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House Armed Services Committee

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On

Fiscal Year 2012 National Defense Authorization Budget Request for Department of Energy Atomic Energy Defense Activities and Department of Defense Nuclear Forces Programs

Before the

Strategic Forces
Subcommittee

Committee on Armed Services
U.S. House of Representatives

April 5, 2011

Introduction

Chairman Turner, Ranking Member Sanchez, and members of the Subcommittee, thank you for giving me the opportunity to testify regarding the Fiscal Year 2012 (FY12) National Defense Authorization budget request for Department of Energy (DOE) Atomic Energy Defense Activities and Department of Defense (DoD) Nuclear Forces Programs. I am honored to serve as the principal advisor to the Secretary of Defense, Deputy Secretary of Defense, and the Under Secretary of Defense for Acquisition, Technology and Logistics for matters concerning Nuclear, Chemical, and Biological Defense Programs. It is my pleasure to join General Chambers and Admiral Benedict to provide testimony on DoD's nuclear deterrence requirements. I am also pleased to discuss U.S. nuclear weapons activities conducted in partnership with DOE, which this committee heard about in an earlier panel with Mr. Tom D'Agostino, Under Secretary of Energy for Nuclear Security, and his team from the National Nuclear Security Administration (NNSA).

Today's testimony will focus on DoD's work with the Department of Energy to ensure the U.S. maintains a safe, secure and effective nuclear deterrent for as long as nuclear weapons exist. The DoD-DOE partnership is marked by extraordinary teamwork, and together we have made substantial progress over the past two years. To ensure that progress continues, it is essential that Congress support the President's FY12 budget request for nuclear weapons activities carried out by the NNSA and DoD. This includes funds to ensure a safe and effective stockpile without nuclear testing, to modernize the infrastructure that supports that stockpile, and to modernize ballistic

missile and bomber delivery systems. This effort cannot be accomplished over the course of one year and requires a multi-year commitment as outlined in the Section 1251 Report Update for Fiscal Year 2012 that was recently provided to Congress. I am here today to tell you how we plan to use Fiscal Year 2012 funding to do that.

The Under Secretary for Acquisition, Technology and Logistics (AT&L), Dr. Ashton Carter, plays a key role in managing the U.S. nuclear deterrent. AT&L leads the Department's efforts to acquire the strategic delivery systems for nuclear weapons in order to meet the operational needs of our military.

The Nuclear Weapons Council, created by Congress in the National Defense Authorization Act for Fiscal Year 1987, provides a strategic level forum among DoD and DOE for establishing priorities, developing policy guidance and oversight of the nuclear stockpile management process, and ensuring high confidence in the safety, security, and effectiveness of U.S. nuclear weapons. The Council is comprised of five members: the Under Secretary of Defense for Acquisition, Technology and Logistics, the Under Secretary of Defense for Policy, the Vice Chairman of the Joint Chiefs of Staff, the Commander of the U.S. Strategic Command, and the Under Secretary of Energy for Nuclear Security. As Chairman of the Council, Dr. Carter leads the Department's efforts to coordinate weapons stockpile management with the Department of Energy. By ensuring program alignment between the DoD and DOE, the Nuclear Weapons Council is a model of interagency cooperation established to achieve national security objectives.

Within AT&L, I have the privilege to serve as the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs (NCB) and as the Nuclear Weapons Council Staff Director. In this capacity, I am the principal advisor to the Secretary of Defense for providing the U.S. and our allies with a safe, secure, and effective nuclear deterrent capability and ensuring the nuclear-survivability of U.S. military forces and DoD infrastructure. Also within its mission, NCB leads the Department's efforts with interagency and international partners to counter nuclear terrorism through activities such as Global Nuclear Lockdown, the Nuclear Security Summit, and the Global Initiative to Combat Nuclear Terrorism.

President Obama said, "Make no mistake: As long as these weapons exist, the United States will maintain a safe, secure and effective arsenal to deter any adversary, and guarantee that defense to our allies." America's strategic forces continue their role as a pillar of our national security. In the past few months I have had the opportunity to witness firsthand our forces' dedication and commitment to this mission. I traveled to Naval Base Kitsap in Washington State last fall, and in February of this year, to Malmstrom Air Force Base, Montana. During these visits I spoke with the extraordinary Airmen, Sailors, and Marines who gave me a great appreciation for the challenges they face each and every day executing our strategic deterrent mission.

A Path Forward for a New U.S. Nuclear Posture

Before discussing plans for the U.S. nuclear deterrent in Fiscal Year 2012, it is important to step back for a moment and consider the status of the nuclear security enterprise before the release of the

Nuclear Posture Review (NPR) and negotiation of the New START treaty.

According to the 2009 report by the Congressional Commission on the Strategic Posture of the United States, often referred to as the Schlesinger-Perry Report, the physical infrastructure was “in serious need of transformation” and DOE “lacked the needed funding” to transform the enterprise. The Report also emphasized that the intellectual infrastructure of the nuclear enterprise was in trouble.

The problems facing our nuclear deterrent were not for DOE to address alone, however. Both Departments faced challenges in its sustainment. DOE had insufficient funding to maintain the research and development needed for long-term certification of stockpile safety and reliability. The enterprise had experienced significant deterioration of the skills needed for basic nuclear weapons design, engineering and manufacturing. DoD had inadequate plans for modernization and sustainment of delivery platforms for nuclear weapons. And perhaps most importantly, the two Departments were dealing with the absence of a much-needed national consensus on the future role of our nation’s nuclear deterrent in U.S. national security strategy.

2010 marked a crucial year for the U.S. nuclear weapons enterprise. For almost two decades, differing opinions existed within the U.S. Government on the role of nuclear weapons in U.S. national security strategy in a post-Soviet era. Without a Cold War enemy, the relevance of nuclear weapons had come into question, particularly as threats from non-state actors drove our immediate and near-term

national security agenda. There was a distinct need to develop and articulate a comprehensive approach to America's nuclear security and restore national consensus on the issue.

By completing last year's Nuclear Posture Review, the Administration outlined a clear and comprehensive plan to reduce nuclear threats to our Nation and begin to identify initial steps on the path to zero. Nuclear zero, of course, is a daunting challenge, and the President recognizes that the conditions for elimination may not occur in his lifetime. Until such time as nuclear weapons no longer exist, he is committed to maintaining a safe, secure and effective nuclear deterrent.

Along with issuing the Nuclear Posture Review, the U.S. "reset" relations with Russia by establishing a productive strategic dialogue which most recently resulted in entry into force of the New START Treaty. A milestone for the President's national security agenda, the treaty will limit the U.S. and Russia to fewer strategic arms, while permitting each Party the flexibility to determine for itself the structure of its strategic forces within the Treaty limits. The New START Treaty will also provide the U.S. critical insights into Russia's strategic nuclear arsenal.

Secretary Gates, in consultation with the Joint Chiefs of Staff, established a baseline nuclear force structure that fully supports U.S. security requirements and will conform to the New START Treaty limits of 1,550 deployed strategic warheads by 2018. To reach these goals, beginning in Fiscal Year 2012, the Defense Department will invest 125 billion dollars over the next decade to modernize nuclear delivery

platforms and the systems for their command and control. As the Nuclear Posture Review articulated, all legs of today's nuclear Triad are key to maintaining stability.

An effective deterrent consists of more than the weapons in the stockpile and the associated delivery systems. It also includes the nuclear weapons infrastructure to provide agile, modern, and responsive research and development and manufacturing capabilities that will ensure that the U.S. is able to maintain the deterrent without testing and with substantially reduced numbers. Recapitalizing that infrastructure will require significant future investments.

Revitalizing the Nuclear Infrastructure

The Departments of Defense and Energy share a common path forward to recapitalize the nuclear enterprise.

As outlined in the Section 1251 Report, in Fiscal Year 2012 DoD will continue to fund the OHIO-class replacement submarine. The Fiscal Year 2012 budget request allows the Department to begin efforts on life extension of the Trident II D5 missile, follow-on capability to the Minuteman III ICBM, upgrades to the B-2 and B-52H heavy bombers, and development of a Long-Range Standoff missile to replace the current air-launched cruise missile. Additionally, DoD plans to recapitalize the bomber force with a new penetrating bomber and dual capable aircraft with the F-35 Joint Strike Fighter. Finally, DoD is modernizing the command and control network that links nuclear delivery systems to Presidential authority.

Fiscal Year 2012 funding will allow us to work with DOE in restoring the health of the intellectual infrastructure provided by our national laboratories. The scientific and technological base at our nuclear weapons laboratories is the backbone of our deterrent. The laboratories also contribute greatly to our efforts in nonproliferation and WMD counter-terrorism. They have become "dual-use" nuclear security research and development organizations. This advanced science and technology enterprise provides considerable leverage to enhance all aspects of global security. In order to recruit, train, and retain talented scientists in our national laboratories, they must have missions to support and sufficient resources.

One of the more ambitious efforts of the DoD and DOE partnership is the replacement of aging and unsupportable facilities that do not meet modern safety standards. Two facilities within the nuclear weapons complex date from the 1940's and 50's: the Chemistry and Metallurgy Research Facility, which supports plutonium research and development and provides analytical capabilities in support of pit surveillance and production; and what is known as Building 9212 at Y-12 in Tennessee, where we conduct highly-enriched uranium operations. The continued operation of these two facilities is unsustainable. The only viable option is to replace them with modern facilities – the Chemistry and Metallurgy Research Replacement (CMRR) Facility and the Uranium Processing Facility (UPF) – that are smaller, more efficient, safer, and less costly to operate.

As with any major systems acquisition program, building large, one-of-a-kind nuclear facilities, such as CMRR and UPF, presents significant challenges in terms of planning, design, and development. Indeed,

the estimated costs for these facilities have grown substantially based on assessments made over the past year. This has raised concern about the affordability of these projects. Therefore, one of our principal challenges in today's fiscally constrained environment is to control the costs of these facilities. To this end, the Nuclear Weapons Council has made controlling infrastructure modernization costs one of its high priorities. At the request of DOE Under Secretary Tom D'Agostino, DoD is working with DOE to ensure that critical national security requirements for CMRR and UPF are met, and that the cost of these programs is carefully managed for efficiency and effectiveness.

DoD Stockpile Requirements

Today's nuclear stockpile is the smallest it has been since the Eisenhower Administration. It is assessed annually by all three nuclear weapons laboratory directors and the Commander of USSTRATCOM. The most recent assessment concludes that the stockpile is safe, secure, and effective and there is no need to conduct nuclear testing. Still, we are faced with challenges in ensuring the stockpile remains safe, secure, and effective for the long-term.

As part of the Nuclear Posture Review, the DoD and DOE assessed these challenges and developed a long-term strategy for stockpile stewardship based on four basic principles.

First and foremost, the U.S. will continue its moratorium on nuclear testing and will pursue ratification of the Comprehensive Nuclear Test Ban Treaty.

Second, the U.S. will not develop new nuclear weapons. Life extension programs will use only nuclear components based on previously tested designs and will not support new military missions or provide for new military capabilities.

Third, we will seek to ensure a strong deterrent at the lowest possible stockpile size consistent with our need to deter adversaries, reassure our allies, and hedge against technical or geopolitical surprise.

Finally, life extension programs for existing nuclear warheads will be carried out to ensure continued stockpile safety, security, and effectiveness.

Looking to the future of the nuclear arsenal, DoD and DOE are moving forward with several weapon system life extension programs in Fiscal Year 2012 to support the long-term viability of the Triad. Among the near-term efforts, DOE will continue the W76 life extension program in Fiscal Year 2012 and complete production of this SLBM warhead in Fiscal Year 2018.

Other ballistic missile warheads are also nearing end-of-life. DoD and DOE are planning to conduct a W78 life extension study to include examination of a warhead option that could be deployed with both ICBMs and SLBMs. To leverage this effort, DOE, the Air Force, and the Navy are teaming to develop a modern Arming, Fuzing and Firing (AF&F) system, initially for the W88 SLBM warhead, but adaptable for use in a potential common W78/W88 warhead.

Efforts to develop an interoperable warhead for deployment on multiple platforms would, if successful, allow the DoD to reduce the number of warhead types and the number of warheads needed for an adequate hedge. Hedging is a risk mitigation strategy to protect the nuclear deterrent should a failure occur with a delivery platform or warhead or to allow flexibility to address an unforeseen, evolving geopolitical situation. For example, today we maintain two ICBM warheads in sufficient numbers to ensure that "backup" warheads of one type are available in the event of a technical failure of the other. We also maintain two SLBM warheads for a similar reason. If a common ballistic missile warhead could be deployed, this would reduce the number of hedge warheads required to back up the force. For example, in one plausible option a smaller hedge could be achieved with three warhead types—one ICBM warhead, one SLBM warhead, and one warhead that could "swing" between ICBMs and SLBMs. Warhead commonality and adaptable components such as the joint AF&F also address the need for greater efficiencies in managing the stockpile by minimizing costs associated with development, production, surveillance, and other stockpile sustainment processes.

For the bomber leg of the Triad, DoD requires life extension of the B61 gravity bomb. The B61 is the oldest warhead design in the US nuclear stockpile with components dating from the 1960s (vacuum tube radars, analog circuitry) and other limited life components (neutron generators, power sources) all reaching the end of their service life. The B61-3/4 non-strategic bombs are deployed with NATO dual capable aircraft to provide U.S. extended deterrence to our Allies. The B61-7 strategic bomb is carried by the B-2 bomber and is an essential component of air-delivered strategic deterrence. In April 2010, the

Nuclear Posture Review reaffirmed both the extended and strategic deterrent roles of the B61 and directed proceeding with its full-scope life extension. The result will be a single warhead, termed the B61-12, which will replace four types of the B61 – one strategic and three non-strategic - further promoting efficiencies and minimizing costs.

The Nuclear Weapons Council anticipates the B61 life extension program will proceed into the development engineering phase in Fiscal Year 2012. Technology maturation for advanced surety features and other life extended components for the B61 is currently accelerating to complete the first production unit in Fiscal Year 2017. Meeting this date for the first production unit is essential to meeting U.S. Strategic Command's requirements by ensuring it is available for B-2 deployment in early 2018. Adhering to the Fiscal Year 2017 schedule for this life extension program is also critical in meeting U.S. commitments to our NATO allies to sustain their non-strategic nuclear capabilities and to provide extended deterrence.

In Fiscal Year 2012, DoD plans to continue improving nuclear weapons and infrastructure security through a combination of capital investment, enhanced personnel training, and technology insertions. To address security challenges associated with the aging infrastructure and a changing threat environment, additional underground storage capacity and modern security features are being added at our current nuclear weapons storage facilities. In addition, new and improved surveillance systems and more reliable vehicles for response forces will enhance our ability to detect, intercept, and defeat potential adversaries who attempt to access our nuclear weapons storage sites. Continuous threat monitoring and periodic adversary capability

assessments help ensure our security posture remains ahead of evolving threats while contributing to a responsive and cost effective security system.

With leadership from the Nuclear Weapons Council, DoD and DOE are addressing the long-standing disparity in each Department's approach to physical security of nuclear weapons. The two Departments recognize the benefit of pursing a common, enterprise-wide approach to physical security and are teaming to develop common nuclear weapons security standards. We are examining best practices across both agencies, identifying areas where common practices and standards exist, and recommending solutions to the gaps among practices and standards, to ensure that resources are used efficiently and the nuclear weapons enterprise remains secure as threats evolve.

The aging of the U.S. stockpile is also a significant factor in the challenges we face in a new threat environment. All weapons in the current stockpile were developed from designs that are at least 20 years old and may not contain the most advanced design-based surety technologies available today. Continued support for enhancements that improve the physical security of our warheads is vital to meeting the President's commitment to a safe and secure stockpile. New surety features designed into the warhead through life extension programs are well within our reach. Considering them early in the life extension process through full-scope life extension studies is the best way to ensure we address all factors: risk, benefit, schedule, and cost.

International Efforts to Counter Nuclear Threats

As efforts to ensure a safe, secure, and effective nuclear deterrent continue, we are also working to ensure that terrorists and proliferators cannot access nuclear materials and expertise abroad. NCB is also responsible for the Department's piece of this critical mission. We oversee the implementation of DoD's efforts in support of the President's Global Nuclear Lockdown initiative. We are working in close coordination with the DOE and State Department and have quarterly "bridge" meetings to ensure that our international efforts are synchronized and that we are collectively doing all we can to ensure that terrorists cannot deploy an Improvised Nuclear Device.

Conclusion

Nuclear threats to our nation have changed significantly in the last 20 years. Indeed the world is safer today from the threat of full-scale nuclear war than it was during the Cold War. While their roles and numbers have been reduced, U.S. nuclear weapons still exist to deter potential adversaries, and to assure U.S allies and other security partners that they can count on America's security commitments. The risk of attack by a nuclear power is lower, but the threat of nuclear attack on the U.S. by a non-state actor is real and constantly evolving.

This means the Department of Defense must continue to maintain a strong nuclear deterrent supported by an agile and responsive infrastructure. In support of the vision of President Obama and Secretary Gates, this infrastructure must ensure that the entire nuclear enterprise can effectively prevent, deter, defeat, and respond

to today's threats. The challenge before us requires a multi-year investment and commitment in which we need your continuing support.

The Departments of Defense and Energy have a long history of successful partnership in meeting our nation's most important national security objectives. The leadership of the two Departments looks forward to continuing this vital partnership to meet our national security challenges. I ask for your support for the President's FY12 budget request so that we can achieve these goals. I appreciate the opportunity you have given me to testify today and would be pleased to answer your questions.