



MARCH 4, 2015

U.S. NUCLEAR WEAPONS POLICY, PROGRAMS, AND STRATEGY

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

ONE HUNDRED FOURTEENTH CONGRESS, FIRST SESSION

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Principal Deputy Under Secretary of Defense for Policy

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Deputy Director for Strategic Stability, Strategic Plans and Policy Directorate (J-5),
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Commander U.S. Strategic Command

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Under Secretary for Nuclear Security, Department of Energy and Administrator,
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Senate Armed Services Committee

Testimony

Before the
Strategic Forces Subcommittee
Committee on Armed Services
U.S. Senate

Witness Statement of the Nuclear Weapons Council

HON Frank Kendall, Chairman

ADM Cecil D. Haney, Commander of the United States Strategic Command

HON Lt Gen (Ret) Frank Klotz, Administrator of the National Nuclear Security Administration

HON Brian McKeon, Principal Deputy Under Secretary of Defense for Policy

Mr. Michael Elliott, Deputy Director for Strategic Stability, Joint Chiefs of Staff

March 4, 2015

Chairman Sessions, Ranking Member Donnelly, and distinguished members of the Subcommittee, thank you for the opportunity for the Nuclear Weapons Council (NWC) to testify before you today. The NWC is a joint Department of Defense (DoD) and Department of Energy (DOE)/National Nuclear Security Administration (NNSA) organization established to facilitate cooperation and coordination, reach consensus, and institute priorities between the two departments as they fulfill their dual-agency responsibilities for U.S. nuclear weapons stockpile management. Together, the Council represents extraordinary and highly skilled Soldiers, Sailors, Marines, Airmen, civilians, laboratory personnel, and contractors who are the core of the nuclear enterprise. They are professional, mission-oriented, and innovative problem-solvers charged with ensuring our Nation sustains a safe, secure, reliable, and effective nuclear deterrent. Today, we will discuss the role of the NWC, the status of life extension programs, infrastructure and delivery platform modernization programs, our ability to sustain the stockpile, and all of the other responsibilities of the NWC, along with our challenges.

NWC Organization

As mandated by Title X, U.S. Code 179, the NWC manages and achieves consensus on priorities for the nuclear weapons stockpile. Our membership includes the Under Secretary of Defense for Acquisition, Technology and Logistics (Chairman), the DOE Under Secretary for Nuclear Security/Administrator of the National Nuclear Security Administration, the Under Secretary of Defense for Policy, the Vice Chairman of the Joint Chiefs of Staff, and the Commander of the U.S. Strategic Command. Additionally, to ensure all equities in the enterprise are represented, we receive consistent, valuable participation from the Military Services, the Comptroller, the DoD Office of Cost Assessment and Program Evaluation (CAPE), Department of State, and the National Security Council. Over the last year, the NWC convened 10 meetings, including our annual joint meeting with the United Kingdom Ministry of Defence, which we hold to review our continued cooperation in warhead development, the OHIO class submarines, and the D-5 missile program.

In order to engage at all levels of the enterprise, we utilize our subordinate committees and action groups to identify and analyze issues and to provide recommendations to the Council. The NWC Standing and Safety Committee (NWCSSC), co-chaired by DoD and the NNSA, functions to advise, assist, and provide information and analysis and recommendations on issues and topics for the Council's consideration. Additionally, NNSA details a member of its staff to DoD to serve as the NWCSSC Executive Secretary, ensuring interagency representation in day-

to-day operations. Finally, a dedicated working group of staff, representing the diverse stakeholders in the nuclear enterprise, meets informally about twice a month to review weapon and infrastructure programs. We continually analyze our current working relationships to ensure a streamlined decision-making process and to ensure that our teams are informed and empowered to assess issues and make recommendations to the NWC. NWC issues are not only addressed when the Members meet; our mission is executed every day through the organizational structure just described.

NWC Mission

The NWC convenes approximately monthly to ensure focused attention on our greatest nuclear enterprise challenges in four vital areas. First, we must maintain and strengthen our ability to extend the life of warheads through comprehensive component reuse, refurbishment, replacement and ensuring alignment with the delivery platform (see Table 1 for a breakdown of the current and future nuclear

weapons stockpile). Second, we must safeguard our ability to provide the intensive science and engineering required to assess an aging stockpile and certify the safety and effectiveness without underground testing. Third, we must remain steadfast in our commitment to sustain and modernize our aging infrastructure that provides materials, components, and testing facilities

essential for our nuclear deterrent enterprise. Finally, we must ensure that our nuclear weapons and delivery systems modernization programs are aligned.

Table 1. The Current and Future Triad Composition

	ICBM	SLBM	Air-Leg
<i>Current</i>			
<i>Weapon System</i>	W87 Warhead W78 Warhead	W76 Warhead W88 Warhead	B61 Bomb B83 Bomb W80-1 Warhead
<i>Delivery Platform</i>	Minuteman III	Trident II D5	B-2A B-52H F15/F16 ALCM ¹
<i>Future</i>			
<i>Weapon System</i>	W78/88-1 IW-1 ² IW-2 IW-3	W78/88-1 IW-1 IW-2 IW-3	B61-12 Bomb W80-4 Warhead
<i>Delivery Platform</i>	GBSD ³	D5 Follow-on	B-2A B-52H JSF ⁴ LRSB ⁵ LRSO ⁶

¹ Air-Launched Cruise Missile

² Interoperable Warhead

³ Ground-Based Strategic Deterrent

⁴ Joint Strike Fighter

⁵ Long Range Strike Bomber

⁶ Long Range Standoff

Stockpile Planning and Life Extension

The NWC sees our future nuclear stockpile as one that is flexible and adaptable to technical and geopolitical changes. As envisioned, the future stockpile plan will include three interoperable nuclear explosive packages for ballistic missiles and two air-delivered warheads, referred to as the “3+2 strategy.” The 3+2 strategy addresses stockpile obsolescence and meets policy objectives of sustaining deterrence through a smaller stockpile with fewer weapon types and a modernized, responsive nuclear infrastructure capable of addressing technological and geopolitical surprise. Making nuclear explosive packages interoperable on different delivery platforms will reduce the number of different systems that must be maintained and serviced, while providing sufficient diversity among deployed systems.

The NWC oversees implementation planning for the strategy. Established in 2012 for the Fiscal Year (FY) 2014 budget formulation, the NWC’s 25-year plan for the nuclear weapons stockpile – also known as the Baseline Plan – aligned warhead life extension plans, platforms modernization, and infrastructure needs. The coordinated Baseline Plan integrated NNSA nuclear security enterprise requirements and plans with operational warfighter requirements.

Budget realities have forced changes to the 2012 plan. Since the plan was adopted, we endorsed deferrals to several key warhead life extension programs (LEPs) and infrastructure modernization milestones, delaying implementation of our 3+2 strategy. We deferred the Interoperable Warhead 1 (IW-1) and delayed the Long Range Standoff (LRSO) warhead schedules. For the B83-1 bomb, we adjusted the deployed requirement to meet operational requirements and align with the air-delivered gravity weapon strategy. For the B61-12 bomb LEP, we accepted a schedule delay due to the sequestration cuts in the FY 2014 budget. We have little, if any, margin left in the schedule for the program, and both Departments are aggressively managing costs and schedules. Plutonium pit production schedules and supporting plutonium infrastructure investments experienced significant delays due to shortfalls in the FY 2013 and FY 2015 budgets. Additionally, we accept risk each year in NNSA’s science and engineering programs in order to achieve a balance between life extension work and the science and engineering needed for certification.

Continued uncertainty in our DoD and NNSA budgets, especially the threat of sequestration, exacerbates long-term challenges to our ability to sustain the stockpile. Despite these persistent challenges, we have had many success stories. The following highlights the

work accomplished through the dedicated talent and focus of the people working in the nuclear enterprise.

B61 Bomb (Aircraft-delivered)

We are working to extend the lifespan of the B61 gravity bomb. In April 2010, the Nuclear Posture Review reaffirmed both the extended and strategic deterrent roles of the B61 bomb and directed its life extension. The B61-12 LEP with Air Force-provided Tailkit Assembly is undergoing development engineering and remains on schedule and budget to meet its March 2020 First Production Unit (FPU). The B61-12 LEP consolidates four variants of the B61 bomb – the -3, -4, -7, and -10 – and improves the safety and security of the oldest nuclear weapon system in the U.S. arsenal. The B61-12 LEP will achieve: 1) a 50 percent reduction in the number of nuclear gravity bombs in the stockpile, 2) the removal of a megaton-class weapon—the B83-1, 3) an 80 percent reduction in the amount of special nuclear material in those bombs, and 4) the first step toward implementing the 3+2 strategy.

W88 Warhead (SLBM-delivered)

Over the last year, the nuclear enterprise faced several pivotal decisions for our future stockpile, one pertaining to the W88. The W88 SLBM warhead is in the development engineering phase for Alteration (ALT) 370 to replace the aging arming, fuzing, and firing components and is on schedule to achieve its December 2019 FPU. In August 2014, the NWC agreed to address potential conventional high explosive (CHE) scope for the W88, which was not part of the original ALT 370 program. After extensive review by our national laboratories, NNSA, and the Navy, the NWC made the decision to refresh the W88 CHE and identified the majority of funding offsets needed for this work. The offsets were generated by reducing sustainment activities and hedge quantities for some legacy systems to make the majority of funds available for the CHE refresh. The remaining required funds for CHE refresh in future years will be resourced from within the NNSA. That decision, identified areas where increased risk could be accepted to produce cost-savings within the current program – without additional funding – and without additional delays to future work.

Interoperable Warhead (for ballistic missile-delivered systems)

IW-1, also known as the W78/88-1, will be the first of three ballistic missile warheads under the 3+2 strategy. The IW-1 was delayed as part of the FY 2015 budget request and is now

scheduled for a 2030 FPU. In 2014, the NNSA completed an abbreviated IW-1 feasibility study and briefed the NWC with the conclusion that interoperable nuclear explosive packages could be used in the ICBM and SLBM forces. A full feasibility study is planned for completion in the early 2020s.

W80-4 (Long Range Standoff Cruise Missile Warhead)

Over the last two years, the NWC selected the follow-on warhead for the Air-Launched Cruise Missile replacement, the Long Range Standoff (LRSO) missile. We considered the B61, W80, and W84 warhead families. The interagency effort analyzed the trade space of military requirements, surety features, military characteristics, and cost. We performed rigorous analysis at all levels of the NWC structure to select the W80 Nuclear Explosive Package as the basis for the LRSO warhead, and designated the LEP as the W80-4. In January 2014, the NWC had delayed the LRSO warhead from an FPU of 2024 to FY 2025–2027 but as a result of the ongoing program review, the FY 2016 President’s Budget requests resources for an FY 2025 FPU and an FY2026 LRSO first missile delivery.

NNSA Nuclear Enterprise Infrastructure and Nuclear Material Commodities

The 2010 Nuclear Posture Review stressed the importance of a NNSA infrastructure that can respond to technical challenges or geopolitical surprises and ultimately enable our consideration of stockpile reductions. The NWC focuses specifically on the plutonium, uranium, and tritium capabilities to support the current and future stockpile as documented in the NWC’s Baseline Plan. Our nuclear enterprise infrastructure challenges are two-fold: 1) addressing aged, end-of-life facilities maintenance, recapitalization, and replacement and 2) working to achieve a responsive infrastructure. In addition, NNSA’s general purpose infrastructure (e.g., electrical distribution systems) that enables the plutonium, uranium, and tritium capabilities is also aging, brittle, and a limiting factor.

We reinforce NNSA’s need to fully develop responsive and productive plutonium and uranium capabilities for this Nation. Today, these capabilities and their enabling infrastructure are at great risk and rank among our highest priority infrastructure challenges. We must relocate our uranium production from 1950s-era buildings that are deteriorating rapidly and creating a hazardous work environment for our people. We must also have a plutonium pit production capability to support future stockpile requirements, move toward a responsive infrastructure, and address plutonium aging issues.

In January 2014, The Secretary of Defense revalidated the DoD requirement for NNSA to produce 50–80 plutonium pits per year by 2030. This analysis was predicated on four drivers for pit production: 1) policy objectives for the U.S. nuclear deterrent, 2) stockpile aging, 3) military requirements, and 4) infrastructure costs and capacity. The NWC is working with NNSA to achieve the requirement of 50–80 pits per year in 2030. NNSA developed a strategy to achieve this goal, including ramp-up time, through recapitalization of the existing Plutonium Facility 4 at Los Alamos and the construction of additional smaller, modular nuclear facilities for plutonium work. The concept of constructing smaller, modular nuclear facilities over time alleviates the cost associated with one large nuclear facility to replace all capabilities at one time. Building large, one-of-a-kind nuclear facilities presents significant challenges in terms of planning, design, and development and thus NNSA adopted a modular approach. The NWC engaged the DoD CAPE to assist NNSA on the benefits and feasibility of this strategy through a Business Case Analysis completed in November 2013. The CAPE agreed with NWC’s endorsement that a modular strategy for nuclear facilities provides the most affordable and flexible option. The NWC supports NNSA’s plan to achieve two operational modular plutonium facilities at Los Alamos by 2027. Success will require continued sustained funding over the next decade to design, construct, and ensure initial operational start-up.

Using lessons learned from the pit production approach, NNSA applied the smaller, scalable modular facility strategy to the Uranium Capabilities Replacement Project, the follow-on capability to produce nuclear weapon secondaries at the Y-12 National Security Complex. Congress has asked the DoD to validate its annual requirement for secondaries, and we are in the process of providing this analysis. We anticipate that our report will be consistent with our most recent NWC Baseline Plan and that there will be no changes to our requirements.

Finally, the ability to enrich uranium to produce tritium for stockpile use is a critical infrastructure issue, and the NWC remains focused on sustaining a supply of enriched uranium for tritium production. Under current policy guidelines, without a domestically enriched uranium production capability, we will eventually be unable to produce new tritium for stockpile use. The NWC remains cognizant of the stockpile’s requirement for tritium and is supporting a DOE update of our tritium requirements. We will certify this requirement in a letter to Congress by April of this year. As we update the NWC Baseline Plan, we will include tritium along with plutonium and uranium infrastructure plans in the next revision.

Stockpile Stewardship

Science is paramount to the NWC's ability to sustain a safe, secure, reliable, and effective deterrent. NNSA's Stockpile Stewardship Program, composed of research, development, testing, and evaluation (RDT&E) facilities and personnel, enables the surveillance and assessment of the stockpile condition by revealing anomalies, evaluating impacts of anomalies on warhead performance, and implementing solutions. In general, RDT&E supports broader national security objectives by providing capabilities to avoid technological surprise and to have confidence in system performance. The NWC Baseline Plan relies on continued investments in research, development, design, and production capabilities – something that sequestration would threaten.

The link between science and engineering and the future stockpile is inextricable. This science base capability allows the Laboratory directors to conduct their annual assessment of the stockpile, certify components for longer life in the stockpile, and resolve warhead issues discovered during surveillance. Additionally, RDT&E plays an important role in enabling key elements of the stockpile vision, including interoperability, plutonium pit reuse, understanding plutonium aging effects, and technology certification for life-extended warheads. In FY 2014, NNSA completed a comparative analysis of LEP options for the W78, W88, and interoperability and presented the results. This analysis demonstrated how the RDT&E capabilities of the Stockpile Stewardship Program inform stockpile design decisions and provide critical insight into the feasibility of the 3+2 strategy.

The nation needs a highly skilled nuclear workforce to meet future demands of our long-term stockpile plan. With the end of underground nuclear explosive testing, limited opportunities exist to exercise the full range of weapon design and production skills, including materials handling, code development, and design and production engineering. Exacerbated by an aging workforce, the pressure and risk to sustain critical skills is increasing.

In the era of science-based stewardship – that is, implementing new components without underground testing – we must provide a strong science and research program that includes research, experiment, and advanced computation and modeling. The NWC endorses a balanced approach between the near and longer term risk we must take in to meet the needs of the nuclear deterrent within available budgets.

DoD Nuclear Weapon Platform Modernization and Enterprise Review

As part of the 2010 Nuclear Posture Review, the National Security Council, DoD, and related agencies reviewed our deterrence requirements and the range of scenarios for which we must prepare. This analysis concluded that the Triad offers the flexibility needed for the range of contingencies we might face. We cannot say exactly what mix of capabilities the United States will require in the next 20, 30, or 40 years, but continued modernization of the Triad will provide future policy makers with a flexible and resilient range of capabilities.

Our budget request is consistent with our plans to ensure that current nuclear delivery systems can be sustained and that the modernization/replacement programs are affordable, executable, and on schedule to avoid capability gaps.

Most of the Nation's nuclear weapons delivery systems are reaching their end of life in the 2025–2030 timeframe and have been extended beyond their original service lives. While we can sustain these systems until they can be replaced in the 2025-2030 timeframe, we have little schedule margin between legacy systems' end-of-life and deployment of the replacement systems.

The recent Secretary of Defense-directed Nuclear Enterprise and Strategic Portfolio Reviews and the Program and Budget Review for the FY 2016 budget formulation focused significant attention on recapitalization, sustainment, and modernization of our nuclear deterrence systems and infrastructure.

In the Intercontinental Ballistic Missile (ICBM) leg of the Triad, the Minuteman III will be replaced by a follow-on ICBM – the Ground Based Strategic Deterrent (GBSD). Within the SLBM leg, OHIO-class Ballistic Missile Submarines (SSBNs) will be replaced by new OHIO-Class Replacement SSBNs. The Trident D-5 SLBMs are undergoing a life-extension, which is approximately 90 percent complete. Finally, for the bomber leg, the B-52H and B-2A bombers will remain critical elements of the Triad. The Long Range Strike-Bomber will become part of our long-range penetrating strategic bomber force in the late 2020s. The current air-launched cruise missile (ALCM) will be sustained through 2030 and will be replaced by the LRSO cruise missile.

We remain concerned about the ability to fund these modernization efforts within current resource levels. The replacement programs create a bow-wave in nuclear delivery system costs

and modernization will require increased investment over current levels for much of the next 15 years.

The Defense Department is taking steps to control the costs of these efforts. However, even with success in this regard, we face difficult budget choices entering the 2020s in funding needed Navy shipbuilding programs, the OHIO-Class Replacement, and the Air Force strategic deterrent recapitalization programs.

The NWC is working to ensure corresponding NNSA development programs remain aligned with the Nation's nuclear Triad revitalization. The NWC provides the Services, Joint Staff, Office of the Secretary of Defense, and NNSA a senior-level forum to address warhead and delivery platform system integration areas of concern, and develops budget and program recommendations to the Departments' leadership. The B61-12 LEP is an example of how the NWC coordinates planning and integration with the closely linked B61-12 Tailkit Assembly and Bomb Assembly programs. This integration allowed DoD to better tailor the acquisition plan for the Tailkit Assembly, ensured minimal disruption to ongoing development and testing activities, and supported a more effective stewardship of taxpayer investments.

The DoD Nuclear Enterprise Review highlighted evidence of systemic problems in the strategic deterrent forces that threaten the future safety, security, and effectiveness of our nuclear forces. These interrelated problems require cultural, structural, and sustained long-term solutions. We are addressing these issues and implementing solutions managed through monthly senior leadership meetings of the Nuclear Deterrent Enterprise Review Group chaired by Deputy Secretary of Defense Work. The review teams made clear the need to refocus attention and resources at all levels of the DoD on this essential mission with four targeted areas: 1) the morale and accountability of personnel, 2) a culture of excessive inspections, 3) the age and condition of the current infrastructure and maintenance, and 4) the organization of the Nuclear Enterprise. The reinvigoration of the DoD nuclear enterprise remains the Defense Department's highest priority, and we are committed to treating it as such.

Governance

The NWC's role expanded under the NDAA in 2013 to certify that the NNSA budget request meets NWC requirements. This certification process led to greater transparency between two Cabinet Departments, and it strengthened and unified our interagency relationship. We understand the congressional interest in the overall governance of the nuclear enterprise as

expressed in the Congressional Advisory Panel Report on Governance of the Nuclear Security Enterprise. The NWC Members participated in interviews with the panel and received briefings on the final report's findings, conclusions, and recommendations. The NWC supports strengthening NNSA's planning and costing functions. The NWC is ready to assist NNSA with implementation, and we look forward to providing Congress with comments on this report in the weeks to come as requested in the FY 2015 National Defense Authorization Act.

Conclusion

Budget constraints have forced the NWC to annually adjust its stockpile maintenance and infrastructure plans to fit within resources appropriated. These adjustments cause delays or cancellations, reduce work scope, or extend development or production periods. We have reached a point where we have removed all flexibility from the nuclear weapons life extension programs and have worked with the U.S. Strategic Command to accept lower stockpile requirements where possible. We continuously strive to strike the best balance between the science and engineering required to certify the stockpile, the programs planned to extend the life of the stockpile, and the plans for a responsive infrastructure. Achieving our plans for tomorrow's stockpile will require adequate resources, national commitment, and balanced investments. The NWC remains committed to our responsibility to ensure a safe, secure, reliable, and effective nuclear deterrent, and we urge continued congressional attention to the Nation's essential security needs by sustaining a stable nuclear enterprise budget in general, and by removing the threat of sequestration specifically.

Stenographic Transcript
Before the

Subcommittee on Strategic Forces

COMMITTEE ON
ARMED SERVICES

UNITED STATES SENATE

HEARING TO RECEIVE TESTIMONY ON U.S. NUCLEAR
WEAPONS POLICY, PROGRAMS, AND STRATEGY IN REVIEW
OF THE DEFENSE AUTHORIZATION REQUEST FOR FISCAL
YEAR 2016 AND THE FUTURE YEARS DEFENSE PROGRAM

Wednesday, March 4, 2015

Washington, D.C.

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1 HEARING TO RECEIVE TESTIMONY ON
2 U.S. NUCLEAR WEAPONS POLICY, PROGRAMS, AND STRATEGY
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5

6 Wednesday, March 4, 2015
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8 U.S. Senate
9 Subcommittee on Strategic
10 Forces
11 Committee on Armed Services
12 Washington, D.C.
13

14 The subcommittee met, pursuant to notice, at 3:33 p.m.
15 in Room SR-222, Russell Senate Office Building, Hon. Jeff
16 Sessions, chairman of the subcommittee, presiding.

17 Committee Members Present: Senators Sessions
18 [presiding], Fischer, Nelson, King, and Heinrich.
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1 OPENING STATEMENT OF HON. JEFF SESSIONS, U.S. SENATOR
2 FROM ALABAMA

3 Senator Sessions: The subcommittee welcomes Secretary
4 Kendall and other distinguished officials. The witnesses
5 represent the policy, acquisition, force structure and
6 warfighter components of the U.S. nuclear weapons.
7 Collectively they comprise the Nuclear Weapons Council, a
8 body established by Congress in 1986 to facilitate
9 cooperation and coordination between the Department of
10 Defense and the Department of Energy.

11 Today's hearing, however, will go beyond the specifics
12 of the nuclear stockpile to address broader nuclear policy
13 and strategy issues as the members see fit.

14 And let me just say, gentlemen, I believe the Nuclear
15 Weapons Council is stronger and more effective than it has
16 ever been. I believe there is better transparency. I
17 believe there is better coordination between Energy and DOD.
18 And I think the fact that you have produced one statement
19 that speaks for all of you is proof that you are getting
20 along better than we have had sometimes in the past or a
21 better coordination at least. It is something that I and I
22 think Senator Nelson and others have pushed for in recent
23 years, and it is really pleasing to me to see that we are
24 moving in this direction.

25 So on balance, the President's 2016 budget and out-year

1 spending profile represents a good faith effort, given the
2 budget constraints, to modernize all three legs of the
3 nuclear triad while addressing aging DOD and DOE nuclear
4 weapons and infrastructure problems.

5 Notably, for the first time since fiscal year 2012, the
6 President's budget request for DOE and NNSA nuclear weapons
7 activities, which is \$8.9 billion, meets the funding target
8 established in the 2010 New START treaty ratification
9 process discussion and commitments that were made. So we
10 are pleased about that.

11 Also, notable is Secretary Carter's announcement that
12 there will be about \$8 billion over the next 5 years to fund
13 improvements across the nuclear enterprise to address
14 current readiness, training, and infrastructure shortfalls.
15 As Deputy Secretary Work explained in February, quote, our
16 nuclear deterrent force is aging. It will be modernized in
17 the '20's and '30's. We need to keep the old equipment and
18 systems going, but it is becoming more expensive to do so.
19 Close quote.

20 Over the past few years, Congress moved forward with
21 the President's nuclear modernization program indicating
22 broad bipartisan support for nuclear modernization.

23 You know, to follow up on Bob Work's comments, General
24 Klotz, you said last fall at the end of the Cold War, we
25 entered into a sort of procurement holiday as far as our

1 strategic nuclear forces were concerned, and we were able to
2 do that because they were extraordinary capable systems.
3 But now, after a couple of decades of doing that, the bill
4 is coming due. I see some nods there. I think that is a
5 fair statement of where we are.

6 I have got a chart we will show later that really does
7 show the dramatic decline in the percentage of the defense
8 budget going to nuclear weapons and the fact that we are
9 going to now have to have some increase to maintain what I
10 think is an essential requirement.

11 So, unfortunately, there remains a net \$2.5 billion
12 shortfall in DOE and NNSA weapons activity funding over the
13 past 4 years that has led to some delays. Likewise, there
14 has been a 2-year delay in fielding the new ballistic
15 missile submarine, which will have operational consequences.
16 Mr. Kendall, as you noted last year, quote, the program is
17 fragile, and any funding reductions at this point could pose
18 unacceptable risk to the health of the nuclear enterprise.

19 Critics of the nuclear weapons -- and we have had some
20 that have been pretty aggressive at times, but I think they
21 have not prevailed in the battle of ideas. And so their
22 hopes to derail modernization plans by claiming that nuclear
23 modernization is unaffordable or a distraction from more
24 pressing nuclear capabilities has not prevailed. So we will
25 address this claim today.

1 But I would note that according to CBO estimates -- and
2 I think, colleagues, this is important -- funding to
3 maintain and modernize DOE and DOD nuclear programs will
4 account for roughly 5 to 6 percent of the national defense
5 budget funding 050 during the peak funding years. And this
6 is out there 2024-2025. There are a few years it peaks out
7 there, but it is, I think, about less than 3 percent today.

8 If we examine only modernization cost, the cost of
9 replacing existing delivery systems, missiles, planes, subs,
10 and costs for life extension of the warheads, CBO estimates
11 that during the period 2024 to 2030 modernization costs
12 would average about \$15 billion per year. According to OMB,
13 national defense funding during that time would be over \$806
14 billion in 2024, \$15 billion out of \$806 billion, which
15 means that nuclear modernization will account for less than
16 2 percent of the defense spending during that period of peak
17 funding. So the nuclear warheads themselves are a
18 particularly small part of the budget. Considering the
19 decades of decline in spending on nuclear forces, this level
20 is not only affordable but certainly necessary.

21 So, Senator Nelson, glad to have you with us and any
22 comments you would like to have. Welcome back to that seat.
23 You have held it and chaired this committee over the years,
24 and you have full experience in all of these issues.

25

1 STATEMENT OF HON. BILL NELSON, U.S. SENATOR FROM
2 FLORIDA

3 Senator Nelson: And I am standing in for Senator
4 Donnelly today who is away at a funeral.

5 But you remember those old times. The two of us got
6 along on very controversial issues. And miracles never
7 ceased. I used to persuade you to my position.

8 [Laughter.]

9 Senator Sessions: I always gave in to you whenever you
10 were right, which was normal.

11 Senator Nelson: I want to get on. So what I am going
12 to do is just insert my statement into the record. Thank
13 you.

14 [The prepared statement of Senator Nelson follows:]

15 [SUBCOMMITTEE INSERT]

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1 Senator Sessions: Thank you.

2 Secretary Kendall, do you want to give us the statement
3 that you prepared?

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1 STATEMENT OF HON. FRANK KENDALL III, UNDER SECRETARY
2 OF DEFENSE FOR ACQUISITION, TECHNOLOGY, AND LOGISTICS; HON.
3 BRIAN P. McKEON, PRINCIPAL DEPUTY UNDER SECRETARY OF DEFENSE
4 FOR POLICY; MICHAEL S. ELLIOTT, DEPUTY DIRECTOR FOR
5 STRATEGIC STABILITY, STRATEGIC PLANS AND POLICY DIRECTORATE
6 (J-5), JOINT CHIEFS OF STAFF; ADMIRAL CECIL D. HANEY, USN,
7 COMMANDER, U.S. STRATEGIC COMMAND; AND LIEUTENANT GENERAL
8 FRANK G. KLOTZ, USAF (RET.), UNDER SECRETARY FOR NUCLEAR
9 SECURITY, DEPARTMENT OF ENERGY, AND ADMINISTRATOR, NATIONAL
10 NUCLEAR SECURITY ADMINISTRATION

11 Mr. Kendall: Yes, Mr. Chairman. Thank you for your
12 kind remarks at the beginning.

13 Chairman Sessions and I guess it is Acting Ranking
14 Member Nelson, distinguished members of the subcommittee, on
15 behalf of Admiral Haney, Lieutenant General Klotz, Honorable
16 McKeon, and Mr. Elliott, thank you for the opportunity to
17 appear before you today.

18 We are or we represent the statutory members of the
19 Nuclear Weapons Council. The Nuclear Weapons Council, NWC,
20 is a joint Department of Defense and Department of Energy
21 National Nuclear Security Administration forum established
22 to facilitate priorities between the two Departments as they
23 fulfill their dual agency responsibilities for the United
24 States nuclear weapons stockpile.

25 We look forward to discussing both the role of the NWC,

1 the status of life extension programs, infrastructure,
2 delivery platform modernization programs, sustainability of
3 the stockpile and all other responsibilities charged to the
4 council, as well as the challenge that we face.

5 Sir, I would like my written testimony which provides
6 more detail -- if I could ask it be admitted to record,
7 please.

8 Senator Sessions: We will make it a part of the
9 record, without objection.

10 Mr. Kendall: Thank you, sir.

11 Our nuclear deterrent plays a unique and critical role
12 in ensuring our national security. The Departments of
13 Defense and Energy and the NWC have a fundamental and solemn
14 obligation to responsibly manage this capability, to ensure
15 its effectiveness and safety not only for today but into an
16 uncertain and challenging future.

17 The fundamental role of our nuclear forces is to deter
18 a nuclear attack on the United States and our allies, and no
19 other military capability we possess is more important and
20 deserving of our focus and attention more. For over 3
21 years, I have had the privilege to serve as chairman of the
22 NWC, along with other professionals representing our nuclear
23 enterprise such as those here with me today. During this
24 period, the NWC has responded to policy direction, including
25 the Nuclear Posture Review, the implications of the New

1 START treaty, technical developments in the aging of the
2 stockpile, the Defense Department reviews of the nuclear
3 enterprise conducted last year, and other developments.

4 The strategy for our nuclear stockpile that forms the
5 basis for our plans has remained constant during this
6 period. That strategy known as the 3 Plus 2 strategy
7 envisions three interoperable nuclear explosive packages for
8 ballistic missiles, ground-based and sea-based, and two air-
9 delivered warheads. A nuclear warhead strategy is tied to
10 the Defense Department's delivery system modernization
11 plans, which include the Ohio replacement submarine, a
12 replacement for our Minuteman III ICBM's, a new long-range
13 strike bomber, and the replacement for the air-launched
14 cruise missile. It is also tied to our plan to modernize
15 the Department of Energy's infrastructure for plutonium,
16 uranium, and tritium and the plan to sustain the science and
17 engineering base that ensures our stockpile of nuclear
18 weapons is safe, secure, reliable, and effective.

19 The 3 Plus 2 strategy addresses stockpile sustainment
20 and modernization and meets policy objectives of sustained
21 deterrence through a smaller stockpile with fewer weapons
22 types and a modernized, responsive nuclear infrastructure
23 capable of addressing the technological and geological
24 surprises that we may face.

25 Making nuclear explosive packages interoperable on

1 different delivery systems will reduce the number of
2 different systems that must be maintained and provide
3 sufficient diversity among our deployed systems.

4 Over my 3 years as NWC chairman, budget constraints,
5 particularly the implementation of sequestration in fiscal
6 year 2013, have forced the NWC to annually adjust its
7 stockpile maintenance and infrastructure plans to fit within
8 the resources appropriated. These adjustments cause delays
9 or cancellations, reduce work scope, or extend development
10 or production periods. Today we have reached a point where
11 all flexibility from nuclear weapons life extension programs
12 has been removed.

13 We have worked with the U.S. Strategic Command to
14 adjust stockpile requirements where possible. We
15 continuously strive to strike the best balance between the
16 science and engineering required to certify the stockpile,
17 the program's plan to extend the life of the stockpile, and
18 the plans for a responsive infrastructure. Achieving our
19 plans for tomorrow's stockpile will require adequate
20 resources, national commitment, and balanced investments.
21 The NWC remains committed to our responsibility to ensure a
22 safe, secure, reliable, and effective nuclear strategic
23 deterrent, and we urge continued congressional attention to
24 the Nation's essential security needs by sustaining a stable
25 nuclear enterprise budget in general and in specific

1 removing the threat of sequestration.

2 Mr. Chairman, I thank you for your time, and we wait
3 for your questions.

4 [The prepared statement of the Nuclear Weapons Council
5 follows:]

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1 Senator Sessions: Thank you.

2 I guess I will sum it up and ask all of you -- and
3 Secretary Kendall, you are going to answer, I guess, first.
4 But do you believe that the basic plans that we have laid
5 out that, as I understand, you support in your opening
6 statement, a move to modernize our triad and our delivery
7 systems and to modernize the aging warheads is a substantial
8 need for America? It needs to be funded, and the general
9 outline of funds can get this job done?

10 Mr. Kendall: Yes, Mr. Chairman, absolutely. It is a
11 critical national security need. The funding that we have
12 requested for both Departments through the 5-year plan that
13 we submitted is adequate to execute our plan during that
14 period. After the end of that period, as we start to
15 actually produce the systems I talked about, we are going to
16 have an affordability program that we have to deal with.
17 And you alluded to that earlier.

18 Senator Sessions: And your period is what time?

19 Mr. Kendall: This will surface in next year's budget.
20 In 2021, we are going to start to have a problem finding
21 ways to afford these systems. We will work to do that. It
22 is a very high priority, and we will work to do that. But
23 it is going to be a challenge for us.

24 Senator Sessions: And do any of you have any comment
25 about that? Do you agree with the essential unity of

1 statement of purpose and goal? Any other comments you would
2 like to contribute?

3 Mr. Klotz: Senator, absolutely I agree with the
4 statement. I would add that from the NNSA Department of
5 Energy side, we have taken a very careful look at the
6 requirements in terms of what it means for our scientific,
7 technical, and engineering base at the laboratories and
8 production facilities, the workload that they will have as
9 we move through the series of life extension programs and
10 modernization of our plutonium, uranium, and tritium
11 capabilities. And this is a busy -- it is a challenging but
12 it is an imminently executable plan that we have laid out.

13 With one caveat, just to underscore what Mr. Kendall
14 said, one of the most important things is stable and
15 predictable funding so that we can ensure that we have the
16 right people, the right tools, and the right facilities
17 there to execute this program.

18 Senator Sessions: Well, Secretary Kendall, you said in
19 March I believe of last year, quote, the program is fragile,
20 and any funding reductions at this point could pose
21 unacceptable risk to the health of the nuclear enterprise.
22 And you noted that budget constraints force the Nuclear
23 Weapons Council to annually adjust its stockpile maintenance
24 and infrastructure plans to fit within the money actually
25 appropriated. And, quote, we have reached a point where we

1 have removed all flexibility from the nuclear weapon life
2 extension programs and have worked with the Strategic
3 Command to lower stockpile requirements where possible.

4 So what do you mean by "fragile," and how serious do
5 you consider stable funding to be?

6 Mr. Kendall: It is very important.

7 What we have done is we have slipped the first
8 production of the new submarine about 2 years, which puts it
9 right up against -- and we have to replace the existing
10 submarine fleet. There are aging effects on the current
11 force structure that are predictable and understood, and we
12 have to deal with those. We acquired a lot of the current
13 force structure basically at the same time historically. It
14 is all aging out at the same time. The submarines are aging
15 out.

16 Senator Sessions: Yes, submarines. I know one is
17 celebrating its 30th anniversary in a few weeks, and others
18 are pushing 40 I believe. That is a long time to maintain a
19 sophisticated piece of equipment like that.

20 Mr. Kendall: It is a long time. Both the hulls
21 themselves and the reactors have predictable aging effects
22 that have to be dealt with. The rocket motors and our
23 ICBM's are similar. We have renewed those but we are going
24 to be at a point where we have to modernize those again.
25 And there are a lot of older technologies in those systems

1 that have to be replaced in the ICBM force. The air-
2 launched cruise missile is showing a lot of reliability
3 problems right now. It is becoming harder to maintain, and
4 it is going to have to be replaced as well.

5 What we did in this most recent budget, which you may
6 have noticed came in a little bit higher than last year's
7 request in the out-years in the 5-year plan, was we were
8 able to accelerate the Elkem replacement about 2 years
9 because of those aging effects.

10 We are also seeing some effects in the nuclear
11 stockpile itself. We found some money -- and it is
12 mentioned there, the item about the requirement for
13 maintaining the stockpile. We found some money to address a
14 conventional high-explosive problem in one of our warheads,
15 which we had hoped would last longer than is going to be,
16 but we are seeing signs that it will not and we have to
17 replace that. So that has added a few hundred million
18 dollars of cost, which we were able to cover. But we are
19 essentially out of room to maneuver in our plan.

20 Senator Sessions: Well, I think you are right. We
21 have got a chart. Let me just show it.

22 [The information referred to follows.]

23 [SUBCOMMITTEE INSERT]

24

25

1 Senator Sessions: This chart, I think, is pretty
2 revealing, and it is produced by the Defense Department I
3 believe. But it shows the blue you cannot read there is
4 investments, and the red is operation and support for our
5 nuclear enterprise, which includes the triad, I mean, our
6 launch system, as well as the bombs. So you can see this
7 dramatic reduction here in 2002 to 2010. We end up by 2017
8 to 2018, we got to start making some changes. This yellow
9 is a new submarine, the Ohio class. The new bomber. The
10 orange is ICBM and the new SLBM, submarine-launched
11 ballistic missile. And then it begins to drop again. It
12 drops again in 2034 through 2042.

13 So I see that we have been able to go a long time,
14 General Klotz, without putting much money in the system, and
15 if we can get by and modernize our entire fleet for this
16 small a percentage -- maximal is the 15 percent I believe.
17 If we can get by at that, then we have not bankrupted the
18 country and have still been able to maintain a robust
19 nuclear deterrence that I think all of us share.

20 Senator Nelson?

21 Senator Nelson: Thank you, Mr. Chairman. And I am
22 going to yield most of my time to Senator King.

23 But let me just say this is a plan that you put out for
24 \$35 billion a year for 10 years, which is that blue added
25 above the yellow there. Now, in the decade of the 2020's,

1 you are expecting to product 50 to 80 pits a year. Is that
2 sufficient?

3 Mr. Kendall: We would like to have the capacity to
4 produce 50 to 80. That number is, in part, a hedge against
5 uncertainties of aging effects on the current stockpile. It
6 puts us in a position -- if there is a change in the
7 geopolitical environment or a problem with our stockpile, we
8 can respond to that. We do not know that we will have to
9 actually produce that many pits.

10 General Klotz can probably address that question more
11 fully.

12 Mr. Klotz: It does two things for us, Senator. The
13 capacity to produce pits -- which, by the way, it used to be
14 very substantial during the Cold War period. We had a
15 facility in Colorado, Rocky Flats, 30,000 square feet,
16 produced thousands of pits, up to 2,000 pits a year. We now
17 essentially have 60,000 square feet at Los Alamos in New
18 Mexico to do the same thing, and our pit production is way
19 down.

20 We will have a need, as we move towards the
21 interoperable warhead, which will have an explosive package
22 that could be used on both an Air Force and a Navy ballistic
23 missile in the future that may require us to produce new
24 pits, and I would be happy to discuss that in a little more
25 detail in a closed session.

1 But also as Chairman Kendall said, this is also part of
2 having a responsive infrastructure and a capability to
3 respond to unforeseen political developments or unforeseen
4 technical challenges within the stockpile. It is a
5 capability that we need and that we are in the process of
6 pursuing through a plutonium strategy which has been
7 approved by the Nuclear Weapons Council in a collaborative
8 fashion. In fact, Chairman Kendall and I came up and
9 briefed Members of the Hill, and it has been approved in the
10 appropriations and authorization bills.

11 Senator Nelson: Well, I thought I was going to yield
12 to Senator King, but the time has just about run.

13 Let me just say -- Admiral Haney, the fiscal year 2016
14 budget begins a life extension of the air-launched cruise
15 missile. Is there a military requirement for replacing our
16 current air-launched cruise missile?

17 Admiral Haney: Senator, absolutely. And as mentioned
18 by Chairman Kendall, the fact of the matter is the current
19 air-launched cruise missile has reliability problems. It is
20 well over its life, designed for about 10 years, and we are
21 well over the 30-year point for the current missile system.
22 It is important from a deterrence in warfighting
23 requirement, given that we need to have for our air leg, our
24 flexible deterrent part of the triad, the ability to have
25 standoff capability now and well into the future.

1 Senator Nelson: Thank you.

2 Senator Sessions: Senator Fischer?

3 Senator Fischer: Thank you, Mr. Chairman.

4 Gentlemen, I was pleased to see in the budget request
5 this year that it moved up the development and the
6 production of the replacement cruise missile to 2025. And,
7 Secretary Kendall, previously the council had decided to
8 delay that to 2027. Is there a consensus now among the
9 members that 2025 is the date that you are anticipating and
10 that you probably will stay with?

11 Mr. Kendall: Thank you, Senator. Our preference was
12 always to start that program earlier. Budget realities
13 would not allow us to do it last year. We did, as I
14 mentioned, come in with a slightly higher budget
15 particularly in the out-years after 2016 in our 5-year plan.
16 That allowed us to move it back up 2 years. There was very
17 strong -- and Admiral Haney may want to address this. There
18 was very strong interest in accelerating that program if we
19 could find a way to do it, and we did so.

20 Senator Fischer: Thank you, Mr. Secretary.

21 And, Admiral, if you can clarify there, there is a
22 difference between the nuclear cruise missiles and the
23 nuclear gravity bombs and what they do in their missions.
24 Can you enlarge upon that and why we need them?

25 Admiral Haney: When we look at our air leg, the

1 flexible leg of the deterrence, it is important as we look
2 at today the B-2 capability, and part of that comes with the
3 bomber -- bomb piece. It does not have currently the
4 capability to do an air-launched cruise missile. The B-52
5 platform requires the air-launched cruise missile to provide
6 that standoff capability, unlike the B-2, designed with
7 stealth. Very important. This platform, the B-52, will be
8 around until around 2040. So we have more decades to come
9 in its utilization, and as a result, we need to be able to
10 have a reliable air-launched cruise missile, the long-range
11 strike option we talk about today, in order to address,
12 particularly as we look at how countries are developing more
13 and more anti-access, access denial type of capability, to
14 give us further reach and to make more complex their
15 decision matrix associated with escalating their way out of
16 a conflict.

17 Senator Fischer: And it offers our commander in chief
18 more options as you provide advice when conflicts may arise.
19 Correct?

20 Admiral Haney: That is correct.

21 Senator Fischer: Thank you.

22 Mr. Elliott, if you could comment on this as well.
23 These systems are not redundant. Are they? The two
24 systems. They are specific in their missions?

25 Mr. Elliott: They are, Senator. I would add on the

1 bomb, for example, the B-61 that will replace the existing
2 inventory of those is carried by our dual-capable aircraft
3 also. They do not have a capability to carry the cruise
4 missile. They do not have the capability to carry some of
5 our larger weapons like the B-83. So it is critically
6 important that we get that for both the dual-capable
7 aircraft and for the strategic systems like the B-2, and it
8 will be available for long-range strike bomber later on.

9 At the same time, aging systems like the B-52, which
10 when the first Elcom came off the inventory or into the
11 inventory, was already 20 years old, now past 50 years old,
12 is no longer able to penetrate those defenses. Yet, it has
13 significant capabilities and a replacement air-launched
14 cruise missile, LRSO in this case, will extend its utility
15 to the plan in its primary role of deterring attacks on the
16 United States. So they are equally important and serve a
17 very different purpose in our plans.

18 Senator Fischer: Thank you.

19 And, General Klotz, thank you once again for allowing
20 Senator King and I to come and giving us a very thorough
21 tour of the facilities. We appreciated it and learned so
22 much.

23 But if you could comment on moving the warhead up, and
24 does it stabilize the load for the NNSA?

25 Mr. Klotz: Thank you very much for joining us out

1 there in New Mexico. I am sure Senator Heinrich would say
2 you visited two of the finest of the labs, but we love all
3 our children in NNSA.

4 Senator Fischer: We do, we do.

5 Mr. Klotz: If I could just make one point to what Mr.
6 Elliott just said. On the gravity bombs, the B-61, they, in
7 addition to the strategic bombers, also go into these dual-
8 capable aircraft. Those are fighter aircraft that can
9 conduct both conventional and nuclear missions. And that
10 capability is so essential to our overall policy of extended
11 deterrence, in other words, providing that nuclear umbrella
12 to our allies and partners across the globe. So that is why
13 it is very important.

14 On the issue with moving the date to the left for the
15 long-range standoff, we looked at that very carefully. This
16 actually fits in very well with our workload projections.
17 We will be in the phase of two other life extension programs
18 where if we did not have work to do, we would have a gap in
19 work for our employees at the laboratories, as well as the
20 production plan. So by moving that a couple years to the
21 left, it actually has a positive, beneficial effect by
22 smoothing out the workflow, not having to go through letting
23 some people go and then hiring them back at a later date.

24 Senator Fischer: Thank you very much.

25 Thank you, Mr. Chairman.

1 Senator Sessions: Thank you.

2 Senator King?

3 Senator King: I am not sure who to address this
4 question to, but I note that a lot of our nuclear force
5 calculations are based upon applying the terms of the New
6 START treaty. And my question is, is Russia abiding by the
7 terms of the New START treaty, and do we know that?

8 Mr. McKeon: Senator King, what we are seeing is that
9 Russia is abiding by the New START treaty. The main,
10 central limits of the treaty do not come into effect until
11 February of 2018, but the assessment of the intelligence
12 community at the moment is that we expect that they will
13 fulfill their obligations under the treaty.

14 We also have ongoing inspections and verification
15 mechanisms in place with mutual inspections, and those are
16 proceeding without any violations.

17 Senator King: Thank you.

18 Mr. Kendall, when I hear the word "interoperable," it
19 gives me a sort of uneasy feeling because I next think of
20 the word "Joint Strike Fighter." Execution is as important
21 as vision. "Interoperable" sounds good. Are there
22 practical problems? Please reassure me that we are not
23 going to make something more expensive and difficult by
24 trying to make it interoperable.

25 Mr. Kendall: We have completed a fair amount of study

1 of options for a common word that could be used by either of
2 the ballistic missiles. And while we have delayed that 5
3 years now in our plan -- it does not start until late in the
4 5-year plan -- we do think that is technically feasible, and
5 it will lead to significant cost savings as well. So
6 "interoperable" in this case I think is a very, very
7 different matter, the idea of three largely common variants
8 of aircraft which is what we tried to do in the F-35.

9 Senator King: Command and control, a crucial part of
10 the nuclear deterrent. How do you feel about where we are
11 in command and control particularly in light of the
12 developing cyber threat?

13 Mr. Kendall: It is a concern. I co-chair a body with
14 the Vice Chairman of the Joint Chiefs, Admiral Winnefeld,
15 which by statute now oversees the nuclear command and
16 control enterprise.

17 We have taken some steps over the last 2 or 3 years to
18 put some modernization funds into that part of the
19 structure. Our chief information officer is currently doing
20 a review of that and he is going to be reporting out very
21 shortly to us. From the preliminary indications I have from
22 him, we do have some additional things that we have to pay
23 attention to. A lot of that infrastructure, like other
24 parts of the nuclear enterprise, has been aging, and the
25 cyber threats are getting much more severe over time. So we

1 have to pay close attention to that.

2 Senator King: We had a hearing a week or so ago with
3 some deep thinkers on these issues, and one of the things
4 they talked about was the Soviet -- sorry -- the Russian --
5 that is the second time I have made that mistake.

6 Mr. Kendall: I do that all the time too.

7 Senator King: The Russian stockpile of tactical
8 nuclear weapons. Is this a gap, if you will, in our
9 deterrent? We are talking here about strategic weapons. If
10 we are talking about deterrence, it is important, it seems
11 to me, to have something to deter the tactical usage.

12 Mr. Kendall: That is a cause for concern. The
13 Russians are changing their doctrine and they are pursuing
14 an approach that we took at one time in the 1950's. We had
15 a lot of small-yield, short-range nuclear weapons. The
16 Russians seem to be going down a similar path and their
17 doctrine is changing consistent with that. That would
18 suggest a more willingness to use those to try to control
19 escalation.

20 I would like to ask Secretary McKeon to address that
21 because I know Policy has been looking at that very closely.

22 Mr. McKeon: Senator, I probably cannot get into the
23 numbers in this forum, but it is not a secret that Russia
24 has more tactical nuclear weapons than we do. I think we
25 still are of the view that our conventional and nuclear

1 forces, taken together, provide us adequate capabilities to
2 deal with that disparity in tactical nuclear weapons.

3 Admiral Haney may also have a view on that.

4 Senator King: Ironically it appears that the world was
5 turned upside down in terms of perceptions. We had them
6 because we perceived the Red Army as a massive conventional
7 threat, and I gather they now consider us to have a more
8 severe conventional threat and therefore they are moving
9 toward the tactical weapons that we were relying upon.

10 Mr. McKeon: That is our assessment of why they have so
11 many. It is because of what they perceive to be our
12 overwhelming conventional spear.

13 Senator King: A question about deterrence. The whole
14 theory of deterrence rests upon rational state actors, and
15 we are now in a world of irrational non-state actors. How
16 do we develop a doctrine that is equivalent to deterrence?
17 Deterrence was a very effective doctrine for 50, 60, 70
18 years. But how do we deter somebody who, A, does not
19 represent a country and, B, does not care about dying?

20 Let the record show they pointed at each other.

21 [Laughter.]

22 Mr. Kendall: It is a policy question, and I would like
23 Secretary McKeon to address it. But that is a cause for
24 deep concern, and that is why counter-proliferation is so
25 important to us. We do not want one of these groups, who is

1 exactly as you described them, get their hands on a weapon
2 of mass destruction of any type.

3 Mr. McKeon: I do not have much to add to it. Under
4 Secretary Kendall said there are certain people who cannot
5 be deterred. We keep a close eye on terrorist groups and
6 others who are trying to get either nuclear weapons or
7 nuclear material, and we have a lot of programs in this area
8 that both our Department and the Department of Energy work
9 on, and they are also a critically important part of our
10 budget.

11 Admiral Haney: The only piece I would add, Senator, is
12 that as we look at the art of deterrence and the cost and
13 benefit ratio, it is the whole-of-government kind of
14 approach associated with that. And as a result, as we look
15 at that, although you might argue that rational thought and
16 terrorism, for example -- are they congruent or not? I
17 would just say in terms of a reactor state or not, there are
18 costs and there are benefits, and we have to get at that in
19 terms of the deterrence calculation.

20 Mr. Klotz: Can I pick up on a point that was raised
21 earlier? And that is, a very, very important part of our
22 overall nuclear security strategy also deals with making
23 sure that would-be proliferators and would-be terrorists can
24 never get their hands on the special nuclear materials which
25 they would need to either make a bomb or to fashion a

1 nuclear or radiological device that they could use in a
2 terrorist scenario.

3 So a large part of what we do and a large part of our
4 budget requests, beyond the weapons activity, has to deal
5 with putting in place systems to prevent proliferators or
6 terrorists getting that material, if somehow they do,
7 countering what they can do with that material, and then,
8 God forbid, if anything ever actually happened, being able
9 to respond to the consequences of that. So that is a very,
10 very large part of what NNSA does, drawing upon the
11 scientific, technical, engineering capabilities that are
12 resident in our network of laboratories and production
13 facilities.

14 Senator King: Thank you, Mr. Chairman.

15 Senator Sessions: Thank you.

16 Senator Heinrich?

17 Senator Heinrich: Thank you, Mr. Chair.

18 And I want to thank you for bringing up the technical
19 nuke issue. I think it is something we need to put a lot of
20 thought into.

21 General Klotz and Under Secretary Kendall, I understand
22 that you are already working to address some of the
23 congressional advisory panel's recommendations for NNSA
24 governance reform, and I wanted to ask on the specific issue
25 of NNSA's structure, is that something you plan to address

1 or do you think that this committee should be looking at
2 legislation to improve on the current organization of NNSA
3 within the Department?

4 Mr. Kendall: I am going to let General Klotz deal with
5 that question because it is a DOE organizational question.

6 But I will say that I think our relationship with NNSA
7 has been very good. It has been very collegial. We have
8 worked very closely together to try to address problems
9 together. I think how the Department of Energy organizes
10 itself and how the Congress chooses to have that
11 organization in place -- we will find a way to work together
12 and get the job done in any arrangement. But I think the
13 current arrangements are working fine from our point of
14 view. I think my colleagues from the Defense Department
15 would agree with that.

16 Mr. Klotz: Well, Senator, first of all, we appreciate
17 the work that was done by the panel. They are a panel of
18 distinguished Americans, many former Members of Congress
19 represented on that, and they gave a lot of thought and
20 spent a lot of time coming up with a very comprehensive list
21 of recommendations.

22 Many of the recommendations that they make,
23 particularly in the area of management, cost estimation,
24 analysis of alternatives, project oversight, are things,
25 quite frankly, which the Department under Secretary Moniz's

1 leadership -- he has been in the saddle between a year and a
2 half-2 years. And now with confirmed leadership in key
3 positions at NNSA, we are already moving out very smartly on
4 in terms of enhancing the rigor and the discipline and the
5 process which we use for life extension programs,
6 construction projects. And many of the things that the
7 Secretary is doing and the Department is doing we can do
8 within existing authorities which the Secretary or the
9 Administrator of NNSA already have, and we are moving out on
10 that.

11 In legislation that came out at the end of last year, I
12 am required to submit a report by March 17th, and we will
13 lay out in some detail our views and our responses to each
14 of the 19 overall recommendations and 63 sub-
15 recommendations. I do not think, however, we will comment
16 on how the Congress should organize itself as the panel
17 suggested we do.

18 Senator Heinrich: Everyone else does. You might as
19 well.

20 [Laughter.]

21 Senator Heinrich: General Klotz, I want to continue
22 with another issue. I am a strong supporter of a modest
23 set-aside of funding for laboratory-directed research and
24 development, or LDRD. LDRD investment in high-risk, high-
25 payoff activities supports the national security mission

1 while allowing the lab scientists to pursue innovative
2 solutions to some of our Nation's most challenging energy as
3 well as national security problems. One of the things that
4 this really helps with is attracting the best and the
5 brightest talent. And I actually believe that a set-aside
6 for LDRD of 8 or even 10 percent can be justified.

7 I wanted to ask you more broadly. Do you agree that
8 Congress should maintain a robust LDRD program?

9 Mr. Klotz: Absolutely, Senator. I could not have said
10 it any better than you did. It has payoffs both in terms of
11 the basic research that is necessary to maintain the
12 stockpile but, more importantly, to recruit and retain the
13 best and the brightest out of STEM programs at our leading
14 colleges and universities by giving them the opportunity to
15 work on leading-edge scientific and engineering work to
16 establish their bona fides with their colleagues around the
17 country. And once we allow them to do that, we find they
18 get very intrigued by the other things that are going on in
19 the laboratory, and we can hold --

20 Senator Heinrich: We suck them in and they are there
21 for 30-plus years, which is really the goal. Some of our
22 most amazing scientists have been intrigued by these issues.
23 And it is one of those things that for not only retention,
24 but just attracting them in the first place has been
25 incredibly powerful.

1 One of the things that I would encourage my colleagues
2 to do, as they get a chance to visit some of the labs, is to
3 ask for a specific brief on some of the things coming out of
4 LDRD because I have always been amazed. Not only is it
5 really important for this sort recruitment and retention
6 piece, but some of the most innovative things that spin off
7 and end up helping our warfighters, really saving lives,
8 doing things in the cyber field that we did not think was
9 possible just a short time ago come out of these projects.
10 And it is fascinating to see that window. And so I would
11 encourage you all to do that.

12 I want to move on to Los Alamos really quickly. Your
13 submitted testimony says that we reinforced NNSA's need to
14 fully develop responsive and productive plutonium and
15 uranium capabilities for this Nation. Today these
16 capabilities and their enabling infrastructure are at great
17 risk and rank among our highest priority infrastructure
18 challenges. General Klotz, can you explain to the
19 subcommittee how important it is to ensure that the
20 replacement for the plutonium facility is built and that we
21 get that rolling in order to address some of the issues that
22 my colleagues brought up regarding pit production and
23 unforeseen future events?

24 Mr. Klotz: Thank you, Senator. As I said earlier, we
25 have gone down dramatically in terms of our ability as a

1 Nation to produce pits either for future systems like the
2 interoperable warhead or in response to a technical
3 challenge that we have to deal with. Much of that work is
4 going to be done at Los Alamos. There is also work done at
5 our other labs and our other production facilities, but the
6 heart and soul of that is at Los Alamos.

7 We have a plutonium strategy which this whole Nuclear
8 Weapons Council has agreed to that will result in
9 repurposing and reusing some of the space that is in the
10 PF-4 and at the rad lab, and also later this year, we will
11 establish a mission need statement regarding building
12 additional modules which will allow us to move some of the
13 work that requires the highest degree of security and safety
14 and free up more space within PF-4 to actually do pit
15 production.

16 Senator Heinrich: So it is important again that we
17 keep this on track. And we have had great support from this
18 committee and other committees on the Hill in terms of
19 moving forward. I look forward to working with you on that.

20 Thank you, Mr. Chairman.

21 Senator Sessions: Senator Nelson?

22 Senator Nelson: First of all, I want you all to know
23 how much we appreciate what you do. It is not in the press,
24 and it is absolutely super important to the national
25 security of this country. And you all do it in a

1 collaborative fashion, and the results speak for themselves.
2 So thank you. Thank you.

3 Mr. Kendall, since you chair the council, it is my
4 understanding that as an acquisition body that works with
5 the NNSA to set requirements and develop planned warhead
6 activities as you collaborate, do you think it needs to be
7 expanded to include other groups such as the services or set
8 requirements for DOD delivery platforms?

9 Mr. Kendall: The short answer is, no, I do not. The
10 council operates by consensus, and if you expand the group,
11 it is harder to achieve consensus. I think we have the
12 right people here before you, Admiral Winnefeld represented
13 by Mr. Elliott, to represent the policy and the acquisition
14 aspects from the Pentagon, as well as the operational
15 aspects and the services through the Joint Staff and, of
16 course, the Department of Energy through NNSA's Director.

17 I just want to make the comment that we do include in
18 Nuclear Weapons Council meetings all the relevant
19 stakeholders whenever we meet. So we have people there from
20 our comptroller, financial side of the house, from our cost
21 analysis and program evaluation, CAPE, organization, from
22 each of the military departments, and frequently from the
23 national security staff or perhaps OMB as well if they are
24 engaged on the issue. So we are very inclusive. We include
25 people. We hear their points of view. We take them into

1 account, and I think the membership is suitable as it is
2 today.

3 I would invite my colleagues to comment on that if they
4 would like to as well.

5 Mr. McKeon: I agree with what Under Secretary Kendall
6 said. Everyone is in the room who needs to be in the room.
7 In my short time in the Department -- I just got there in
8 August -- my impression is it all works pretty well at our
9 level. There may be some skirmishes amongst our staff, but
10 by the time it gets to us, we come together on
11 recommendations. I do not get the sense that any of the
12 services feel like they do not have an adequate voice in
13 that forum.

14 Senator Nelson: Well, let me ask you something. You
15 all have identified in your report, titled "The Report on
16 Balance in Nuclear Weapons Programs," that you need to
17 certify and maintain the current stockpile, that you need to
18 perform the life extensions and you need to prepare to
19 respond to future uncertainties. Can you explain each of
20 those functions?

21 Mr. Kendall: Sure. Our stockpile -- because we cannot
22 do any underground testing anymore, we have to keep track of
23 the safety and security and reliability of the stockpile.
24 So surveilling the stockpile, testing it, looking for any
25 aging effects that might have been predicted is one activity

1 that we have to do.

2 There are aging effects that take place that we
3 understand, and those require us -- and also, because there
4 is some obsolescence of technology, we have to upgrades to
5 the weapons over time. The B61, for example, is responding
6 in part to some very obvious aging effects, which we
7 understand and are aware of, and we are in a bit of a race
8 against time to get that program and other programs like it
9 done. So those two aspects deal with that.

10 We also have to consider any needs in the future in
11 terms of production and have the infrastructure in place
12 that will support those needs. Part of this, of course, is
13 the life extensions programs. We need production for that.
14 But if we were called upon to do more in the case of a
15 geopolitical change or something we did not foresee, the
16 infrastructure needs to be there to produce weapons as well
17 as to meet the needs that we do foresee.

18 So those are the basic three pieces.

19 Frank, do you want to add to that?

20 Mr. Klotz: If I could add just a bit, Senator.
21 Sometimes some people will make a distinction between
22 production on the one hand and science, engineering, and
23 research on the other. In my view, it is not an either/or
24 situation. In order to do surveillance of the current
25 stockpile and also understand those aging effects, we have

1 to do some pretty leading-edge science and engineering,
2 particularly as these systems age. As the components, the
3 uranium, the plutonium, the tritium age, we need to
4 understand that. The way we understand it is by doing
5 diagnostic experiments and then putting the data from those
6 experiments and past test data into high performance
7 computing platforms which allow us to understand the effects
8 of aging. They also allow us to understand the effects of
9 changing components perhaps using new materials because the
10 old materials are no longer manufactured or available.

11 Mr. Kendall: If I could make a comment. I would
12 encourage all of you to find an opportunity to come see
13 nuclear weapons, come see what is in those designs. They
14 are not simple devices. They are extremely complicated
15 devices. And if you look at some of the technology that is
16 in some of our older weapons and you compare that to some of
17 the newer life extension program designs, there is a
18 remarkable difference. I think it will be very obvious to
19 you why we need to do this work.

20 The other thing I want to say is that we have devices
21 which are critical to national security which are terribly
22 destructive that we cannot test, and we have maintained
23 them. If you look at the chart that you have up there, this
24 is largely the platform side, but there is a similar set of
25 charts for the weapons side. We built a lot of weapons. We

1 tried to keep them for about 40 years. We want to be sure
2 that those weapons are safe, they will not go off
3 accidentally. We want to be that if they ever are asked to
4 go off, that they will go off reliably. These are very
5 stringent requirements. This is a very stressing,
6 difficult, technical task. It demands the best from our
7 scientists and engineers. And you should see for yourselves
8 what we are doing with these systems. This is a very
9 difficult task. And what we are doing in the science and
10 engineering program, other aspects of it are all necessary
11 to ensure the safety, security, and reliability of that
12 force structure.

13 Senator Nelson: Admiral Haney, in your opinion do we
14 need new nuclear weapons, or can we do the job with the
15 existing stockpile?

16 Admiral Haney: We can do the job with the existing
17 stockpile, Senator, as long as we work this 3 Plus 2
18 strategy, we work the life extension programs, as we have
19 been talking about here. Those are critical for us to be
20 able to sustain ourselves through the future. So I cannot
21 say enough about staying on track with the 3 Plus 2
22 strategy.

23 Senator Sessions: Well, thank you, Senator Nelson.

24 Sort of to follow up on that and Senator Heinrich's
25 questions, the 2015 STRATCOM report on balance in the

1 nuclear weapons program suggests that due to the current
2 funding emphasis on certifying the nuclear stockpile and
3 performing life extension programs on aging weapons, there
4 may be insufficient funding in science activity to respond
5 to future uncertainties. In other words, there is concern
6 about losing, quote, a full design and production
7 capability, close quote, which is, quote, a critical
8 component of the U.S. nuclear deterrent.

9 Maybe Admiral Haney and General Klotz, you can comment
10 on that.

11 And it also relates to the idea that we do not want to
12 have legislation and funding so restricted that the good
13 scientists who come up with good ideas are not even able to
14 research and test them. Of course, Congress is not going to
15 allow something new to be done that they have not ultimately
16 approved. But do you feel like that is a problem? And
17 would there be benefits derived from directing our
18 scientists and engineers to gain practice and experience by
19 designing at least, if not building, a new prototype weapon
20 as we determine -- as we go forward in the future?

21 Mr. Klotz: Thank you, Senator, for the question.

22 I am not a nuclear physicist. I am in awe of nuclear
23 physicists. But when I visit the laboratories and when I
24 visit the production plants, it seems to me that the work
25 that our people are doing requires and imbues in them a very

1 thorough understanding of the engineering and the operation
2 of these very sophisticated, complicated devices. And they
3 are fully engaged and fully employed in that. And without
4 going into the details of all that that means because of the
5 level of sensitivity, I sense our people understand that.

6 We are, of course, concerned about the fact that a lot
7 of our workforce is aging. Many of them came of age the
8 same time I did, and they are about ready to pass the torch
9 on to the next generation. So we have to provide them
10 challenging work to do, but I think they have a full slate
11 of challenging work to do.

12 The other important thing, as far as legislation is
13 concerned on this or any other area -- we have a broad
14 consensus in the Nuclear Weapons Council that this is the
15 right path that we are on. I think there is a broad
16 consensus based upon authorization and appropriations on the
17 Congress that we are on the right path. It seems to me that
18 holding that consensus about the body of work that we have
19 to do both on delivery systems and warheads that we have
20 outlined in the 3 Plus 2 strategy is important to preserve.

21 Mr. Kendall: Mr. Chairman, if I may. I am not a
22 nuclear physicist either, but I am an engineer. And I think
23 the scientific and engineering challenge that we have placed
24 upon our people does certainly give them the experience to
25 be confident of their products.

1 I do not think we need to do new designs. We have very
2 state-of-the-art modeling and simulation capabilities. We
3 are doing laboratory testing and other testing, to the
4 extent we can, to verify the performance of our systems and
5 the components that we are upgrading or redesigning within
6 the existing weapons design framework basically I think is
7 adequate to keep the expertise at a reasonable level. I do
8 not think we need to do new designs.

9 Senator Sessions: Admiral Haney?

10 Admiral Haney: Chairman, I would also add the fact
11 that when you look at the intricacies associated with these
12 life extension programs that are underway or planned, those
13 in themselves are challenging to the workforce and to such
14 an extent that I think it also helps keep them proficient in
15 terms of if there was ever a need for a new design, that we
16 would have the workforce we need to do that, from the visits
17 I have had. This business of reuse, refurbishment, and then
18 the electronics associated with it is not trivial stuff, as
19 Frank Kendall mentioned, and I just want to sound off that
20 that in itself keeps them very gainfully not just employed
21 but requiring significant thinking and cranial power.

22 Senator Sessions: Well, let us just say it this way.
23 There is a consensus in the Congress, and when you say a
24 consensus among yourselves, I think you mean you consider a
25 little bit of the political world you live in when you make

1 those statements that you have made.

2 The lab directors, as I understand, are concerned about
3 having full design and production capability. They think
4 that is a critical component to a nuclear deterrent because
5 there could be future uncertainties and other developments
6 by other countries.

7 So I am not rocking the boat. We are not going to rock
8 the boat and say what some have said like if we are going to
9 refurbish this thing, why do we not just build a new one.
10 It will be safer, smaller, more capable, and more flexible,
11 and probably cost less money.

12 So we are just going to update the ones we have got.
13 That is the consensus that we have got.

14 But I think you do not want to hold your people back
15 from if not doing design, doing work on possible new systems
16 in the future. Would you agree with that? Maybe we could
17 at least do that, Secretary Kendall?

18 Mr. Kendall: I think we are constrained in what we can
19 do, but I do think, as we said, that the work that we give
20 our people is adequately challenging to maintain their
21 expertise.

22 Mr. McKeon: If I can add one thing, Senator.

23 Senator Sessions: Yes.

24 Mr. McKeon: I was in a meeting in the first term with
25 the Vice President, my old boss, and Secretary Chu and the

1 three lab directors. And General Klotz repeated this point
2 the other day. They all said to a person that they have
3 learned more in the last 20 years about nuclear weapons
4 during the stockpile stewardship program than they did
5 through several decades of testing. So you should ask them
6 today if they still hold that view. General Klotz said that
7 in our prep session the other day. So I think the work they
8 have is definitely challenging.

9 Senator Sessions: Well, good. I think we can move
10 forward the way we are. We will move forward in a
11 bipartisan way. Let us do it that way.

12 General Klotz, look, I believe we need to complete the
13 goals we have got and to refurbish these weapons on the
14 timeframe we are. But it is an expensive proposition. We
15 talk about how little we spend, but still, it is billions of
16 dollars. We are talking about several years there at \$15
17 billion a year. I guess what I would say to you and all of
18 you is that if we have to have more buildings, more
19 infrastructure, let us know, but do not ask for more than we
20 need. We are not able to just rebuild whole new nuclear
21 laboratories and research things. The initial idea was that
22 there were going to be \$8 billion and \$10 billion and \$12
23 billion buildings took us all a bit by surprise. So I think
24 you are creatively working forward with modular approaches
25 that get you the new space you need. So, again, if you have

1 to have more, please let us know, but if you can keep that
2 cost down, that is going to free up some money that we can
3 do things we need to do with.

4 Mr. Klotz: Senator, I recall that when we met prior to
5 my confirmation, that was one of the things that you
6 stressed, and it has been uppermost in my mind ever since.
7 And I think you are right in terms of the modular approaches
8 we take, but also in terms of repurposing some of the
9 existing facilities we have and also looking for processes
10 that will allow us to do things more effectively and with a
11 greater margin of safety is also a thing that we are
12 exploring. But we are focused on bringing discipline, rigor
13 that is very much already a part of the DOD into the way in
14 which we approach our project management, as well as program
15 management.

16 Senator Sessions: Thank you.

17 Senator King?

18 Senator King: Just a couple of follow-up questions.

19 One is I think your chart, Mr. Chairman, is very
20 informative. It would be even interesting to compare it
21 with the decline of the defense budget as a percent of GDP
22 because what you have got is a declining share of a
23 declining share. The defense budget in 1962 was something
24 like 5-6 percent of GDP. It is now at 3.3. So it makes
25 this even more dramatic in terms of its cost to the

1 taxpayers.

2 Senator Sessions: Can I say one thing about that
3 chart? The new bomber, as I understand it, is considered
4 about three-fourths non-nuclear costs. So we have got the
5 full cost of the new bomber in there, which is really a
6 little higher. It makes it look a little higher than
7 otherwise would be.

8 Senator King: I do not think we have talked about this
9 directly. All these plans and well laid scenarios and what
10 you are going to do with refurbishing -- what does sequester
11 do to all that?

12 Mr. Kendall: That is a great question, Senator.

13 Well, first of all, this is an extremely high priority
14 for us. We would, I think, have to reexamine everything
15 that both Departments do under sequester. That said, we are
16 looking at the percentage of our budget that is involved
17 here. We would do our best to protect this area because of
18 the strategic deterrence mission area is so vital. I think
19 we would have to make some adjustments, but I think we --

20 Senator King: Do you have a choice to do so, or would
21 sequester require cuts in this area as in all others? Would
22 you have that kind of flexibility and discretion under the
23 way the law is --

24 Mr. Kendall: My understanding -- and I may be
25 incorrect about this -- is that after fiscal year 2013,

1 there is more discretion in how sequester is implemented,
2 and we would have some discretion. I would hope that would
3 be the case because doing what we did in fiscal year 2013
4 and taking the same cuts from everything essentially was a
5 very dysfunctional way to take cuts.

6 Senator King: But if you did protect this area, it
7 would simply mean that we would have to take it out of
8 readiness or end strength or modernization of the other part
9 of the Defense Department.

10 Mr. Kendall: That is right.

11 Senator King: So is it fair to say that sequester
12 would be damaging to this program?

13 Mr. Kendall: Yes, it is.

14 Senator King: Thank you.

15 Thank you, Mr. Chairman.

16 Senator Sessions: Senator Fischer?

17 Senator Fischer: Thank you, Mr. Chairman.

18 General Klotz, you were discussing the issues that you
19 faced with your workforce, whether they are aging and
20 looking at retirement, to make sure that they are challenged
21 with their work, to keep a workload even so you do not have
22 to have layoffs and lose those people to other industries.
23 I would ask Admiral Haney, do you have issues like that with
24 your workforce at STRATCOM? Do you share some of those same
25 concerns about keeping a workforce that has the abilities

1 and the needed knowledge actively employed?

2 Admiral Haney: Senator Fischer, absolutely I remain
3 concerned. I would say we had the furlough. That was a
4 signal to all of our workforce. Quite frankly, we lost some
5 people as a result of that.

6 You combine that as well as how some of the pundits
7 like to talk about this capability we have here in this
8 discussion, the strategic nuclear capability, and as a
9 result, in some of those discussions, it further devalues
10 what this workforce is about that is so important to our
11 country.

12 So this is an area that we spend time, just as I think
13 General Klotz and his team does, in terms of working intern
14 programs and what have you to connect this to universities
15 to bring in new talent while at the same time working hard
16 to retain the talent we have. Headquarters of your
17 Strategic Command is about 60 percent civilian, very
18 important when you look at the intricacies of the strategic
19 deterrent that we keep the right and relevant workforce.

20 Senator Fischer: And we had a discussion earlier on
21 the effectiveness of our nuclear deterrent and looking at
22 the Russians and their tactical weapons. It kind of looked
23 like maybe you wanted to join in that discussion. Did you
24 have anything you wanted to say with regards to the
25 effectiveness of our deterrent and also with the Russian

1 tactical weapons and how those affect our outlook to the
2 future as well?

3 Admiral Haney: I thought our discussion was rich, and
4 I agree with everything that was stated relative to our
5 whole capability, strategic capability, as well as
6 conventional capability that a joint military force operates
7 day in and day out.

8 The only piece that I would add is when people talk
9 about the use of a tactical nuke, I would just say if one of
10 those were to go off and our deterrence failed, that
11 tactical nuclear weapon or non-strategic nuclear weapon, as
12 we sometimes call it, would have a strategic effect, and
13 that we can ill afford to have.

14 Senator Fischer: Thank you very much.

15 Senator Sessions: Senator Heinrich?

16 Senator Heinrich: Let me follow up on that question
17 just a little bit because with regard to the Russian
18 tactical nuclear weapons, or non-strategic weapons, how do
19 the rules of deterrence differ for tactical versus strategic
20 nuclear weapons in your view? Are more tactical nukes, in
21 other words, a better deterrent than maybe the conventional
22 forces? How do those general rules -- because I think
23 everybody intuitively kind of understands how our doctrine
24 and deterrence works with strategic nuclear weapons, but it
25 seems to me that tactical nuclear weapons do not exactly

1 operate by the same set of rules.

2 Admiral Haney: Well, I would say it is not the weapons
3 that operate by the rules. It is the actors, nation states,
4 et cetera that have those weapons at their disposal that are
5 more of a concern. I think it would be inappropriate for me
6 to compare a brigade or a conventional capability and say X
7 number of this equals one of that. I do not think that is
8 what we are talking about. I think the real key, when you
9 look at our strategic nuclear capability, it is to make
10 deterrence work so that we do not have any type of nuclear
11 weapon utilization, and a whole-of-government approach to
12 that has to be part of that equation.

13 Senator Heinrich: And a related question sort of
14 harkening back to Senator King's mention of non-state
15 actors. Do you have any comments about how some of the more
16 recent nuclear breakout states, the Pakistans, Indias, fit
17 into our overall doctrine of deterrence?

18 Admiral Haney: I would just say that -- interesting
19 you would ask that question. I had a deterrence symposium
20 last year, and I had a Pakistani individual associated with
21 their program and he had breakfast with me. And I asked him
22 about his program, and he wanted to make sure he was clear
23 to me it was not a program against us. However, I would
24 just say it is very problematic, as we watch Pakistan
25 modernize its capability. And as we have stated before

1 here, part of this is being able to prevent more development
2 of nuclear weapons in the world and to contain that piece.
3 So looking at the modernization programs that Pakistan has
4 right now can be troubling as we look into the future and
5 how the world could change.

6 Senator Heinrich: Thank you.

7 Sort of moving back to slightly more mundane issues,
8 there has always been a little bit of a -- and I will direct
9 this back to, General Klotz -- a perpetual question about
10 balancing workload between Lawrence Livermore and Los
11 Alamos. And there have been a number of occasions where
12 something was developed in Los Alamos and then shifted over
13 to Livermore for work balance. I am curious. I would like
14 your thoughts on what the future holds for these two labs,
15 as you see it, in terms of work balance.

16 Mr. Klotz: Thank you, Senator.

17 First of all, I think we need both labs.

18 Senator Heinrich: For the record, I would agree.

19 Mr. Klotz: Thank you, sir.

20 One of the key things that has been a part of our whole
21 enterprise for the past several decades is the fact that the
22 labs conduct peer review with each other. And without
23 getting into any of the details, there have been instances
24 in the past where, quite frankly, one lab was able to see
25 things in a very different way and come up with a slightly

1 different solution. On the issue of the W88, which we
2 talked about, and the need for CHE refresh, one lab did the
3 primary work, and another lab checked their homework. And
4 that as very useful to us I think in our deliberations in
5 the Nuclear Weapons Council that we had that verification.

6 There is work the two labs do together that is very
7 similar, and that is where we do a lot of the balancing of
8 the work. But there are also some unique capabilities at
9 each of the laboratories. Clearly, as I said earlier, Los
10 Alamos is the center of excellence for plutonium science,
11 chemistry, and operations. It also has facilities like
12 DARHT, which are one of a kind. Lawrence Livermore in
13 California has the National Ignition Facility, which is
14 very, very important to us. And then, of course, Sandia in
15 Albuquerque is the systems engineer for the entire
16 enterprise. So I think we have got sort of the right mix
17 there, and I think the balance is appropriate.

18 Senator Heinrich: Thank you very much.

19 Senator Sessions: Thank you.

20 Just to pursue one a little more. In South Korea, the
21 President said nuclear ambitions in the United States and
22 Russia -- no. That is a different report.

23 Here it is. He said as President I changed our nuclear
24 posture to reduce the number and role of nuclear weapons in
25 our national security strategy. I made it clear that the

1 United States will not develop new nuclear warheads. So
2 that is why we have just agreed to agree. And we will not
3 pursue new military missions for nuclear weapons. We have
4 narrowed the range of contingencies under which we would
5 ever use or threaten to use nuclear weapons. He said that
6 at Hankuk University in South Korea, and it caused a lot of
7 unease among our Korean allies, among others.

8 Under Secretary of State Rose Gottemoeller in Prague in
9 December of last year said we have seen new and enduring
10 pressures on the nonproliferation regime, pressures that
11 threaten global stability. We are seeing nations turn away
12 from cooperation, turn away from the common good of
13 nonproliferation efforts, and cling ever more tightly to
14 their nuclear arsenals. I think that is true.

15 This is the U.S. National Intelligence Council, Global
16 Trends 2030 that was produced in December of 2012. Quote,
17 nuclear ambitions in the U.S. and Russia over the past 20
18 years have evolved in opposite directions. Reducing the
19 role of nuclear weapons in U.S. security is a U.S.
20 objective, while Russia is pursuing new concepts and
21 capabilities for expanding the role of nuclear weapons in
22 its national security.

23 It goes on to say, other nuclear powers, such as
24 Pakistan and potential aspirants, Iran and North Korea,
25 desire nuclear weapons as compensation for other security

1 weaknesses. Close quote. So I think that is accurate.

2 I asked former Secretary Kissinger at a hearing a few
3 weeks ago about the negotiations with Iran, and he actually
4 was alarmed. He thought our negotiation position had moved
5 too far, that we are accepting too close an ability of Iran
6 to have a nuclear weapon, noting that if we were down to 9
7 months, he explicitly said Turkey, Saudi Arabia, and Egypt
8 he believed would develop or buy a nuclear weapon.

9 And so I do not know how we achieve nuclear stability
10 around the world. We have had it pretty good for a long
11 time. But if we have three or four nations or five nations
12 in the Middle East all with nuclear weapons, this is taking
13 us in the wrong direction. It really is dangerous, and
14 there would be a major expansion of the number of countries
15 that would have nuclear weapons.

16 So forgive me if I am a bit concerned that de-
17 emphasizing our nuclear posture could have the perverse
18 effect of lessening confidence or increasing the desire of
19 other nations to expand theirs -- well, I do not know that I
20 will say any more about that.

21 If any of you would like to comment on it, I would be
22 -- Secretary McKeon, you are the policy man. Maybe you
23 would like to comment on it. But things are not going as
24 well as we would like with regard to the risk of nuclear
25 proliferation.

1 Mr. McKeon: Senator, you have laid out a pretty
2 complicated set of statements there. Let me try to address
3 some of them.

4 On the first one, in terms of the Koreans -- Mr.
5 Elliott may be able to add some flavor to this -- we spend a
6 lot of time worrying about extended deterrence and our
7 commitments both in Europe and in Asia. In fact, Mr.
8 Elliott just returned from some extended deterrence talks
9 both with our Japanese and Korean partners that he does in
10 concert with somebody on my staff, Elaine Bunn, who is the
11 Deputy Assistant Secretary. So he can speak to the current
12 Korean frame of mind.

13 I would agree with Under Secretary Gottemoeller that
14 the nonproliferation system is under stress. We have an NPT
15 review conference coming up next month where the system will
16 be debated. In terms of the Middle East, there is no
17 question. It is one of the reasons that the President is
18 trying to prevent Iran from getting a nuclear weapon is the
19 concerns among proliferation among its neighbors if they
20 were to have a breakout capability, which is what these
21 talks are about.

22 Senator Sessions: Well, thank you.

23 Do any of the others have any comments?

24 [No response.]

25 Senator Sessions: Then we will wrap it up. Thank you

1 all. It was a very excellent panel. I appreciate the good
2 work of what you are doing, and I think it has made a
3 positive impact financially and to our national security.

4 [Whereupon, at 4:50 p.m., the hearing was adjourned.]

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