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Testimony

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Witness Statement of the Nuclear Weapons Council

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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.