primarily due to vanishing vendors and diminishing sources of supply. Air Force Materiel Command is working to ensure timely parts availability; however, many manufactures do not see a strong business case in supplying parts for a small aircraft fleet. Problems with a single part can have a significant readiness impact on a small fleet that lacks the flexibility of a large force to absorb parts shortages and logistics delays.

Fleet-wide Bomber Initiatives

We executed the command's 2012 $471 million flying-hour program resulting in 91 percent training currency for all assigned aircrews. One of our major command initiatives involved implementing a fleet-wide aviation fuel efficiency and tracking program. This provided guidance on a number of fiscal year 2012 fuel conservation measures, resulting in a total of $7.8 million in fuel savings, far surpassing our original goal of $3 million. AFGSC also matured the bomber tasking process via Global Force Management.

Long-Range Strike Bomber

The combat edge our innovative B–2 provides will be challenged by next generation air defenses and the proliferation of these advanced systems. The Long-Range Strike Bomber (LRS–B) program works to extend American air dominance against advanced air defense environments. We continue to work with Air Combat Command to develop the LRS–B and field a fleet of 100 new dual-capable bombers beginning in the mid-2020s.

Long-Range Standoff Missile

In a similar manner to LRS–B, the LRSO aids in our mission to assure and deter. The LRSO will be the follow-on to the aging ALCM and will be compatible with the B–52, B–2, and LRS–B. The Analysis of Alternatives is complete and undergoing staffing through the joint community. We have worked closely with the LRSO Program Office to develop an acquisition strategy aligned with the Department of Energy's process for selecting and adapting an existing warhead.

B–61

The B61–12 program will extend the life of the B–61 and, with the B61–12 Tailkit Assembly program, will give us a safe, secure, and effective nuclear bomb for our dual-capable bombers and fighters. The Tailkit program vendor selection has been accomplished and the program is entering into Engineering and Manufacturing Development. This joint AFGSC/Department of Energy endeavor will allow us to continue to meet our strategic requirements and regional commitments.

SECURITY

Nuclear surety and security are at the forefront of the command's mission. To keep our focus on these challenges, we developed a Strategic Security Plan (SSP) as an integrated road map for our security initiatives. The SSP will improve our nuclear security by incorporating lessons learned from other government agencies and recent overseas contingency operations.

A major AFGSC initiative is designing new Weapon Storage Facilities to consolidate nuclear maintenance, inspection, and storage. These will replace deficient and worn buildings in our aging weapon storage areas with a single modern and secure facility. This initiative eliminates security, design, and safety deficiencies and improves our maintenance processes.

Following partial design, the project will undergo validation by external agencies to include the Defense Threat Reduction Agency, Air Force Nuclear Weapons Center, Air Force Safety Center, and Air Force Security Center. We are also seeking Department of Energy and U.S. Navy input to explore ways to standardize across all organizations. Final design completion is scheduled for March 2014. Our goal is to begin to include the MILCON for these new weapon storage facilities in fiscal year 2015.

The Air Force's toughest inspection schedule continues to assess compliance and combat readiness in both our nuclear and conventional missions. Last year, we reported on our initiative to consolidate inspections to free up more training time for our airmen and units. We implemented the first round of Consolidated Unit Inspections in 2012, bringing evaluators from multiple AF agencies into a single inspection. Additionally, we reduced overlap between the Nuclear Surety Inspections and

Nuclear Operational Readiness Inspections without compromising individual inspection requirements. Combined, these initiatives returned an average of 132 operational training days per 3-year inspection cycle to each of our six wings while maintaining the high standards demanded of nuclear operations.

We continue our efforts to improve and strengthen the nuclear enterprise through our long-range planning efforts. AFGSC initiated an enterprise-wide campaign to develop a 20-year comprehensive investment strategy for the Air Force's Nuclear Deterrence Operations core function. We will use this plan to bolster our ability to provide the President and combatant commanders vital global strike warfighting capabilities by prioritizing modernization, sustainment, and acquisition efforts for our bomber, ICBM, and helicopter weapon systems and the nuclear command, control, and communications systems that underpin them all.

Nuclear Command, Control, and Communications (NC3)

Assured NC3 connectivity is the linchpin to a credible and secure strategic deterrent. As the Air Force Nuclear Command and Control System Chief Architect, the AFGSC Director of Communications is leading the Air Force prioritization and investment in survivable NC3. Within AFGSC, these systems include the Family of Advanced Beyond-line-of-sight Terminals, the Common Very Low Frequency Receiver, and upgrades to our wing command posts, Mobile Support Teams, and ICBM Launch Control Centers.

2013 FOCUS AREAS

Always Better

The special trust and responsibility we have for nuclear weapons demands a culture where we must always seek to be better. Although we will continue to be challenged with sustaining aging weapon systems, we will leverage the innovation of our airmen to get the most out of our resources.

Win the Fight

Whether that fight is in overseas contingencies where we have 1,100 airmen deployed, or with our nuclear deterrent forces on alert today and every day, we will push to keep both our nuclear and conventional forces as combat ready as possible.

Care for Our Team

We will improve the quality of life for our airmen and their families, aware of the unique demands of our mission and our locations. We will continue to foster resiliency and strength within a wingman culture, and we will aggressively educate and train our people with regard to the problem of sexual assault. Furthermore, we will continue to build a culture around our command value of "Respect for the worth and dignity of every airman."

Modernize

We will stay focused on our weapon system modernization initiatives. Our MMIII has to be sustained to 2030 and we will advocate for a follow-on based on our GBSD work. The B–52H will take us past 2040 as the stand-off platform of choice, with a robust payload, unsurpassed range, and the greatest variety of munitions in the inventory. The B–2 will be our strategic penetrating platform denying safe haven to any adversary. The Long-Range Strike Bomber will make sure we can continue to hold the global target set at risk. As our Air Launched Cruise Missile becomes obsolete and unsupportable, we will field a credible and flexible nuclear deterrent with the stealthy Long-Range Standoff missile and consider conventional variants.

CONCLUSION

Thank you for your continued support of AFGSC. Our enduring challenges in AFGSC are: First, to instill a culture where every airman understands the special trust and responsibility of nuclear weapons. Second, to maintain excellence in our conventional forces. Third, to sustain the current force while modernizing for the future.

Fiscal constraints, while posing planning challenges, do not alter the national security landscape or the intent of competitors and adversaries. Nor do they diminish the enduring value of long range, "strategic" forces to our Nation. Although we have less than 1 percent of the DOD budget, AFGSC nuclear forces help provide the ultimate guarantee of national sovereignty and AFGSC conventional forces provide joint commanders rapid global combat airpower.

It is my distinct privilege to lead this elite team and we assure you and this committee that AFGSC, working with our joint partners, will meet these challenges and

provide our Nation with ready forces for nuclear deterrence and global strike operations—safe, secure, and effective.

Senator FISCHER. Do you anticipate then that 2014 will be the completion date?

General KOWALSKI. Yes, Senator.

Senator UDALL. Thank you.

Then for the entire panel, I would like to address the triad. Air Force Secretary Donley has stated that as our nuclear forces get smaller, "It's all the more important that we maintain a balanced triad." General Kehler, who I have had the honor to meet and visit with, has repeated similar statements about the need to maintain all three legs of our nuclear triad.

Could each of you give me your quick opinion: Do you think that the triad is still the best configuration that we have for our nuclear forces, and do you see any reason, or would you ever that you can foresee suggest that we should abandon the triad that we have? Madam Secretary, if we could start with you, please.

Ms. CREEDON. Thank you. The Nuclear Posture Review (NPR) made clear that it is the position of the administration to maintain the triad. That continues to be the position of the administration and even, although we've not completed the study on new presidential guidance, nevertheless maintaining the triad is also an element of that study.

Senator FISCHER. Thank you.

STATEMENT OF HON. ANDREW C. WEBER, ASSISTANT SECRETARY OF DEFENSE FOR NUCLEAR, CHEMICAL, AND BIOLOGICAL DEFENSE PROGRAMS

Mr. WEBER. Yes. I would just add, Senator, that last year under the auspices of the Nuclear Weapons Council (NWC) we developed a 25-year strategy that aligns our warhead plans as well as our platform and delivery system plans. That strategy, known as the 3 Plus 2 Strategy, which was briefed to the Senate last year, very much maintains our triad as part of our safe, secure, and effective deterrent.

[The prepared statement of Mr. Weber follows:]

PREPARED STATEMENT BY HON. ANDREW C. WEBER

INTRODUCTION

Chairman Udall, Ranking Member Sessions, and members of the subcommittee, thank you for giving me the opportunity to testify regarding U.S. nuclear forces. It gives me great pleasure to join Assistant Secretary of Defense Creedon, General Kowalski, General Harencak, and Admiral Benedict to discuss these vital topics.

I have the privilege of serving as the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs (NCB), as well as the Nuclear Weapons Council (NWC) Staff Director. In this capacity, I am the principal advisor to the Secretary of Defense, Deputy Secretary of Defense, and the Under Secretary of Defense for Acquisition, Technology and Logistics (AT&L) for nuclear matters. AT&L plays a key role in managing the U.S. nuclear deterrent and leading the Department's efforts to acquire the strategic delivery systems for nuclear weapons in order to meet the operational needs of our Armed Forces. Chief among my responsibilities are the missions of providing the United States and its allies with a safe, secure, and effective nuclear deterrent capability and ensuring the nuclear-survivability of U.S. military forces and the Department of Defense (DOD) infrastructure.

Today's testimony will focus on DOD's work with the Department of Energy (DOE)/National Nuclear Security Administration (NNSA), particularly over the past year, to ensure that the United States continues to maintain a safe, secure, and ef-

fective nuclear deterrent. The partnership between the Departments is marked by extensive collaboration and a shared commitment to the Nation's security. To ensure that the success of this relationship continues, it is essential that Congress supports the President's fiscal year 2014 budget request for nuclear weapons activities executed by DOD and NNSA. This request includes funds to ensure a safe and effective stockpile, to modernize the nuclear infrastructure, and to upgrade ballistic missile and bomber delivery systems. Today, I would like to share with you the progress the NWC has made in ensuring our two Departments achieve its goals and our approach to accomplishing these objectives in the coming year.

Today's fiscal uncertainty presents greater challenge to the talented and unique personnel who support the mission of ensuring a safe, secure, and effective nuclear deterrent. The challenges facing our aging complex continue to demand a highly skilled workforce. Civilian hiring restrictions, salary freezes, and possible unpaid furloughs and their effects on our readiness are some of my gravest concerns.

Over the past year, the NWC met frequently to focus attention on the most pressing challenges faced by the nuclear weapons enterprise. These challenges include managing life extension of warheads in the U.S. nuclear stockpile, modernization of the nuclear infrastructure that supports the stockpile, and modernization of DOD's nuclear delivery platforms.

Additional challenges remain. For example, section 3166 of the National Defense Authorization Act for Fiscal Year 2013 establishes a congressional advisory panel on governance of the nuclear weapons enterprise. Its purpose is to explore options to strengthen governance and thereby ensure that national security needs are being effectively and efficiently met. The DOD looks forward to the panel's recommendations and to follow-on dialogue on this important issue.

Sufficient and timely funding for the enterprise remains a critical challenge for the NWC. The Council has worked hard to align resources, plans, and requirements. The NWC performed extensive cost assessments and leveraged other programmatic expertise to ensure the NNSA and DOD budget request reflects the most urgent priorities of the nuclear weapons enterprise. This exercise reflects a much greater level of collaboration between the two Departments and an updated review of the many demands our aging enterprise requires.

A PATH FORWARD FOR A NEW U.S. NUCLEAR POSTURE

Reversing decades of neglect and addressing the aging nuclear enterprise continues to be a priority for the NWC. We must ensure that the infrastructure, capabilities, and critical skills needed to support the nuclear deterrent are maintained over the long term. The NWC has created a long-term strategy to meet our Nation's future deterrence needs that better aligns the components of the enterprise so that our warfighter is served and our taxpayer is protected. The work of the Council has identified the enterprise's most pressing priorities and addressed means to ensure that both DOD and DOE were prepared to execute these critical modernization programs. The timing of multiple life extension programs, competing requirements, higher-than-anticipated program costs, and a constrained fiscal environment required the NWC to make difficult decisions over the past year.

MAINTAINING FISCAL PRUDENCY AND REVITALIZING THE NUCLEAR INFRASTRUCTURE

An effective strategic deterrent consists of more than nuclear weapons and their delivery platforms. It also requires an infrastructure to provide agile research and development and manufacturing capabilities. A responsive infrastructure will provide the United States with capabilities to address technical problems in the stockpile, or future adverse geopolitical challenges, with a substantially smaller stockpile than today's. Recapitalizing the Nation's nuclear infrastructure will require significant investments. The Departments of Defense and Energy share a common path forward to accomplish this task in a responsible, fiscally prudent manner.

Over the last year, the DOD Office of Cost Assessment and Program Evaluation (CAPE) and NNSA collaborated on a joint review of DOD's nuclear weapons requirements and funding options, involving potential increased efficiencies, to meet those requirements. This holistic look enabled the NWC to adjust requirements and prioritize spending, and further enhanced the partnership between DOD and DOE/NNSA, as well as the NWC's ability to certify annually the NNSA budget.

Our fiscal year 2014 budget request supports essential DOD priorities: research and development to support the *Ohio*-class replacement submarine; life extension of the Trident II D5 missile; sustainment of Minuteman III activities; upgrades to the B–2 and B–52H heavy bombers; and completion of the Analysis of Alternatives for a Long-Range Standoff missile to replace the current air-launched cruise missile. Additionally, DOD plans to develop a new penetrating bomber and dual-capable air-

craft with the F–35 Joint Strike Fighter. Finally, DOD is modernizing the command and control network that detects and characterizes an attack and links nuclear delivery systems to Presidential authority.

To address the aging weapons infrastructure, the NWC is advancing its plutonium strategy including options to replace the aging, unsupportable Chemistry and Metallurgy Research facility that currently provides plutonium capabilities.

After careful consideration of requirements, competing priorities, and existing capabilities, the administration decided to defer construction of the Chemistry and Metallurgy Research Replacement-Nuclear Facility (CMRR–NF) by at least 5 years. This deferral allowed us to address competing demands such as construction of the Uranium Processing Facility at Y–12, which now has a sufficient funding profile, resulting in reduced life cycle cost and reduced risk to ongoing highly-enriched uranium operations at antiquated existing facilities. It also provided flexibility to address critical warhead Life Extension Programs (LEP) for the W76–1, the B61–12 bomb, and the W78/88–1 interoperable warhead.

We recognize that an enduring pit production capacity is needed not only to support current and future LEPs, but also, as pointed out earlier, to provide an ability to respond to technical failure in the stockpile or geopolitical reversals. To manage the risk of deferral, we must develop means, in the near term, to respond more rapidly to technical or geopolitical challenges pending the coming on line of planned enduring production capacity. The NWC approach to managing this risk includes a resourced plan to utilize pit reuse in ongoing LEPs while growing the manufacturing capacity we have today to 10 pits per year by 2019, 20 pits per year by 2020, and 30 pits per year by 2021. All of this is contingent upon the sustainment of today's capabilities for analytical chemistry and other processes in support of pit production. It is also contingent on congressional approval of NNSA's fiscal year 2012 $120 million reprogramming request to provide funds to carry out these activities.

To ensure the Nation maintains an enduring plutonium capability, NNSA is working with the NWC to advance a strategy to support both near- and long-term stockpile requirements. We are exploring a concept that would provide the essential capabilities planned for CMRR with a phased, more responsive, and more readily implementable approach. This approach will also provide opportunities to address aging issues associated with LANL's PF–4 pit manufacturing facility.

Initial concept review suggests a new, modular concept could serve the warfighter's needs in a way that best protects the taxpayer. We need to conduct more analysis. Over the next 2 months, the NWC, with support from DOD's CAPE organization, will work with Los Alamos to carry out a comparative analysis of the concept; address risks and benefits, pros and cons; and gain some initial insights into feasibility of delivery of key capabilities earlier than planned for CMRR–NF. If the concept is assessed to be feasible, and with congressional support, NNSA will develop its plan to move forward on engineering development and construction for this new, modular approach. We remain committed to a modern responsive nuclear weapons infrastructure that recognizes the new fiscal realities we now face and look forward to congressional engagement on our activities.

As with any major systems acquisition program, building large, one-of-a-kind nuclear facilities presents significant challenges in terms of planning, design, and development—one of our principal requirements in today's fiscally constrained environment is to control costs.

DOD STOCKPILE REQUIREMENTS

Looking to the future of the nuclear arsenal, DOD and NNSA are moving forward with several weapon system LEPs in fiscal year 2014 to support long-term deterrent capabilities. The B61–12 and W76–1 LEPs are the most critical LEPs to our stockpile, and NNSA will continue funding these LEPs in fiscal year 2014. Given fiscal challenges, the NWC agreed that slipping the W78/88–1 interoperable warhead and W88 alteration created manageable risk while allowing resources to continue to support the B61–12 and W76–1 LEPs. These decisions allow us to meet Air Force and Navy requirements while more efficiently managing annual costs among our various programs.

In 2012 DOD and NNSA entered into Phase 6.2, Feasibility Study and Option Down-select, for the W78/W88–1 interoperable warhead study to examine a warhead option that could be deployed with both intercontinental ballistic missiles (ICBMs) and submarine-launched ballistic missiles (SLBMs). To leverage this effort, DOE, the Air Force, and the Navy are teaming to develop a modern Arming, Fuzing and Firing (AF&F) system, initially for the W87 ICBM warhead, but adaptable for use in a W78/W88–1 interoperable warhead. Efforts to develop an interoperable warhead for deployment on multiple platforms would allow the DOD to reduce the num-

ber of warhead types and the number of Reserve warheads needed to hedge against unforeseen technical or geopolitical contingencies. When fielded, the W78/W88–1 LEP interoperable warhead will provide opportunity for further reductions in Reserve warheads. Warhead interoperability would also allow for substantial reductions in life-cycle and production costs. The Secretaries of the Air Force and Navy, and the NWC will provide statements and assessments of these plans to Congress pursuant to section 1044 of theNational Defense Authorization Act for Fiscal Year 2013.

For the bomber leg of the Triad, DOD requires life extension of the B61 gravity bomb. The B61 mod 3/4 non-strategic bombs are deployed with NATO dual capable aircraft to provide U.S. extended deterrence to our allies. The B61–7/11 strategic bombs are carried by the B–2 bomber and are an essential component of air-delivered strategic deterrence. In April 2010, the Nuclear Posture Review reaffirmed both the extended and strategic deterrent roles of the B61 and directed proceeding with its full-scope life extension. The result will be a single bomb, termed the B61 mod 12, which will replace four types of the B61—one strategic and three non-strategic—further promoting efficiencies and minimizing costs.

The B61–12 is currently in Phase 6.3, Development Engineering and is on schedule for this year's milestones. We have worked successfully to ensure that the development of DOD-provided hardware, in this case, a tail kit, is on track to meet LEP requirements. The Air Force has funded both the tail kit development and production to synchronize with NNSA needs as well as the cost of integration of the B61–12 digital electronics into the B–2 Bomber. The overall LEP schedule has been revised for DOE/NNSA to complete the first production unit by no later than the end of fiscal year 2019. Meeting this date for the first production unit is essential to meeting U.S. Strategic Command's requirements and also critical in meeting U.S. commitments to our NATO allies to sustain their non-strategic nuclear capabilities and to provide extended deterrence. As the effects of sequestration unfold, the NWC will carefully monitor potential impacts to the B61–12 and mitigate risk to our extended deterrence commitments. We are acutely aware of the burgeoning costs of the B61–12 LEP; increased management attention is essential to controlling these costs.

In addition to our efforts to revitalize weapons, delivery systems and facilities, we continue efforts to enhance physical security in the nuclear enterprise. The July 2012 protestor incursion at the Y–12 facility highlighted the need for continued collaborative efforts to address physical security challenges within both DOE and DOD. Most notably, in the 2011 U.S. Nuclear Physical Security Collaboration Memorandum, we formalized collaboration between DOD and DOE and agreed to common protection standards for nuclear weapons and materials.

EFFORTS TO COUNTER NUCLEAR THREATS

Finally, I want to highlight DOD's efforts to counter nuclear threats, including those efforts that help ensure that terrorists and proliferators cannot access nuclear materials and expertise abroad. Since September 11, 2001, there has been valuable collaboration on this goal at the Federal level. President Obama has called nuclear weapons in the hands of terrorists "the single biggest threat to U.S. security." As President Obama pointed out, just one nuclear weapon detonated in an American city would devastate "our very way of life" and represent a "catastrophe for the world." For this reason, this administration has outlined a series of policies that reflect the gravity of this threat, and the interagency has made significant improvements in working to prevent, and preparing mitigation actions for, catastrophic nuclear events.

One of DOD's priorities is to truly "internationalize" the response to the nuclear terrorism threat. The United States has been aggressive in its threat reduction efforts, but it cannot meet this challenge alone. In President Obama's view, there is a pressing need to "deepen our cooperation and to strengthen the institutions and partnerships that help prevent nuclear materials from ever falling into the hands of terrorists." To this end, we are expanding nuclear counterterrorism and threat reduction cooperation with two of our closest allies, the United Kingdom and France, building on all three countries' technical expertise and history of cooperation. At the 2012 Nuclear Security Summit, the three governments released a joint statement pledging cooperation and assistance to others facing nuclear terrorism threats. However, this work cannot be limited to a handful of countries. For this reason, we have made building international partnership capacity a high priority.

Next year, the third Nuclear Security Summit will be held in the Hague, Netherlands. This gathering brings together heads of state and international organizations to address measures to combat the threat of nuclear terrorism, protect nuclear ma-

terials, and prevent the illicit trafficking of nuclear materials. First introduced by President Obama in Prague in 2009, the Summit process formally began in Washington, DC, in 2010 and endorsed the President's call for an international effort to secure all vulnerable fissionable materials worldwide. The United Stateshas contributed to this global effort through an interagency strategy to eliminate as much material as practicable and ensure that all remaining sites are secured at least to the guidelines set forth by the International Atomic Energy Agency. DOD has supported this effort by working to secure weapons-usable nuclear material in Russia and Kazakhstan and is expanding its efforts to collaborate with Japan, China, India through their planned nuclear security training centers. Ensuring that all nuclear material remains secure remains the first priority, but there are also critical efforts underway to address the risks of lost or stolen nuclear material and build capacity for responding to incidents involving nuclear material. DOD contributes to these activities by building partner capacity in detection, interdiction, border security and emergency response. While the focused 4-year effort concludes at the end of calendar year 2013, nuclear security is an enduring responsibility as long as nuclear materials exist. To this end, DOD is exploring the potential for establishing national-level systems for nuclear material tracking. These systems would be designed to monitor and track nuclear material in use, storage and transit across all the nuclear facilities within a country's borders. In addition to providing assurance that nuclear material remains secure and in authorized locations, such systems would improve capability to counter insider threats and sustain nuclear security efforts over the long-term. NCB oversees the implementation of DOD's efforts in support of the President's nuclear security agenda.

On the domestic front, the Nuclear Weapons Accident Program focuses on developing the capabilities required to mitigate the consequences of a U.S. nuclear weapon accident or incident. This full-scale national-level exercise program is shared among the Air Force, Navy, and DOE/NNSA and addresses non-terrorist driven events in addition to those not caused by malevolent actions. We look forward to ongoing collaboration in future exercises and to continued progress in preparing for potentially catastrophic events.

CONCLUSION

The nuclear threat to the United States has evolved considerably since the end of the Cold War. No longer does the threat of a large-scale nuclear exchange hover constantly over the world. Yet, we cannot afford to be complacent. We must continue to field a strong nuclear deterrent that is supported by an agile and responsive infrastructure and we must continue to carry out the threat reduction and nonproliferation activities that help to manage nuclear terrorist threats. DOD remains committed to its vital partnership with DOE in meeting the Nation's most fundamental security needs. In closing, I respectfully ask for your support for the President's fiscal year 2014 budget request. This will ensure that we are fully capable of providing safety and security to the American people.

Senator FISCHER. Thank you.

General KOWALSKI. Senator, the triad is complementary. It's not redundant. When you look at the risks to our nuclear force, the three major risks that were outlined in the NPR were: first, the risk of a technological disruption; second, a risk of a technical failure with one leg of the triad; and third, a risk of geopolitical breakout or change in the world.

When you evaluate all of those risks and then you look at the legs of the triad that we have today, that's a good balance and a good mix and a relatively inexpensive way to provide that sense of the ultimate guarantee of national sovereignty.

Senator FISCHER. Thank you.

STATEMENT OF RADM TERRY J. BENEDICT, USN, DIRECTOR, STRATEGIC SYSTEMS PROGRAMS

Admiral BENEDICT. Senator, I fully support the concept of a triad and I foresee no issues that would change that status in the future.

[The prepared statement of Rear Admiral Benedict follows:]

PREPARED STATEMENT BY RADM TERRY J. BENEDICT, USN

INTRODUCTION

Chairman Udall, Ranking Member Sessions, distinguished members of the subcommittee, thank you for this opportunity to discuss Navy's strategic programs. It is an honor to testify before you this morning representing the Navy's Strategic Systems Programs (SSP).

SSP's mission is to design, develop, produce, support, and ensure the safety of our Navy's sea-based strategic deterrent, the Trident II (D5) Strategic Weapon System (SWS). The men and women of SSP and our industry partners remain dedicated to supporting the mission of our sailors on strategic deterrent patrol and our marines and sailors who are standing the watch, ensuring the security of the weapons we are entrusted with by this Nation.

The Navy provides the most survivable leg of the U.S. nuclear triad with our ballistic missile submarines (SSBNs) and the Trident II (D5) SWS. A number of factors have contributed to an increased reliance on the sea-based leg of the triad. The 2010 Nuclear Posture Review reinforced the importance of the SSBNs and the SLBMs they carry. SLBMs will comprise a majority of the Nation's operationally deployed nuclear warheads, thus increasing the Nation's reliance on the sea-based leg.

Ensuring the sustainment of the sea-based strategic deterrent capability is a vital, national requirement today and into the foreseeable future. Our budget request provides the required funding in fiscal year 2014 for the Trident II (D5) SWS. To sustain this capability, I am focusing on five priorities: Nuclear Weapons Safety and Security; the Trident II (D5) SWS Life Extension Program; the *Ohio* Replacement Program; the Solid Rocket Motor (SRM) Industrial Base; and Collaboration with the Air Force. Today, I would like to discuss my five priorities and why these priorities are key to the sustainment of the Navy's sea-based strategic deterrent and its future viability.

NUCLEAR WEAPONS SAFETY AND SECURITY

The first priority I would like to address, and the most important, is the safety and security of the Navy's nuclear weapons. Navy leadership has clearly delegated and defined SSP's role as the program manager and technical authority for the Navy's nuclear weapons and nuclear weapons security.

At its most basic level, this priority is the physical security of one of our Nation's most valuable assets. Our Marines and Navy Masters at Arms provide an effective and integrated elite security force at our two Strategic Weapons Facilities and Waterfront Restricted Areas in Kings Bay, GA and Bangor, WA. U.S. Coast Guard Maritime Force Protection Units have been commissioned at both facilities to protect our submarines as they transit to and from their dive points. These Coast Guardsmen and the vessels they man provide a security umbrella for our *Ohio*-class submarines. Together, the Navy, Marine Corps, and Coast Guard team form the foundation of our Nuclear Weapons Security Program.

SSP's efforts to sustain the safety and improve the security of these national assets continue at all levels of the organization. My command maintains a culture of self-assessment in order to sustain safety and security. We continue to focus on the custody and accountability of the nuclear assets that have been entrusted to the Navy. SSP's number one priority is to maintain a safe, secure, and effective strategic deterrent.

D5 LIFE EXTENSION PROGRAM

The next priority I would like to discuss is SSP's life extension efforts to ensure a future, effective and reliable sea-based deterrent. The Trident II (D5) SWS continues to demonstrate itself as a credible deterrent and exceeds the operational requirements established for the system almost 30 years ago. Our allies and any potential rivals are assured the U.S. strategic deterrent is ready, credible, and effective. However, we must remain vigilant about age-related issues to ensure a continued high level of reliability.

The Trident II (D5) SWS has been deployed on our *Ohio*-class ballistic missile submarines for over 20 years, and is planned for a service life of 50 years. This is well beyond its original design life of 25 years and more than double the historical service life of any previous sea-based deterrent system. As a result, significant effort will be required to sustain a credible and viable SLBM force from now until the end of the current *Ohio*-class SSBN in the 2040s as well as the end of the service life of the *Ohio* Replacement SSBN in the 2080s.

The Navy is proactively taking steps to address aging and technology obsolescence. SSP is extending the life of the Trident II (D5) SWS to match the *Ohio*-class

submarine service life and to serve as the initial baseline mission payload for the *Ohio* Replacement submarine platform. This is being accomplished through an update to all the Trident II (D5) SWS subsystems: launcher, navigation, fire control, guidance, missile, and reentry. Our flight hardware—missile and guidance—life extension efforts are designed to meet the same form, fit and function of the original system, in order to keep the deployed system as one homogeneous population, to control costs and sustain the demonstrated performance of the system. We will also remain in continuous production of energetic components such as solid rocket motors. These efforts will provide the Navy with the missiles and guidance systems we need to meet operational requirements.

In 2012, the Navy conducted the first flight test of the D5 life-extension (LE) guidance system. The second guidance flight test is scheduled in the third quarter of fiscal year 2013. This past year, the D5 LE command sequencer completed its package qualification. The remaining electronics packages are on schedule.

Another major step to ensure the continued sustainment of our SWS is our SSP Shipboard Integration efforts, which utilize open architecture and commercial off-the-shelf hardware and software for shipboard systems. The first increment of this update is being installed throughout the fleet and training facilities. To date, installation is complete on 12 U.S. SSBNs and all 4 U.K. SSBNs. This effort is a technical obsolescence refresh of shipboard electronics hardware and software upgrades, which will provide greater maintainability of the SWS and ensure we continue to provide the highest nuclear weapons safety and security for our deployed SSBNs.

To sustain the Trident II (D5) SWS, SSP is extending the life of the W76 reentry system through a refurbishment program known as the W76–1. This program is being executed in partnership with the Department of Energy, National Nuclear Security Administration. The W76–1 refurbishment maintains the military capability of the original W76 for an additional 30 years.

The Navy is also in the initial stages of refurbishing the W88 reentry system. The Navy is collaborating with the Air Force to reduce costs through shared technology. In particular, the Air Force and Navy, consistent with Nuclear Weapon's Council direction, are conducting studies examining the feasibility of a joint approach for fuzes for the Navy's Mk5/W88, the Air Force's Mk21/W87 and the future W78 and W88 Life Extension Programs. We believe the joint replacement fuze program is feasible and has the potential of several major benefits for the Nation, including the potential to achieve significant cost savings.

OHIO REPLACEMENT PROGRAM

The next priority, which is also one of the Navy's highest, is the *Ohio* Replacement Program. The continued assurance of our sea-based strategic deterrent requires a credible SWS as well as the development of the next class of ballistic missile submarines. The Navy team is taking aggressive steps to ensure the *Ohio* Replacement SSBN is designed, built, delivered, and tested on time with the right capabilities at an affordable cost.

The *Ohio* Replacement Program will replace the existing *Ohio*-class submarines. To lower development costs and leverage the proven reliability of the Trident II (D5) SWS, the *Ohio* replacement SSBN will enter service with the Trident II (D5) SWS and D5 life-extended missiles onboard. These D5 life extended missiles will be shared with the existing *Ohio*-class submarine until the current *Ohio*-class retires. Maintaining one SWS during the transition to the *Ohio*-class replacement is beneficial from a cost, performance, and risk reduction standpoint.

The Navy team continues to leverage from the *Virginia*-class program to implement lessons-learned and ensure the *Ohio* replacement program pursues affordability initiatives and life cycle operations and support. Maintaining this capability is critical to the continued success of our sea-based strategic deterrent now and well into the 2080s.

A critical component of the *Ohio* Replacement Program is the development of a common missile compartment that will support Trident II (D5) deployment on both the *Ohio*-class Replacement and the successor to the U.K. *Vanguard*-class. While lead ship construction has shifted from 2019 to 2021, we are maintaining the original program of record for the design of the common missile compartment and SWS deliverables in order to meet our obligations to the United Kingdom. The United States and United Kingdom are working jointly to prioritize risk and develop a mitigation plan under the auspices of the Polaris Sales Agreement. Any delay to the common missile compartment has the potential to impact the U.K.'s ability to maintain a continuous at sea deterrent posture.

The United States and the United Kingdom have maintained a shared commitment to nuclear deterrence through the Polaris Sales Agreement since April 1963.

This month marks the 50th anniversary of this agreement, and I am pleased to report that our longstanding partnership with the United Kingdom remains strong. The United States will continue to maintain its strong strategic relationship with the United Kingdom as we execute our Trident II (D5) Life Extension Program and as we develop the common missile compartment.

As the Director of SSP, I am the U.S. Project Officer for the Polaris Sales Agreement. Our programs are tightly coupled both programmatically and technically to ensure we are providing the most cost effective, technically capable nuclear strategic deterrent for both nations.

Our continued stewardship of the Trident II (D5) SWS is necessary to ensure a credible and reliable SWS is deployed today on our *Ohio*-class submarines, the U.K. *Vanguard*-class, as well as in the future on our respective follow-on platforms. This is of particular importance as the reliance on the sea-based leg of the Triad increases as New START treaty reductions are implemented. The *Ohio* replacement will be a strategic, national asset whose endurance and stealth will enable the Navy to provide continuous, uninterrupted strategic deterrence into the 2080s.

SOLID ROCKET MOTOR (SRM) INDUSTRIAL BASE

The fourth priority I would like to discuss is the importance of the defense and aerospace industrial base. In particular, the decline in demand for the SRM industry has placed a heavy burden on Navy resources. The Navy is maintaining a continuous production capability at a minimum sustaining rate of twelve rocket motor sets per year. However, we previously have faced significant cost challenges as both NASA and Air Force demands have declined.

Over the past few years, the Navy has worked with our industry partners to reduce overhead costs and minimize cost increases to the Department. Despite many efforts to address this issue, the industrial base remains volatile. Potential future unit cost increases due to further decline in SRM industrial base demand could impact the D5 Life Extension Program. We will continue to cautiously monitor the industrial base.

SSP will continue to work with our industry partners, DOD, senior NASA leadership, Air Force and Congress to sustain the Solid Rocket Motor industrial base and find ways to maintain successful partnerships to ensure this vital national capability is preserved.

COLLABORATION WITH THE AIR FORCE

The final topic I would like to address is strategic collaboration between the Services. The Navy and the Air Force are both addressing the challenges of sustaining aging strategic weapon systems and have begun to work collaboratively to ensure these capabilities are retained in the long-term to meet our requirements. To do so, we are seeking opportunities to leverage technologies and make the best use of scarce resources.

The Navy and the Air Force have established an Executive Steering Group to identify and investigate potential collaboration opportunties and oversee collaborative investments for sustainment of our strategic systems. As a part of this effort, technology area working groups have been established to study collaboration opportunities in the areas of Reentry, Guidance, Propulsion, Launcher, Radiation Hardened Electronics, Ground Test and Flight Test systems, and Nuclear Weapons Security/Surety. In accordance with the joint explanatory statement of the conference report accompanying the National Defense Authorization Act for Fiscal Year 2013, the Navy and Air Force will brief the congressional defense committees later this year on efforts that can be jointly undertaken and cost-shared.

The entire spectrum of potential commonality must be analyzed with the goal of using commonality where appropriate while ensuring essential diversity where needed, and being good stewards of taxpayer funds. The timing is now to address collaboration opportunities to maintain our ballistic missile capability in the long-term.

CONCLUSION

SSP continues to maintain a safe, secure, and effective strategic deterrent capability and focus on the custody and accountability of the nuclear assets entrusted to the Navy. Our budget request provides the necessary funds to sustain this capability in fiscal year 2014. However, we must continue to be vigilant about unforeseen age-related issues to ensure the high reliability required of our SWS. SSP must maintain the engineering support and critical skills of our industry and government team to address any future issues with the current system as well as prepare for the future of the program.

Our Nation's sea-based deterrent has been a critical component of our national security since the 1950s and will continue to assure our allies and deter our rivals well into the future. I am privileged to represent this unique organization as we work to serve the best interests of our great Nation.

Senator FISCHER. Good to hear. Thanks.

STATEMENT OF MAJ. GEN. GARRETT HARENCAK, USAF, ASSISTANT CHIEF OF STAFF, STRATEGIC DETERRENCE AND NUCLEAR INTEGRATION

General HARENCAK. Senator, the triad is one of those enduring ideas that, regardless of the fact that the world has changed many times since we first embarked on a triad, it has proven itself to be one of those ideas that time has not come to get rid of it. It is as relevant today as it was when we first embarked this decades ago.

[The prepared statement of Major General Harencak follows:]

PREPARED STATEMENT BY MAJ. GEN. GARRETT HARENCAK, USAF

INTRODUCTION

Chairman Udall, Ranking Member Sessions, and distinguished members of the committee, thank you for the opportunity to discuss Air Force strategic programs.

As the Assistant Chief of Staff for Strategic Deterrence and Nuclear Integration, my team, on behalf of the Chief of Staff of the Air Force, leads planning, policy development, advocacy, integration, and assessment for the airmen and weapon systems performing Nuclear Deterrence Operations, a core function of our U.S. Air Force. Stewardship of the nuclear enterprise remains a top Air Force priority, in fulfillment of the President's mandate that the United States maintain a safe, secure, and effective deterrent as long as these weapons exist. While the challenges our Air Force faces in today's fiscally constrained environment are numerous, we remain committed to making the necessary investments in the sustainment and modernization of our nuclear deterrence capabilities, and in the stewardship of our airmen responsible for this vital mission.

NUCLEAR DETERRENCE IN THE 21ST CENTURY

For 21st century deterrence, one size does not fit all. Successfully deterring near-peers and other nuclear-armed states requires new thinking and tailored application. However, deterrence must, as it always has, deny adversaries the incentive to use their nuclear capabilities. The non-peer case may be the most challenging, and will require a renewed understanding of what motivates these actors as well as critical thinking on how best to address the threats they pose.

As affirmed in the January 2012 Strategic Guidance, our power projection capabilities must remain credible in the eyes of potential adversaries across the spectrum of conflict, increasingly so in pre-crisis situations. In regional contexts, the assurances and extended deterrence the United States provides to our allies are integral to strengthening security relationships and supporting nonproliferation goals. The employment of B–52 and B–2 bombers over the Korean Peninsula in the March 2013 Foal Eagle exercise recently demonstrated how the United States can simultaneously signal resolve to our allies and deter aggression. Such effects are highly valuable and increase in importance in a complex, multi-polar environment.

PRIORITIZING INVESTMENT ACROSS THE ENTERPRISE

In order to invest in only the highest priority needs across the nuclear enterprise, the Air Force has continued to rigorously assess the objectives of every program relative to its cost. In some instances, we have found it necessary to restructure, defer, or terminate programs with unsustainable cost growth and technical challenges—for example, with the Common Vertical Lift Support Platform program, and the Family of Advanced Beyond Line-of-Sight Terminals. These decisions are difficult and often carry commensurate risks that must be continuously balanced against operational requirements.

The B61 Life Extension Program (LEP) remains one of our most important priorities. As the primary gravity weapon employed by our long-range bombers and dual-capable aircraft, the B61 plays a central role in providing extended deterrence and assurance to our allies. Originally designed and fielded in the 1960s, the aging B61

will fail to meet requirements early in the next decade. By consolidating four existing B61variants into a single one—the B61–12—the LEP will result in a safer and more reliable weapon with reduced sustainment costs. While refurbishment of the B61's nuclear explosive package is the responsibility of the Department of Energy (DOE), the Air Force is responsible for the B61–12 Tailkit Assembly (TKA), as well as integration of the weapon on its various platforms. The November 2012 award of the B61–12 TKA development contract was an important milestone in the Air Force's commitment to meeting DOE's anticipated delivery of the B61–12 first production unit in fiscal year 2019.

Progress continues apace on an array of modernization programs for our capable yet aging fleet of long-range B–52 and B–2 bombers. These assets provide the President with the ability to hold at risk virtually any target on the globe with a full range of conventional and nuclear weapons. On a daily basis, this highly valuable, Air Force-unique capability forces adversaries who consider threatening our national interests and those of our allies to confront the potential costs of losing what they hold most dear. Despite continual investments in the B–2—our only long-range, direct-strike asset capable of penetrating in anti-access/area denial environments—over time the ability of this platform to prevail against advanced emerging threats is projected to diminish.

For that reason, efforts are underway to develop and field the Long-Range Strike Bomber (LRS–B), a Department of Defense commitment to ensuring the United States maintains its ability to project power globally in the decades to come. To deliver a force of 80–100 of these new bombers beginning in the mid-2020s, we are relying upon a streamlined acquisition strategy that balances capability with affordability. While the requirement for a new bomber is being driven primarily by a validated gap in conventional capability, LRS–B will be nuclear-capable at Initial Operational Capability, and nuclear-certified 2 years later.

In concert with LRS–B, the Long-Range Standoff (LRSO) program—the follow-on nuclear-capable cruise missile that will replace the 1980s-era Air Launched Cruise Missile (ALCM)—is advancing. Notably, the LRSO Analysis of Alternatives (AoA) was recently completed and is pending validation by the Joint Requirements Oversight Counsel (JROC) in May 2013. LRSO will be designed at its outset to be compatible with the B–52, B–2, and LRS–B. We are collaborating closely with DOE to select a life-extended warhead for LRSO that will ensure the system remains a highly credible deterrent in the decades to come. In the meantime, a comprehensive service life extension program is underway for the ALCM that will sustain its effectiveness through 2030.

We are executing a similarly robust modernization plan for our Nation's Intercontinental Ballistic Missile (ICBM) deterrent, the Minuteman III, to ensure it remains effective and credible through 2030. In support of that objective, multiple lines of effort are underway that will update its fuzing, solid rocket motor, and guidance systems. Looking beyond 2030, efforts commenced last year to evaluate initial requirements and capabilities for a Ground Based Strategic Deterrence (GBSD) ICBM follow-on program. In August 2012, the JROC validated the GBSD Initial Capabilities Document, and completion of a formal AoA is expected in fiscal year 2014.

The Air Force continues to strengthen all aspects of the nuclear security mission at our installations in the United States and abroad. In recent years, integration of state-of-the-art detection, assessment, and denial technologies throughout our weapons storage areas, ICBM silos, and other nuclear-related sites have provided our highly-skilled and motivated security forces with the tools and capabilities they need to face any potential threat. The opening of the Air Force's new Nuclear Security Tactics Training Center last December at Camp Guernsey, WY, further enhances the readiness of our airmen entrusted with nuclear security responsibilities.

Lastly, I am pleased that ongoing efforts by Air Force and Joint stakeholders to renew focus on our Nation's aging Nuclear Command, Control, and Communications (NC3) architecture have begun yielding measureable progress. The effectiveness of our NC3 platforms, systems, and facilities to support timely and informed decision making during times of crisis and war is critically important to ensuring strategic stability. As the Air Force is responsible for a major portion of our Nation's NC3 systems, we are leading efforts to develop a synchronized investment strategy for NC3 modernization and recapitalization. Towards that end, over the past 3 years, the Air Force has established strong partnerships internally and across the Department of Defense to codify and refine NC3 responsibilities and to align investment priorities.

NEW START IMPLEMENTATION

Under the terms of the New START treaty (NST) which entered into force in February 2011, the United States and Russian Federation are obligated to reduce and limit their strategic forces in accordance with the treaty's central limits no later than February 2018. In order to ensure our ICBM and heavy bomber force is compliant with NST's central limits by the deadline, we have fully funded implementation activities necessary to achieve the baseline force structure previously reported to Congress. While a final NST force structure decision is pending, the Air Force has begun working to eliminate treaty-accountable systems no longer used to perform the nuclear mission. These activities include the elimination of non-operational heavy bombers at Davis-Monthan Air Force Base, as well as environmental assessments required to eliminate empty, non-operational ICBM silos.

HUMAN CAPITAL

Every day, roughly 36,000 airmen perform Nuclear Deterrence Operations throughout the Air Force. These exceptional professionals provide the highest levels of stewardship to ensure our deterrent remains safe, secure, and effective. We continue to institutionalize fixes and create an enduring culture of accountability, compliance, and self-assessment throughout our nuclear units. While not conclusive indicators, positive trends such as increasing pass rates and a leveling of repeat deficiencies in our rigorous nuclear inspection program reflect the considerable progress we have made in recent years.

After concluding that we could do more to support the development of our nuclear-focused airmen, in February 2013 the Air Force approved a recommendation to split the career field for space and ICBM operations into two distinct fields. This realignment underpins a more deliberate approach to cultivating field-grade officer nuclear expertise and developing ICBM-focused commanders.

CLOSING

Maintaining ready, diverse, and resilient nuclear deterrence capabilities is critical to ensuring stability in today's profoundly complex and evolving national security paradigm. The distinctive attributes of the Air Force's deterrent forces—the responsiveness of the ICBM and the flexibility and visibility of the bomber—are ideally suited to meet this challenge. As the challenges to maintaining stability inevitably grow in the years to come, the United States must be prepared to meet them.

The President's fiscal year 2014 budget submission makes hard choices, but retains the commitment to a strong nuclear deterrent through modernization and recapitalization programs. That commitment is made manifest every day by the airmen performing deterrence operations, who demonstrate those capabilities with precision and reliability. They are trustworthy stewards of our most powerful weapons, vital to our Nation as we endeavor to maintain stability in the 21st century.

Senator FISCHER. Thank you, General. Thank you to all the panel.

Thank you, Mr. Chairman.

Senator UDALL. Thank you, Senator Fischer.

Secretary Creedon, let me turn back to you. I want to ask you about the fiscal year 2014 budget. How does the fiscal year 2014 budget request reflect force structure changes associated with the New START treaty?

Ms. CREEDON. The way that the fiscal year 2014 budget request is structured is it allows both the Air Force and the Navy to continue their preparatory work that will support a decision that will be made in the context of fiscal year 2015 to implement either a reduction in the total number of deployed and total number of delivery systems. So, that could be reductions in ICBMs or that could be reductions in the number of tubes, in other words on submarines, so that the tubes could be modified so that they would no longer be capable of launching a submarine-launched ballistic missile (SLBM).

The decision as to which of those options we choose has not been made yet, but the way that the 2014 budget structure is designed

is to preserve the option as we get closer in time, as we understand more about the pros and cons of each option, and frankly, as we get more into where the whole geopolitical situation is going, where we're going with further discussions with Russia, it allows us to maintain that flexibility for as long as possible before we make a decision.

Senator UDALL. Let me talk about the recent ICBM test launch out of Vandenberg that was cancelled in an effort to prevent escalation of the current tensions with North Korea. Those launches have been underway for 20 years, you well know, and they're important to ensuring the reliability of our deterrent. Do you anticipate any additional delays for this testing program?

Ms. CREEDON. At the moment, Senator, as you indicated, we thought it was wise to postpone for a while the last launch because of the situation on the Korean Peninsula. Right now it is the plan of DOD and it's the plan of the Air Force to do the next launch on time. We have a window of May 21 to 23. That is the current schedule.

What we've actually done is the system that was going to be launched—so that this particular launch is actually just going to move to the right, and so we'll move everything to the right a little bit. We do recognize very much the importance of these tests, not only to DOD, but also to DOE, because they're also a significant participant in these tests.

They do provide valuable information and we need to make sure that these go forward. It was a situation that we just wanted to deal with in a way the we didn't increase the provocation cycle that's been going on on the Korean Peninsula. So we thought it was a prudent idea to postpone for a short while this test. But at the moment, as I say, we're on track to do it again in May.

Senator UDALL. That update's appreciated.

Let me stay on the subject of North Korea. As I mentioned in my opening remarks, this crisis has again underlined the importance of our deterrent. Very recently three B–2 and then four B–52H aircraft participated in a joint training exercise on the peninsula, and this was especially important, as I see it, to South Korea as a demonstration of our nuclear umbrella.

Do you see any signs that nations that are protected by our nuclear assurance are questioning our resolve in this area? Should they have any reason for concern?

Ms. CREEDON. They should not. We have a very extensive dialogue. There are two sets of bilateral dialogues, one with Japan and one with the South Koreans. We spend a lot of time on these dialogues. They're extraordinarily important that they have complete and total confidence in our strategic deterrent.

Last week we just had yet another one of these dialogues. They were with the Japanese and we took them up to Bangor. The Navy was quite an extraordinary host in terms of providing an insight into the capabilities of the Navy. Previously, we had had the South Koreans out at U.S. Strategic Command (STRATCOM).

So we have put a lot of emphasis into this, into these dialogues. It's extraordinarily important that they feel confident in this deterrence and that they are completely and totally assured at all times, because we recognize that either of these countries, if they wanted

to, could develop nuclear weapons and it would be extraordinarily important for them not to and would really increase the tensions in that part of the world if they decided that this was a road down which they wanted to go.

So it's a vitally important series of dialogues.

Senator UDALL. Thanks for that update.

Let me turn to Senator Sessions and recognize him.

Senator SESSIONS. Thank you.

Secretary Creedon, there's a problem there. A March 10th New York Times report said and this is talking about North Korea and South Korea, South Koreans specifically: "Now this new sense of vulnerability is causing some influential South Koreans to break a decades-old taboo by openly calling for the South to develop its own nuclear arsenal, a move that would raise the stakes in what is already one of the world's most militarized regions."

It goes on to say: "While few here think this will happen any time soon, two recent opinion polls show two-thirds of South Koreans support the idea, posed by a small but growing number of politicians and columnists, a reflection, analysts say, of the hardening attitudes since North Korea's underground test."

I remember talking with members of this commission, talking about our other allies in the region. I don't know that it's appropriate to mention them. But they expressed concern about this immediately. They're worried about it. When you have the President saying in South Korea just a few weeks ago, or last year, he said:

> "As President, I have changed our nuclear posture to reduce the number and role of nuclear weapons in our national security strategy. I made it clear the United States will not develop new nuclear warheads, we will not pursue new military missions for military weapons. We have narrowed the ranges of contingencies under which we would ever use or threaten to use nuclear weapons."

That was March 2012 in South Korea. So I think you need to work extra hard right now because you're correct, we have a lot of allies that could produce nuclear weapons. If the goal is to constrain the number of nations that have them—and I think that's a good goal—then we need to be sure. South Korea can't be sitting there with North Korea with nuclear weapons and they don't have them and not have confidence that the United States—or have confidence the United States won't be there.

Can you share with me a little more of your thoughts on that?

Ms. CREEDON. Yes, sir. That was part and parcel of why not only did we carry on the exercise, the Full Eagle Exercise, but also why we had very visible presences of the bombers, particularly the B–2 bomber, because it's not just the nuclear umbrella that provides the assurance and the deterrence to our allies in the region. It's the whole package. It's all the conventional forces, it's the ballistic missile defense forces. We have Aegis cruisers over there in the region.

We're in the process of putting in place a second TPY–2 radar to provide not only for the defense of Japan, but the defense of our assets in the region. There's already one TPY–2 radar over there. We're moving a Terminal High Altitude Area Defense battery to

Guam. Parts of the battery have already been delivered. We're providing a broad package of assurance.

So it's not just nuclear; it's everything. Even the decision that we took to add 14 additional ground-based interceptors in Fort Greely had a reassurance effect to our allies because it also makes it very clear that we take the threat from that region very seriously.

So this is something that we've had a lot of focus on. It is part of a much larger package. Nuclear is an important part of it, but it's all the conventional systems, it's all the assets. It's also very much the reason why DOD has increased focus and will continue to increase focus on that part of the region generally, as was outlined.

Senator SESSIONS. For the South Koreans and the Japanese, having a nuclear-armed North Korea and them not having nuclear arms and to have any uncertainty about the willingness of the United States to defend them is a dangerous thing. That's how the Korean War broke out to begin with, a misunderstanding as to what the United States considered its vital national interest.

So I just worry about that and I think we have to get that clear. We need to get moving with a—so my time is about up, but we'll have another round, I guess.

But thank you for sharing that. We need to air it. We need to be honest about it. This is not a little bitty issue, and that's why it's so important with Iran. I wish we could just look the other way, but it's not going to be good for the whole region if Iran gets nuclear weapons either. It's a matter of great strategic importance.

Thank you, Mr. Chairman.

Senator UDALL. Senator Fischer, back to you.

Senator FISCHER. Thank you, Mr. Chairman.

General Kowalski, do you think that the Minuteman III ICBM still provides value to our nuclear forces, and if so, do you see that value diminishing any time soon?

General KOWALSKI. I think absolutely it provides value. As we look at the nuclear powers of the world, you have the major nuclear powers, Russia and China, and then you have these regional powers, clearly North Korea being the latest to demonstrate both a weapon and potentially a capability to deliver that weapon. We have Iran on a trajectory where they have the potential to have both weapons and already the delivery systems with their space program.

So what the ICBM provides in a world that is increasingly complex is, first, that ready, responsive, deterrent posture against the major nuclear powers. Second, what it provides is an assurance that no nuclear power can exercise nuclear coercion or blackmail on the United States. There are 450 hardened launch facilities in the heartland of this country and if we did not have those we need to think through what that scenario looks like in 15 or 20 years.

So I continue to be a strong advocate for the ICBM.

Senator FISCHER. Thank you.

In your prepared statement, you talk about extending it until 2030, I believe. Yes, 2030. There's some concern about the components aging out. Do you think that the missile can be extended far into the future? Are we going to be able to do that?

General KOWALSKI. I think I am confident we can get the missile as it is to 2030 with the programs that we have in place or the programs that we don't have funded yet, but plan to pursue in the next couple of years. For example, the propulsion replacement program. We know we're going to have to replace the propellant. We're not really sure when that will age out and when that program needs to start. We're taking a little bit of risk because we think the propellant can last 30 years, which puts at about 2025, 2027. If it doesn't, if it needs to be done sooner, then we'll need to start that in a couple of years.

We'll be starting that. That is actually a program that we are aligned to execute with the Navy so that we can go to a common propellant. These are some of the things that we're examining and in particular, the Air Force Materiel Command is examining with Admiral Benedict's team.

The missile guidance set is another area that we're looking at for commonality. But all of the things that we plan to invest in the Minuteman III are things, are specific subsystems that we intend to dovetail into the ground-based strategic deterrent, so the follow-up. So with the AoA, we'll have a better sense of what ground-based strategic deterrent is going to look like. As we develop the next missile guidance set, the next propulsion replacement for the Minuteman III and we look at the launch facility equipment, then what we intend to do is do that adaptation, so that we're not paying for the same thing twice with the follow-on.

Senator FISCHER. Do we have the resources to do all that?

General KOWALSKI. I'm confident that we do. All of Global Strike Command is less than 1 percent of the DOD budget, and I think when you look at the surety and the security that our nuclear forces provide, I think it's a sound investment.

Senator FISCHER. Do you think that the priority will remain that into the future that you see?

General KOWALSKI. Senator, that's not a decision I get to make.

Senator FISCHER. Come on.

General KOWALSKI. But I'll continue to advocate strongly for it.

Senator FISCHER. Thank you.

Did anyone want to add anything to that? [No response.]

Thank you very much.

Thank you, Mr. Chairman.

Senator UDALL. Thank you, Senator Fischer.

Secretary Creedon, let me come back to you for a final question. In the NDAA last year we established a commission to examine the role of the National Nuclear Security Administration (NNSA) in meeting DOD's stockpile requirements. DOD is tasked with setting up that commission. Can you update us on the status of the commission?

Ms. CREEDON. Yes, sir. First, we understand that of the 12 members that need to be appointed, 10 are appointed. There are two left that need to be appointed. When the direction was provided in the NDAA for the DOD to fund this commission, this panel, it was considered a new start under the budget and so because we were operating under a Continuing Resolution (CR) at the time we couldn't move forward with the funding for the new START, as you're well aware of all this history with the new START.

Now that we have a budget in place, we can now go forward with the reprogramming to support this. So what we're doing right now is finding the money to be able to include either in a below-threshold reprogramming or in an above-threshold reprogramming so we can get the commission started, hopefully in time with the full commitment of the members of the panel.

The other thing that we've been looking at is talking to several Federally Funded Research and Development Centers to see what their capabilities are to support this panel, for lack of a better description, the care and feeding of the panel, taking care of the logistics, helping with the writing, that sort of thing. So we're trying to get that teed up so when the chair and the co-chair are designated, that we can meet with them and present some options to them.

Senator UDALL. Thank you for that update. Also, thank you for reminding those of us sitting at this end of the table that CRs, although they're seductive in that you can think they're saving costs, they actually can add costs. I know my colleagues believe the regular order makes more sense up on the Hill and when we appropriate in the right way.

Let me turn to General Harencak. Are you satisfied with the Air Force's relationship with the NWC and would you make any recommendations to improve it?

General HARENCAK. Senator, I think if you look back at the history of the NWC, there have been times where there has been a lot of inactivity. I think recently, in the past few years, the NWC has been making lots of decisions, which is necessary, lots of great interaction. I believe overall, the relationship is very strong between the U.S. Air Force and the NWC. Recommendations would be, to the extent at all possible within the framework of how it was birthed and how we staff it, that the more continuity we can give, through either a professional staff or a group of people who maybe might be assigned to it for extended periods of time, would be helpful, simply because of the fact that there's nothing we do in the nuclear enterprise that can get done in 2, 3, or 4 years. Most of what we work on have very long lead times. It takes a long time for a lot of good reasons. To the extent that we could provide any type of continuity throughout periods of the timeframes necessary to get the nuclear enterprise to accomplish things, would be helpful.

Senator UDALL. As you think further about that, if you do have additional recommendations or thoughts, we'd certainly be open to hearing those.

Let me turn to another relationship that you have with the Navy. Are you satisfied with the progress on the common Navy-Air Force warhead system and would you make any recommendations for its improvement?

General HARENCAK. Senator, I'm very satisfied with the relationship that we have with Admiral Benedict and the Navy. I think we're making huge breakthroughs, if you will, on working on a very difficult and complex set of problems as we look to have adaptable external systems that we could both use in the future.

My recommendation would only be that, while we believe it will be successful, I am very optimistic, the U.S. Air Force is very optimistic, that this will be a successful endeavor. I think we have to be mindful of the fact that should there come a time where we be-

lieve for whatever reason that it not be feasible or affordable to do so, that we have the good sense, if you will, to say, "hey, we tried it." It may not work for a host of reasons, maybe technical reasons, or just the world has changed, so to speak.

I think we have to be ready to have some off-ramps on that. But right now I remain very optimistic. I will tell you the Navy is very supportive of what we're doing and we're working extremely well together on it.

Senator UDALL. Admiral, you want to comment briefly and follow on?

Admiral BENEDICT. Yes, sir, if I may. I appreciate the Air Force comments. We are fully supportive of a common warhead moving forward. I will tell you in all honesty we had challenges this year. Specifically, we did not have a prior budget line item. So again, we were significantly impacted under the CR in our ability to move forward under no new start authority from an acquisition standpoint.

Now that we have an appropriations bill, the Navy is aggressively attempting to solve that and we will. We do have money in the 2014 budget to support the Interoperable Warhead (IW), 78/88 LEP.

But I also echo what General Harencak said. I think it is prudent that as we move forward we have off-ramps. This is an extremely technically challenging proposal, and I have advocated and the Navy has advocated, that we do look at a stand-alone 88–1 as a potential off-ramp. But the bottom line is we're fully supportive of this effort moving forward.

Admiral BENEDICT. Thank you.

Senator Sessions, the floor is yours.

Senator SESSIONS. All right, thank you.

The NWC we hope will have good benefits. There has always been in my view some disconnect between DOD and DOE, NNSA, and all the processes that go into long-range planning and production of nuclear weapons.

So, Secretary Creedon, are you satisfied or can you speak for DOD; are you fully satisfied? Could there be improvement in having more transparency within NNSA in the decisionmaking process?

Ms. CREEDON. Senator, over the course of the almost 2 years since I've been there, so having watched this and being able to compare when I participated in the NWC 14 years ago, it's actually much more aggressive. The relationship is much better between DOE and DOD. We meet regularly and, thanks to a lot of Andy Weber's good work—Andy's the Executive Director of the NWC—and the participation with pretty much everybody on this panel, it really has been much more of a forum for a lot of really good discussion.

It truly ranges from agreement to the knockdown-dragout that sometimes has to happen to get you to agreement. That's been with and amongst the Services, DOE, and all of the various components. So, I think we've made a huge amount of progress. It's been, frankly, a little bit painful, but we really have made a lot of progress.

I think the Cost Analysis Program Evaluation (CAPE) group at DOD also has brought their cost expertise to this, too, and has

shared a little bit of that with NNSA. So we're making progress. We're not there yet, but we're making a lot of progress.

Senator SESSIONS. One of the dysfunctions to me has always been it's really DOD that's the customer because the weapon is being produced for them, and DOE just produces it and they don't have sufficient incentive, in my opinion, to reduce cost. DOD doesn't have that much incentive because if DOE produces it at less cost it doesn't go to DOD; it just is lost to DOE.

So DOE, it's just pretty obvious to me, has not had a sense of intensity. If DOD were making these weapons and they needed more money for ships and they could save money in making the weapons, they'd be saving the money and trying to move it over to make ships with. It's just a bureaucratic problem here, in my view.

I think the NWC, Secretary Weber, should be aggressive. You should bring cost controls to it, and I salute you for that and the taxpayers need that.

On the nuclear modernization, Secretary Creedon, in 2010 the President promised to increase spending for NNSA weapons activities by $4.1 billion over 5 years, less than $1 billion a year, fiscal year 2012 through 2016. Including the 2014 budget request, however, we're now $1.4 billion, 34 percent, below that promised target at the rate we're going.

Congress was responsible for one of the reductions and some of the others. The SLEP on the B61 slipped by 2 years. The program to examine a common warhead and to extend the life of the W78 and W88 may be 3 years, I understand, behind schedule. Delivery systems, development of a replacement for our nuclear ballistic missile submarines, that are at an average age of 23 years, is 2 years behind schedule. Replacement of the nuclear air-launched cruise missiles, average age 31 years, are at least 2 years behind schedule. There's no commitment yet to follow up on the Minuteman ICBM, average life 34 years. The new strategic bomber will not be nuclear-certified at the outset.

So with respect to Secretary Creedon and the Service witnesses, would you comment on these weapons systems? Can we expect further delays and what is the risk and how can we catch up?

Ms. CREEDON. Senator, I want to go back a little bit to what you said about the NWC. So almost every one of these decisions that have been made with respect to the timing of all of these, both the warheads and the platforms, have all been made in the context of NWC discussions.

Senator SESSIONS. Could I just say, that is good to hear. I think that's a positive step. When you go to them and say, "we don't have any money, can we go another year," they tend to want to go along with you. But it doesn't necessarily mean that that's what they'd prefer. We are getting at a point where it's worrisome.

But go ahead. I'm sorry.

Ms. CREEDON. No, that's fine. So let me just use the 61 as an exemplar of this, because otherwise we'd be here for quite a while. On the 61, the NNSA made a proposal to DOD based on guidance that DOD had provided. The NWC looked at what the scope of this SLEP would be, and then we also looked at what we thought the life of the B61 would be.

So STRATCOM and the Air Force went back and did some careful analysis and said: "Okay, based on the various components, this is when we think this program is going to age out, this is when we think we have to start this SLEP." Then the NWC looked at the scope of the SLEP. They went back and looked at the scope of the SLEP and decided that it was too technically challenging and it was too expensive.

So with this iterative work that was done, the scope got narrower, the understanding of the life of the 61 got better, and so we combined the two and said: Okay, this first production unit in 2019 is good, STRATCOM said this is good, and the scope of this SLEP is good, this is what we can afford, we believe. So the NNSA went off and they're now in the process of refining the costs, because right now the range of estimates is pretty big. So that's what the NNSA is doing, and they will come back to the NWC and we'll review this again.

So we'll look at both the timing and we'll look at the scope again, because we want to make sure that it's affordable, because now DOD is also providing money directly to the NNSA to help them with this whole enterprise.

So I think just using that as an exemplar explains how we are, in fact, working together, how we're making some of these tradeoffs and we're providing incentives on both sides to look at where is the affordability and where is the requirement.

Senator UDALL. Thank you.

Senator Fischer, we're back to you.

Senator FISCHER. I'd like to discuss Oak Ridge and Chemistry and Metallurgy Research Replacement (CMRR), those facilities. This is new to me, so hopefully you can enlighten me on some of this. I understand that those facilities need to be replaced and it's very expensive to replace them; is that correct? We're looking at pit production numbers. There's some discrepancy there on what DOD says is needed compared to DOE; is that correct? Who wants to tackle this one?

Mr. WEBER. I'll volunteer, Senator.

Senator FISCHER. Okay. Do you know what I'm referring to on the discrepancy in the numbers from 50 to 80 or 20 to 30, what we're talking about there, and where you stand on that and why you probably have a different position, if you could explain that?

Mr. WEBER. Yes, Senator. The NWC spends a lot of time working with DOE on the recapitalization of the infrastructure. Based on the good work of the Strategic Posture Commission, we really have a bipartisan path forward. We all agree we need to modernize this complex, retain and train the next generation of first-class scientists and engineers who make it work.

The facility at Oak Ridge, the uranium processing facility, is a very high priority because the building that is currently used for production of the secondaries is at risk and is old and we need to replace that as soon as possible. So in our prioritization we worked with NNSA to accelerate completion of that new uranium processing facility.

We accepted at least a 5-year deferral in the CMRR facility at Los Alamos National Laboratory (LANL), which does the analytical chemistry to support pit production. We all agree we need a pit

production capacity and the discrepancy in the numbers is more about timing and I don't really believe it's a discrepancy.

DOE has sent to Congress last year a reprogramming request for $120 million to meet near-term pit production needs and to allow us to get up to the 30 per year by 2021 for these very important SLEPs, especially the IW one or the 78/88 SLEP for the ICBM and the SLBM legs of our triad.

The NWC was briefed recently on what looks like a more affordable long-term plan for plutonium pit production. The concept is for modular facilities, that the first one could come on line sooner. Our initial reaction is we support that. It needs more study. We are launching, together with NNSA, a 60-day study to do a business case analysis for that.

But there is no daylight between DOE and DOD on the need for both a near-term pit production capacity of 10 to 20 and then 30 by 2021, and then in the longer-term for a pit production capacity of 50 to 80 per year.

Thank you.

Senator FISCHER. Do you think that you'll need to cannibalize some of the older stockpiles that we have in order to keep our capabilities at full strength? Do you think that's going to happen? Is it feasible that that would work? Do you know if those pieces are going to fit into the other warheads?

Mr. WEBER. One of the very good news stories in recent years based on the work of the stockpile stewardship program, our understanding of nuclear weapons and how they work is better than it's ever been. We are now confident that we can reuse plutonium pits as we implement these SLEPs.

Senator FISCHER. May I interrupt you and ask, how are you confident that you can do that? Have you run tests on it or just in theory you're confident?

Mr. WEBER. Yes, DOE has a continuing program of experiments to provide the data that gives the director of LANL and Lawrence Livermore National Laboratory the confidence to say that they can do that.

In addition to reusing existing pits, we need that capability to remanufacture additional pits based on those designs of the pits that we will be reusing. That's why I would urge you to approve the $120 million reprogramming request, which is essential for getting that near-term capability which is needed for these vital SLEPs.

Thank you.

Senator FISCHER. Thank you very much.

Thank you, Mr. Chairman.

Senator UDALL. General Harencak, let me come back to you again. It's our understanding that as the New START treaty is implemented, Air Force missile wings would like some flexibilities in determining which silos to shut down. As I understand it, some of the silos are worse off than others. Do you support that approach?

General HARENCAK. Absolutely, Senator. I believe it's critical that we have the flexibility to do what's most cost-effective, what's most efficient, which makes the most sense, so we can accomplish the mission while also having the flexibility to look at and say, "okay, are there silos that have more water intrusion than the other ones," and just go across the force and say, "hey, it's smart

to pick this silo or that silo." So, the U.S. Air Force certainly supports having the flexibility to do that, sir.

Senator UDALL. It makes sense to me as well.

Talk, if you will, about sequestration and what do you see as the biggest effect of sequestration on the Air Force nuclear enterprise?

General HARENCAK. The Air Force nuclear enterprise, sir, remains safe, secure, and effective. We are absolutely prepared to do the mission. We're doing it each and every day, despite sequestration. However—and I'll defer this to General Kowalski, who can probably tell you more—obviously, as the longer it goes on there is going to be other issues besides a readiness issue. There's going to be issues of if we have money to take care of our people, to train them, to send them to schools, all that.

So right now readiness is not a factor, but sequester could obviously have long-term effects on the overall health of our people and our processes and our facilities.

Senator UDALL. I think my worry, and it's shared by a lot of my colleagues, is that we're all told to save and you'll compound your investment because of the compounding effect of interest, but you can see the opposite effect with sequestration, where you get a negative compounding of the effects. But we'll be talking about that more and more as sequestration takes hold.

Secretary Weber, let me come back to you, and I know you've touched on this. But are you comfortable with the relationship that the Services have with the NWC? I know Senator Sessions commented earlier as well.

Mr. WEBER. Yes. During my 4-year tenure it's been an excellent relationship. We have active participation of the Service Chiefs and the Service Secretaries in the NWC meetings and I think that's essential. The Vice Chairman represents their interests, but having them at the table when we discuss strategic programmatic decisions is very important, and that is a habit, a tradition now that we will continue.

Senator UDALL. I'm going to exercise my prerogative as chairman and end this open portion of the hearing now and we'll head over to the secure facility to continue the hearing in closed session. I'm going to look to my team here—I have to actually adjourn the subcommittee and then we'll move over to the closed session. We look forward to the testimony over there and we'll reconvene as soon as we possibly can.

Senator SESSIONS. Mr. Chairman, could I ask one thing?

Senator UDALL. Sure, Senator Sessions.

Senator SESSIONS. With regard to these buildings, I really want to be clear about it. Modular and that kind of thing—modernizing effectively our nuclear weapons arsenal is essential. It's the right thing to do, and it's not too much money to spend if it's necessary. But I would be willing to listen to ideas you have for modular or other things that I think ought to be examined carefully to see if we think those are feasible and will not result in further delays and uncertainties in this program. I'm sure the chairman would be delighted to have more information on it, but that's my firm view, that we need to be on track with this. I suspect we could do it with less expense, and if so, I'll be supportive of that.

Senator UDALL. I look forward to working with the ranking member.

We will reconvene in the secure facility. We are adjourned.

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR MARK UDALL

FISCAL YEAR 2014 PRESIDENT'S BUDGET

1. Senator UDALL. Secretary Creedon, how does the fiscal year 2014 budget request reflect force structure changes associated with the New Strategic Arms Reduction Treaty (START) treaty (NST)?

Ms. CREEDON. The President's fiscal year 2014 budget request reflects the administration's commitment to modernize the critical U.S. nuclear forces that underpin a safe, secure, and effective nuclear deterrent. The President has not made a final decision yet on the details of U.S. nuclear force structure under the NST. The fiscal year 2014 budget request includes funds to enable planning for the necessary force structure reductions under the NST and to dismantle previously retired strategic systems that count under the NST.

NORTH KOREA

2. Senator UDALL. Secretary Creedon, the recent North Korean crisis demonstrated the importance of our deterrent. Very recently, three B–2 aircraft and four B–52H aircraft participated in a joint training exercise on the Korean Peninsula. This was especially important to South Korea as a demonstration of the U.S. so-called nuclear umbrella. Do you see any signs that nations are questioning our resolve in this area? Should they have any reason for concern?

Ms. CREEDON. The United States remains fully committed to the extended deterrence we provide the Republic of Korea and our allies and partners under the nuclear umbrella. The B–2 and B–52H missions were visible demonstrations of the seriousness we place on this commitment and the posture and capabilities that underpin it. U.S. extended deterrence is playing a central role in reinforcing security and stability on the Korean Peninsula and in the region, and my interactions with my counterparts in the region indicate they are certain of U.S. resolve.

SEQUESTRATION

3. Senator UDALL. General Harencak, what do you see as the biggest impact from sequestration to the Air Force nuclear enterprise?

General HARENCAK. In the near-term, the Air Force has been successful at managing the impact of sequestration on nuclear deterrence operations—ensuring that our strategic forces remain safe, secure, and effective day-to-day. While challenging, we are confident in our ability to mitigate the remainder of the required reductions in fiscal year 2013 with negligible mission impacts.

Beyond fiscal year 2013, the unknown effects of sequestration to the enterprise are cause for concern. Since the risks of underinvestment are cumulative and have a compounding adverse effect on readiness over time, the magnitude of the impact will ultimately depend on the duration of the sequester.

Under sequestration, Air Force Global Strike Command (AFGSC) has incurred a 10 percent reduction across its operation and maintenance accounts. While Air Force guidance implementing the reductions expressly prioritized flying hours directly supporting nuclear operations, the cuts are having tangible impacts elsewhere. Of particular note, the deferment of non-emergency Facility, Sustainment, Maintenance, Restoration, and Modernization projects at missile alert/launch facilities, weapons storage areas, and aircraft hangars is exacerbating the existing backlog of critical capital improvements, raising safety and security risks that over time, may erode the ability of these facilities to meet mission requirements. Cancellation of most temporary duty assignments is limiting professional development within the nuclear career field. Additionally, the furlough of civilian employees is negatively impacting productivity and mission continuity. Should these and other sequestration-related impacts persist into future years, their combined effect will eventually lead to the deterioration of core readiness within our nuclear forces.

4. Senator UDALL. General Kowalski, how is sequestration affecting your training and operational tempo?

General KOWALSKI. Sequestration has significantly affected training for B–52 Combat Mission Ready (CMR) crews. Only approximately 50 percent of B–52 crews are currently funded to maintain CMR status due to the reduction in flying hours for Combat Air Force (CAF) units. This reduction will reduce readiness and proficiency of B–52 crews while limiting available response options and the deterrence effectiveness of the B–52 force. B–2 Mission Capable (BMC) crews are no longer flying. This approach rightly prioritizes the readiness of CMR crews; however, the absence of BMC crews in current flying operations hinders surge capabilities and decreases operational oversight within the B–2 community. Intercontinental Ballistic Missile (ICBM) and UH1 crew training has not been affected by sequestration.

Sequestration induced an additional 18 percent cut to Flying Hour Program and Central Assets Management System overall budgets. The Continuous Bomber Presence is being supported with minimum crews (1.0 crew ratio). Although current AFGSC hours maintain minimum B–2 and B–52 Nuclear Deterrence Operations support, the reduction constrains AFGSC's operational flexibility to support operations beyond this minimum. The remaining crew force (equivalent of approximately two B–52 squadrons) stood down on April 8, 2013. This stand down is forecast to continue through the end of the fiscal year 2013 or longer, depending on future availability of resources. While we will strive to minimize the short-term impact of the flying hour reduction, mid- and long-term impacts of reduced flying proficiency has serious readiness and safety implications.

B–61

5. Senator UDALL. Secretary Weber, what is the status of the B–61 gravity bomb's Service Life Extension Program (SLEP), and are you narrowing down the cost estimates for it?

Mr. WEBER. Los Alamos and Sandia National Laboratories, through the joint Air Force—National Nuclear Security Administration (NNSA) SLEP for the B61, have made substantial progress—every program milestone so far has been achieved on schedule. The B61–12 will replace four existing variants of the B61. The approved schedule for the B61–12 includes achieving the first production unit no later than fiscal year 2019, which is essential to managing risks associated with component end of life. The B61–12 program has entered Phase 6.3 Engineering Development; system components are being developed to meet essential requirements in regard to safety, use control, performance, reliability, and produce-ability. This work precedes a production engineering phase of development leading to initial production. Our best estimate for the cost of the B61 SLEP (development and production) is reflected in the B61–12 Weapons Development and Cost Report (WDCR): $7.4 billion. The Department of Defense's (DOD) Cost Assessment and Program Evaluation (CAPE) office has recently completed an independent cost estimate that exceeds the WDCR estimate by $2.7 billion. The difference in the two estimates is based on different assumptions regarding the risk in achieving certain programmatic milestones on planned schedules. The Nuclear Weapons Council (NWC) is acutely aware of the cost of the B61–12 and has focused increased attention on cost control. CAPE is working closely with NNSA on this SLEP to ensure cost and schedule risks are effectively managed.

AIR LAUNCH CRUISE MISSILE

6. Senator UDALL. General Kowalski, are you comfortable with the ability of your airmen to maintain the Air Launched Cruise Missile (ALCM) to meet the U.S. Strategic Command's (STRATCOM) exercise requirements?

General KOWALSKI. Yes. The Cruise Missile Maintenance airmen of AFGSC continue to maintain the ALCM in a professional manner meeting all STRATCOM operation plan and exercise requirements. In conjunction with Air Force Materiel Command, a SLEP has been developed to ensure continued ALCM maintainability until 2030.

7. Senator UDALL. General Kowalski, the Air Force is considering a replacement for the ALCM and our understanding is that the Air Force is considering a plan that would not replace the maintenance handling equipment for that missile. Is that being considered as part of the Analysis of Alternatives (AoA) and do you support such as proposal?

General KOWALSKI. The AoA included new and modified support equipment based on historical precedence of legacy weapon systems as part of the cost comparison and analysis. As the long-range standoff (LRSO) concept matures, the Air Force will

continue to conduct supportability analysis to determine the appropriate mix of new and legacy ALCM support equipment to ensure the lowest possible sustainment costs and a smooth transition from ALCM to LRSO operations.

QUESTIONS SUBMITTED BY SENATOR JEFF SESSIONS

NUCLEAR MODERNIZATION

8. Senator SESSIONS. Secretary Creedon, please comment on the status of the following weapon systems to include whether or not further delays are anticipated and if so, the Office of the Secretary of Defense's (OSD) and the individual Services' assessments of risk associated with each program:

- W–76 Submarine-Launched Ballistic Missiles (SLBM) Warhead Life Extension Program (Navy)
- B–61 Gravity Bomb Life Extension Program (Air Force)
- W–78 (ICBM) and W–88 (SLBM) Common or Interoperable Warhead Program (Navy/Air Force)
- Follow-on Nuclear Ballistic Missile Submarine (SSBN) Program (Navy)
- Replacement for the Nuclear Air-Launched Cruise Missile (known as the LRSO) (Air Force)
- Follow-on to the Minuteman III ICBM (Air Force)
- Next Generation Strategic Bomber (Air Force)

Ms. CREEDON. As we deal with ongoing fiscal challenges, program adjustments including scheduling revisions may be necessary. In those instances, however, military requirements and risk management will be carefully considered. In the near future Congress will receive both the Stockpile Stewardship and Management Plan, and the Report on the Plan for the Nuclear Weapon Stockpile, Nuclear Weapons Complex, Nuclear Weapon Delivery Systems, and Nuclear Command and Control System for fiscal year 2014 as required by section 1043 of the National Defense Authorization Act for Fiscal Year 2012. These documents will provide details on current plans for the programs you identified.

RESPONSIVE NUCLEAR INFRASTRUCTURE AND NUCLEAR REDUCTIONS

9. Senator SESSIONS. Secretary Creedon, a key premise of the 2010 Nuclear Posture Review (NPR) was that a modern nuclear infrastructure was essential for facilitating reductions in the arsenal while sustaining deterrence under New START and, potentially, beyond. A responsive nuclear infrastructure was deemed necessary not only to meet our upcoming weapons SLEPs, but to be able to surge production in case there were a significant technical challenge with the current stockpile—or if the geopolitical situation changed dramatically for the worse. Is this linkage between achievement of a responsive infrastructure and nuclear reductions still administration policy?

Ms. CREEDON. As you stated, the modern infrastructure is needed whether or not there are further reductions below the NST force structure levels. That said, a more modern infrastructure will allow additional warhead reductions particularly in the hedge.

10. Senator SESSIONS. Secretary Creedon, the NPR concluded that funding for Chemistry and Metallurgy Research Replacement-Nuclear Facility (CMRR–NF) at Los Alamos and Uranium Processing Facility (UPF) at Oak Ridge was required to maintain a safe, secure, and effective nuclear arsenal and to provide that responsive nuclear infrastructure deemed necessary to facilitate nuclear reductions. In fact, the NPR recommended that CMRR–NF and UPF be available by 2021. With the uncertainty now surrounding the future of CMRR–NF, or perhaps a modular approach, doesn't this delay the achievement of that responsive nuclear infrastructure which was deemed necessary for arms reductions?

Ms. CREEDON. The administration's decision to defer CMRR–NF increases risk in our effort to achieve the responsive infrastructure identified in the NPR. To manage this risk in the near-term, we are developing other means to respond to technical or geopolitical challenges. We will achieve near-term goals using existing facilities with some modifications. At the same time, the administration is pursuing an enduring production capacity through potential pit reuse in ongoing SLEPs, and we plan to supplement this with a capability to manufacture existing insensitive high explosive pit designs at a rate of 30 per year by 2021.

Over the next several weeks, the NNSA, with support from DOD's CAPE office, will carry out a business case analysis of the modular concept and other alternatives

to consider risks and benefits, and to seek initial insights into feasibility of delivery of key capabilities. At the conclusion of the study, NNSA will report its assessment to the NWC and relevant congressional committees.

11. Senator SESSIONS. Secretary Creedon, since the administration has made the decision to defer CMRR by at least 5 years, shouldn't we also delay the negotiation of any further arms reductions below New START levels?

Ms. CREEDON. That is ultimately the President's decision. Deferral of the CMRR alone should not be considered an impediment to further arms reductions if the needs of the nuclear stockpile stewardship programs can be met and other circumstances allow for it.

RUSSIAN NON-STRATEGIC NUCLEAR WEAPONS

12. Senator SESSIONS. Secretary Creedon, last year you and Secretary Weber told this committee that: "Russia has approximately 4,000 to 6,500 nuclear weapons, according to unclassified estimates, of which approximately 2,000 to 4,000 are non-strategic." You and Secretary Weber also noted that: "we lack confidence in estimates of Russian tactical nuclear weapons." The administration has said it seeks to reduce tactical nuclear weapons in any future arms discussions with Russia, but Russia has established the condition that all U.S. tactical nuclear weapons must be removed from Europe before Russia agrees to any reductions in its tactical nuclear arsenal. Please describe the types of tactical nuclear weapons in the Russian arsenal that could pose a direct threat to North Atlantic Treaty Organization (NATO) Europe.

Ms. CREEDON. There are a variety of Russian systems that could pose a direct threat to NATO. I refer you to the Defense Intelligence Agency (DIA) Russian Nuclear Forces Quick Reference Guide, DIA–11–1111–538, dated January 2013; and DIA Russia: Nonstrategic Nuclear Weapons in the Euroatlantic Area, DIA–11–1206–678.A, dated June 29, 2012.

13. Senator SESSIONS. Secretary Creedon, could some of these weapons also threaten the U.S. Homeland, such as a nuclear cruise missile off the U.S. coast?

Ms. CREEDON. The potential exists that some Russian non-strategic weapon systems could threaten the U.S. Homeland. I refer you to the DIA Russian Nuclear Forces Quick Reference Guide, DIA–11–1111–538, dated January 2013; and DIA Russia: Nonstrategic Nuclear Weapons in the Euroatlantic Area, DIA–11–1206–678.A, dated June 29, 2012.

14. Senator SESSIONS. Secretary Creedon, what is your position on whether the United States should remove tactical nuclear weapons from Europe in exchange for reductions in Russian weapons?

Ms. CREEDON. While the removal of tactical nuclear weapons from Europe is ultimately the President's decision, the administration has committed to addressing these issues within the framework of the NATO alliance, not unilaterally. U.S. nuclear weapons in Europe are a core component of NATO's overall capability for deterrence and defense, alongside conventional and missile defense forces. In the 2012 Deterrence and Defense Posture Review (DDPR), NATO members reaffirmed this tenet and committed to remaining a nuclear alliance as long as nuclear weapons exist. The DDPR concluded that the "alliance's nuclear force posture currently meets the criteria for an effective deterrence and defence posture." The DDPR also acknowledges, however, that in a future security environment, the United States could reduce non-strategic (i.e., tactical) nuclear weapons in Europe, assuming a reciprocal reduction by Russia. Until then, and for as long as NATO remains a nuclear alliance, NATO will ensure that all components of its nuclear deterrent remain safe, secure, and effective.

15. Senator SESSIONS. Secretary Creedon, what is NATO's position on this subject?

Ms. CREEDON. While I certainly can't speak to the NATO position per se, nuclear weapons are a core component of NATO's overall capability for deterrence and defense, alongside conventional and missile defense forces. The 2012 DDPR reflects the consensus position of NATO members, and it commits to remaining a nuclear alliance as long as nuclear weapons exist. The DDPR concluded that the "alliance's nuclear force posture currently meets the criteria for an effective deterrence and defence posture." The DDPR also acknowledges, however, that in a future security environment, the United States could reduce non-strategic (i.e., tactical) nuclear

weapons in Europe, assuming a reciprocal reduction by Russia. Until then, and for as long as NATO remains a nuclear alliance, NATO will ensure that all components of its nuclear deterrent remain safe, secure, and effective.

16. Senator SESSIONS. Secretary Creedon, has the U.S. Government examined the feasibility of verifying Russian compliance with an agreement to reduce tactical nuclear weapons?

Ms. CREEDON. Although we have not yet begun detailed discussions with Russia on the topic of future nuclear reductions, we have begun to explore verification methodologies that might be used in future efforts to verify Russian non-strategic warhead reductions. The administration, in consultation with NATO allies, is working to initiate bilateral discussions with the Russian Federation on an agreement to address tactical nuclear weapons stockpiles of the United States and the Russian Federation in a verifiable manner.

17. Senator SESSIONS. Secretary Creedon, since cruise missiles, torpedoes, and rockets can be armed with conventional or nuclear warheads, how can we effectively verify tactical nuclear weapons on the Russian side?

Ms. CREEDON. Although we have not yet begun detailed discussions with Russia on the topic of future nuclear reductions, we have begun to explore verification methodologies that might be used in future efforts to verify Russian non-strategic warhead reductions. The administration, in consultation with NATO allies, is working to initiate bilateral discussions with the Russian Federation on an agreement to address tactical nuclear weapons stockpiles of the United States and the Russian Federation in a verifiable manner.

18. Senator SESSIONS. Secretary Creedon, given that the Russians maintain a robust nuclear production infrastructure, how can we verify that dismantled tactical nuclear weapons are not being replaced by new warheads?

Ms. CREEDON. Although we have not yet begun detailed discussions with Russia on the topic of future nuclear reductions, we have begun to explore verification methodologies that might be used in future efforts to verify Russian non-strategic warhead reductions. The administration, in consultation with NATO allies, is working to initiate bilateral discussions with the Russian Federation on an agreement to address tactical nuclear weapons stockpiles of the United States and the Russian Federation in a verifiable manner.

NUCLEAR DETERRENCE FUNDING

19. Senator SESSIONS. Secretary Creedon, according to figures presented to Congress last year in the so-called Section 1043 Report, the 10-year costs for U.S. nuclear delivery systems were approximately $119 billion, not including funding for a new bomber and a new ICBM. Furthermore, the 10-year cost to sustain and modernize the Nation's nuclear command and control system was estimated at $36 billion. This works out to a total of $255 billion over the next 10 years, not including the new bomber or ICBM. Can you update us on this 10-year figure, to include funding for the bomber and ICBM?

Ms. CREEDON. We are currently in the final stages of preparing an updated Section 1043 Report. When submitted, that report will provide updated 10-year cost data. The report will not include the full costs for the new bomber and ICBM. We are still in the early phases of the capability analysis process and have not selected a future system that could be used to develop a cost model.

20. Senator SESSIONS. Secretary Creedon, is it fair to include in this sum the entire bill for a new strategic bomber, which will also have a significant conventional mission?

Ms. CREEDON. Our budgeting system does not allow for splitting program costs among multiple missions assigned to the same platforms. Because of its global reach, the new heavy bomber is a strategic asset and probably best left under nuclear deterrence funding.

21. Senator SESSIONS. Secretary Creedon, this works out to about 4 percent of the total DOD budget. Why does the administration believe it is necessary to spend this much to maintain a credible nuclear deterrent?

Ms. CREEDON. The President has pledged that as long as nuclear weapons exist, the United States will maintain a safe, secure, and effective arsenal, both to deter potential adversaries and to assure U.S. allies and partners. These expenses reflect

investments in capabilities currently residing in systems that have largely outlasted their originally planned service lives. Finally, our budgeting system does not allow for splitting program costs among platforms performing multiple missions. Therefore, the full costs of systems like the long-range bomber that have a significant conventional mission are counted against U.S. nuclear deterrence. This is a substantial reduction from the much larger percentage, 17 percent of the DOD budget at the height of the Cold War.

22. Senator SESSIONS. Secretary Creedon, what are the threats in the future that warrant such an expense?

Ms. CREEDON. The array of nuclear-armed states and states pursuing nuclear weapons around the world complicates the global security environment. All of the countries that currently possess nuclear weapons have modernized, or are undergoing modernization, of their nuclear arsenals. This has resulted in weapons with longer ranges, improved means of delivery, and improved warhead types. The unpredictable security environment, in combination with these advancing capabilities, warrants such an expense.

U.S. NUCLEAR STRATEGY AND GUIDANCE

23. Senator SESSIONS. Secretary Creedon, when you appeared before this subcommittee in March 2012, you told us that the President should be ready to release the results of his 90-day Post NPR Implementation Study and his new nuclear employment strategy "within the next couple of weeks." It has yet to be released. Can you tell me when, if ever, the administration intends to divulge the results of the Post NPR Implementation Study?

Ms. CREEDON. The study is still underway and we will provide briefings on its results when it is complete.

24. Senator SESSIONS. Secretary Creedon, are there any significant changes to U.S. nuclear weapons employment guidance or nuclear strategy in the offing?

Ms. CREEDON. As stated in the NPR, the United States will continue to ensure that, in the calculations of any potential opponent, the perceived gains of attacking the United States or its allies and partners would be far outweighed by the unacceptable costs of the response. The NPR also stated that the size and pace of any future U.S. nuclear force reductions will be implemented in ways that maintain the reliability and effectiveness of security assurances to our allies and partners. The administration continues to work on the NPR implementation study.

25. Senator SESSIONS. Secretary Creedon, what is the purpose of revising long-held U.S. nuclear weapons guidance?

Ms. CREEDON. The administration is conducting a follow-on analysis called for in the 2010 NPR to update our assessment of deterrence requirements and develop options for potential future reductions in the U.S. nuclear arsenal. We needed to conduct this review because our 21st century deterrence challenges are fundamentally different from those we encountered in the last century. Every President in the nuclear age has reviewed U.S. plans and capabilities to ensure that they address the threats we face and maintain strategic deterrence and stability. Doing so is a necessary and appropriate exercise of the President's authority as Commander in Chief. Under the President's direction, DOD has conducted a nuclear force analysis that, among other things, considered potential changes in targeting requirements and force postures. As was the case following the 1994 and 2001 NPRs, after due consideration of the analysis, the administration will also revise guidance and operational plans to align with the President's nuclear policies.

26. Senator SESSIONS. Secretary Creedon, is the administration contemplating any changes in the alert status of U.S. nuclear forces?

Ms. CREEDON. The 2010 NPR considered the possibility of reducing alert rates for ICBMs and the at-sea rates of ballistic missile submarines. The NPR concluded that such steps could reduce crisis stability by giving an adversary the incentive to attack before re-alerting was complete. With that said, DOD is continuously assessing whether future changes to alert posture are possible and desirable; none are being considered at this time.

27. Senator SESSIONS. Secretary Creedon, is the administration contemplating any changes to the purposes for which nuclear weapons would be used?

Ms. CREEDON. The administration's declaratory policy for nuclear employment is laid out in the 2010 NPR, which states that the United States would only consider the use of nuclear weapons in extreme circumstances to defend the vital interests of the United States or its allies and partners. The NPR also delineates the U.S. formal Negative Security Assurance, which provides that "the United States will not use or threaten to use nuclear weapons against non-nuclear weapons states that are party to the Nonproliferation Treaty (NPT) and in compliance with their nuclear nonproliferation obligations." The NPR makes clear that the United States reserves the right to respond by nuclear means to any threat to its vital interests, or those of an ally or partner, by a state not in good standing with its NPT obligations or by nuclear weapon states, and by states not party to the NPT, regardless of whether the threat is posed by nuclear, biological, chemical, or other means.

NEW START FORCE STRUCTURE AND FURTHER REDUCTIONS

28. Senator SESSIONS. Secretary Creedon, has DOD made any decisions related to the elimination of deployed nuclear forces to accommodate the New START treaty limits of 700 deployed delivery systems and 1,550 nuclear warheads?

Ms. CREEDON. DOD is assessing the appropriate force structure under the New START treaty. A decision on reductions in U.S. forces to meet New START treaty limits is expected to be finalized before fiscal year 2015 begins. This timeline provides the flexibility to tailor our force structure to meet deterrence and assurance requirements while still enabling us to meet the Treaty's compliance date in February 2018.

29. Senator SESSIONS. Secretary Creedon, what will our nuclear force posture of ICBMs, SLBMs, and bombers look like in the next few years?

Ms. CREEDON. The U.S. nuclear force structure remains a triad of forces as described in the 2010 NPR because it is the best approach for maintaining effective U.S. nuclear deterrence. Maintaining the triad, modernizing the nuclear forces that comprise it, and modernizing the nuclear weapons infrastructure are—and will remain—national security priorities.

The President's budget request represents a responsible balance between our nuclear infrastructure modernization needs and the current fiscal environment/budget uncertainties. Given the declining defense budget, some strategic delivery system modernization efforts may proceed more slowly than desired. Within existing budget constraints, the administration, through the efforts of DOD and the NNSA, is modernizing U.S. strategic delivery systems and the nuclear complex and its associated infrastructure, and is sustaining the nuclear stockpile in accordance with its commitments to Congress and under the New START treaty.

30. Senator SESSIONS. Secretary Creedon, there are reports in the press that the administration is starting to talk with Russia about further nuclear reductions. Have you done the analysis to suggest that further reductions are in our national security interests? Please elaborate.

Ms. CREEDON. The administration has been conducting a NPR implementation study to review our nuclear deterrence requirements and operational plans to ensure they address today's threats. The analysis is not yet complete, but our preliminary view based on work to date is that further reductions consistent with the national security environment will be possible. Once the President reviews the results of the study and makes decisions regarding its recommendations, the administration will revise employment guidance and operational plans accordingly. The President's decisions regarding the study recommendations will also provide the foundation on which we can develop specific proposals regarding further nuclear reductions that we can use as the basis for discussions with Russia.

31. Senator SESSIONS. Secretary Creedon, do Chinese nuclear forces factor into this analysis?

Ms. CREEDON. Yes. As referenced in the 2010 NPR, any future reductions must continue to strengthen deterrence of potential regional adversaries, strategic stability vis-á-vis Russia and China, and assurance of our allies and partners. Although Russia's nuclear forces remain the significant factor in determining how much and how fast we are prepared to reduce U.S. forces, our force structure analysis also accounts for China's nuclear force modernization. We will also continue to engage with China in the areas of military transparency and sustaining strategic stability.

32. Senator SESSIONS. Secretary Creedon, does Russia want to pursue further reductions?

Ms. CREEDON. We believe that it is in Russia's interests to pursue further reductions. Because of improved relations with Russia, strict numerical parity in nuclear weapons is no longer as compelling as it was during the Cold War. On the other hand, large disparities in nuclear capabilities could raise concerns on both sides and among U.S. allies and partners, and may not be conducive to maintaining a stable, long-term strategic relationship, particularly at lower numbers. Therefore, we will continue to place importance on Russia joining us as we pursue additional reductions in nuclear stockpiles.

33. Senator SESSIONS. Secretary Creedon, to your knowledge, has Russia established any preconditions on missile defense, tactical nuclear weapons, conventional prompt strike, or any other items?

Ms. CREEDON. Although we are in the early stages of discussions with Russia on the topic of missile defense, we have not initiated discussions on tactical nuclear weapons or conventional prompt strike. I am not aware of any formal preconditions established by the Russian Federation on these topics. The President's Annual Report to Congress on Non-Strategic Nuclear Weapons (submitted pursuant to Condition 12(B) of the New START Treaty's Resolution of Ratification), however, sets forth details on Russia's well-known position on the distribution of U.S. non-strategic nuclear weapons and infrastructure, and may provide additional insight into possible Russian negotiating positions.

34. Senator SESSIONS. Secretary Creedon, do you intend to address the disparity in tactical nuclear weapons that was noted in the New START Resolution of Ratification? If so, will you do it in a verifiable manner?

Ms. CREEDON. Yes, the administration has been clear that future discussions with Russia should include non-strategic nuclear weapons, consistent with the Senate's Resolution of Advice and Consent to Ratification of the New START treaty.

35. Senator SESSIONS. Secretary Creedon, can you tell me how you intend to verify compliance with a treaty that addresses tactical nuclear weapons?

Ms. CREEDON. Although we have not yet begun detailed discussions with Russia on the topic of future nuclear reductions, we have begun to explore verification methodologies that might be used in future efforts to verify Russian non-strategic warhead reductions. The administration, in consultation with NATO allies, is working to initiate bilateral discussions with the Russian Federation on an agreement to address tactical nuclear weapons stockpiles of the United States and the Russian Federation in a verifiable manner.

36. Senator SESSIONS. Secretary Creedon, seven Senators on the Senate Select Committee on Intelligence (SSCI) sent a letter to Secretary of State Kerry "regarding compliance and verification issues associated with U.S.-Russia arms control agreements." Are you aware of this letter and the issues associated with it?

Ms. CREEDON. Yes.

37. Senator SESSIONS. Secretary Creedon, do you agree that we must address any potential Russian violations before proceeding with yet another arms reduction agreement?

Ms. CREEDON. Compliance with legal obligations is central to the effectiveness of arms control treaties, and concerns about non-compliance must be addressed. Although resolution of such issues with Russia is clearly important, I do not believe that discussions of further nuclear arms reductions need await resolution of all compliance issues.

38. Senator SESSIONS. Secretary Creedon, does the administration intend to seek Senate advice and consent for any future agreement with the Russians to reduce nuclear weapons?

Ms. CREEDON. The administration will consult closely with Congress regarding any additional arms control agreements, including whether such an agreement should occur through the treaty power and therefore be subject to Senate advice and consent.

39. Senator SESSIONS. Secretary Creedon, we were told during New START hearings that the resulting nuclear balance would be stable. If this is the case, why pursue another round of reductions which could upset stability if smaller U.S. forces

are vulnerable to a surprise Russian attack; and encourage other nuclear powers to build up to U.S. and Russian force levels?

Ms. CREEDON. Because of improved relations with Russia, strict numerical parity in nuclear weapons is no longer as compelling as it was during the Cold War. On the other hand, large disparities in nuclear capabilities could raise concerns on both sides and among U.S. allies and partners, and may not be conducive to maintaining a stable, long-term strategic relationship, particularly at lower numbers. Therefore, we will continue to place importance on Russia joining us as we pursue additional reductions in nuclear stockpiles. The United States and Russia together still account for a vast majority of the world's nuclear weapons, even after the central limits of the New START treaty are reached in February 2018. For this reason, our focus for the next stage of arms control remains bilateral efforts with Russia where we intend to pursue further reductions and transparency with Russia that would include all nuclear weapons—deployed and non-deployed, strategic and non-strategic—while ensuring that we maintain our commitments to stability with other nuclear powers, deterrence of potential adversaries, and assurance of our allies and partners.

40. Senator SESSIONS. Secretary Creedon, what, really, is the purpose of another round of reductions?

Ms. CREEDON. The array of nuclear-armed or nuclear weapons-pursuing states around the world complicates the global security environment. Despite this, even after the central limits of the New START treaty are reached in February 2018, the United States and Russia will still account for the majority of the world's nuclear weapons—and these are many more than are needed for deterrence. For this reason, our focus for the next stage of arms control remains bilateral efforts with Russia. Through these efforts we intend to pursue further reductions and expand transparency to include all nuclear weapons—deployed and non-deployed, strategic and non-strategic—while ensuring that we maintain our commitments to stability with other nuclear powers, deter potential adversaries, and assure our allies and partners at the lowest feasible numbers.

RESPONSIVE NUCLEAR INFRASTRUCTURE VIA MODULAR CONCEPT

41. Senator SESSIONS. Secretary Creedon, in the budget request for fiscal year 2013, the administration last year decided to defer by at least 5 years the start of construction of the CMRR–NF. This caused great concern because CMRR–NF was deemed necessary, even by the 2010 NPR, for a responsive nuclear infrastructure. Can you tell me whether the requirement for a responsive nuclear infrastructure, as defined in the NPR, is still valid?

Ms. CREEDON. A responsive nuclear infrastructure is still valid and remains our goal. A responsive infrastructure would allow the United States to shift away from retaining large numbers of non-deployed warheads as a technical hedge, allowing for additional reductions in the U.S. stockpile of non-deployed nuclear weapons.

42. Senator SESSIONS. Secretary Creedon, I understand the administration is now looking at a modular approach for the construction of the CMRR–NF that would build smaller buildings, as needed, and connect them by tunnels to Plutonium Facility-4, the pit production facility at Los Alamos. Can you tell me whether you think this approach is promising?

Ms. CREEDON. I think the concept has merit and is worth considering. Because the acquisition timeline for CMRR–NF now overlaps the timeline to recapitalize the Plutonium Facility-4, which is also aging, the NWC is exploring an integrated approach to the suite of support capabilities planned for CMRR–NF and to provide long-term pit manufacturing capability. Over the next several weeks, the NNSA, with support from DOD's CAPE office, will carry out a business case analysis of the modular concept and other alternatives to consider risks and benefits, and to seek initial insights into feasibility of delivery of key capabilities. At the conclusion of the study, NNSA will report its assessment to the NWC and relevant congressional committees.

43. Senator SESSIONS. Secretary Creedon, can we achieve that responsive infrastructure called for in the 2010 NPR via this modular approach?

Ms. CREEDON. Pit production is one factor of the responsive infrastructure documented in the NPR. The NNSA, with support from DOD's CAPE office, is carrying out a business case analysis of the modular concept and other options for a plutonium capability to seek initial insights into the feasibility of the modular concept,

and to address risks and benefits. Our plutonium strategy will enable an interim production capability of 30 pits per year by 2021 and would help to maintain critical skills in the workforce, which is another key piece of a responsive infrastructure. Success in this is underpinned by the approval of the reprogramming request that is needed to begin these actions.

44. Senator SESSIONS. Secretary Creedon, will DOD take a proactive role, using the NWC, to determine the feasibility of the modular approach by this summer?

Ms. CREEDON. Yes. We in the Office of the Under Secretary of Defense for Policy are working proactively through the NWC, in conjunction with the NNSA and our DOD counterparts, including the CAPE office, to ascertain whether the modular approach can deliver interim capabilities earlier than planned for CMRR–NF. We expect to complete this process in the next several months, although I cannot predict with certainty when this analysis will be complete.

[Whereupon, at 3:30 p.m., the subcommittee adjourned.]