TESTIMONY OF

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Nuclear Weapons Complex of the Future

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Chairman Hobson, Representative Visclosky, and Distinguished Members of the Subcommittee:

I am very pleased to have the opportunity to testify before the Subcommittee and speak to the issue of the transformation of our nuclear weapons stockpile and infrastructure. This is a topic of great importance to the Department of Defense and to our nation because it affects our ability to sustain the United States' nuclear deterrent in a post-Cold War security environment. I would like to thank the members of the committee and Chairman Hobson for recognizing the importance of initiatives such as the Reliable Replacement Warhead (RRW) program and for your continued support in this effort. Success in this endeavor will require a sustained partnership between Congress, the Department of Defense, and the Department of Energy.

Core Problem

While our national strategy calls for a reduced reliance on nuclear weapons, these weapons will continue to play a critical role in U.S. national security arrangements. Examples include deterring weapons of mass destruction threats, assuring allies of U.S. security commitments, holding at risk an adversary's assets and capabilities that cannot be countered through non-nuclear means, and dissuading potential adversaries from

developing large-scale nuclear or conventional threats. In order to achieve these goals and maintain a credible deterrent, we need to transform the nuclear stockpile so the weapons we retain are appropriate for the challenges and uncertainties we will face in the coming decades. Restoring the Nation's nuclear infrastructure and executing the RRW program for long-term stockpile sustainability are the steps toward fulfilling the Nuclear Posture Review guidance and providing capabilities appropriate for 21st Century deterrence.

The current approach to nuclear stockpile sustainment is accomplished through successive life extensions of existing warheads developed during the Cold War. The pedigree of these tested designs is being diluted as a result of the inevitable accumulations of small changes over the extended lifetimes of these systems. However, the necessity to minimize changes to our highly-optimized designs also eliminates the possibility of incorporating modern, enhanced safety and security features.

Warhead components designed, built, and fielded with 1970s technology are increasingly difficult and costly to remanufacture, assuming that remanufacturing is even possible. The average age of weapons in the nuclear stockpile is 21 years. An extensive and costly infrastructure is required to maintain the current legacy stockpile, even though the United States has not produced a complete nuclear weapon since the Rocky Flats Plant was shut down in 1989. Because of this, we must maintain a heavy reliance on a non-deployed stockpile to hedge against concerns that may arise from unexpected technical problems in our stockpile or from geopolitical changes.

2030 End State Vision

The Department of Defense has been working with the National Nuclear Security Administration (NNSA) to develop and define our vision for a modern stockpile and a responsive infrastructure in 2030. We see the agreement on this vision as the first critical step towards transformation. The Nuclear Weapons Council, whose membership represents both the Department of Defense and NNSA, is the body where the collaboration and development of stockpile and infrastructure transformation is occurring. As we contemplate alternative approaches to maintain our stockpile through the RRW program, we also have an opportunity to simultaneously transform our infrastructure. As a long-term approach, programs of warhead replacement, instead of indefinite life extension of the Cold War stockpile, would optimize and right size our infrastructure requirements while exercising the full range of critical skill sets. As our infrastructure becomes more robust and responsive, we can rely less on a large stockpile of non-deployed weapons to hedge against technical problems or geopolitical changes. This requires a demonstrated manufacturing capability by NNSA. Together, we envision a future for the nuclear enterprise that truly reflects the Cold War is over. However, in order to make that vision a reality, immediate steps towards transformation are required.

Way Forward

Infrastructure and the Reliable Replacement Warhead (RRW)

We see the RRW program as the catalyst for change and transformation for both the nuclear stockpile and the nuclear infrastructure. The goal of the program is to assure,

over the long term, the Nation's ability to sustain the nuclear stockpile with replacement warheads. The RRW design concept will allow for the safety and reliability of these warheads to be maintained with high confidence without underground nuclear testing. RRW designs will be more easily manufactured with readily available and more environmentally benign materials. The RRW program also allows for the inclusion of modern, enhanced safety and security features. While the Cold War design strategy was appropriate for that time, the RRW concept supports a reduced stockpile and provides an enabler for the development of a responsive and capable infrastructure. The current RRW effort is focused specifically on examining the potential to replace a portion of our submarine-launched ballistic missiles. Our longer-term vision is to determine the feasibility of replacement for all existing legacy warheads over the next 25-30 years, with the intent to rely less on stockpile size and more on a responsive infrastructure.

In conjunction with the RRW study, the Department of Defense and NNSA have been working together to define a responsive infrastructure and its role in supporting the future stockpile. A responsive infrastructure must provide capabilities (on appropriate timescales and in support of DoD requirements) to design, develop, certify, and produce refurbished or replacement warheads; ensure warheads are available to augment the operationally deployed force; identify, understand, and fix stockpile problems; dismantle warheads; and sustain underground nuclear test readiness.

In order to accomplish these tasks, certain existing infrastructure capabilities must be maintained. Included are experimental facilities to develop and conduct material property tests; engineering, physics, and subcritical experiments; modeling and

simulation capabilities; manufacturing process development for components; uranium processing capabilities and capacity; and warhead assembly and disassembly facilities. One of the required infrastructure capabilities generating great concern for the Department of Defense is the current state of pit manufacturing. After nearly twenty years with no pit production, recent interactions with NNSA show us that progress is being made. The Department of Defense strongly supports NNSA's long-term vision to develop a consolidated plutonium center with a capability to provide RRW pits to the stockpile.

Workforce

As a direct result of the last decade's trends (e.g., no new nuclear weapons design/production and no new weapons system development), the nuclear skill base in both the Department of Defense and NNSA (and their contractors) is at risk. Aging workforces, specifically those with underground nuclear test experience, lack of apparent long-term career viability, as well as competition for scientific and technical personnel in the marketplace are symptoms of the problem.

Risk Management

The Secretary of Energy's Advisory Board's (SEAB) Infrastructure Task Force noted that, "DOE management has burdened the Complex with [safety and security] rules and regulations that focus on process rather than mission performance, productivity, and responsiveness," resulting in a "bureaucratic risk-averse posture at all management

levels." Over the past decade and longer, an overly risk adverse culture within DOE has resulted in a significant loss of productivity including an ever increasing warhead surveillance backlog. We believe that practical, streamlined business practices and effective and efficient management of safety and security risks are inherent in a responsive infrastructure. Risk must be managed, not avoided. Changes in management philosophy and execution are required to improve productivity, while adequately balancing other priorities. Recent interactions with DOE indicate that important, positive steps are being taken to improve its risk management approach. These changes are the beginning steps toward the restoration of DoD confidence in the complex.

Conclusion

We believe that the immediate implementation of the Reliable Replacement Warhead concept can be the critical catalyst needed to drive transformation of the stockpile and infrastructure. This transformation will ensure long term confidence in our warheads, provide opportunities for a smaller stockpile, provide a mechanism to exercise our nuclear workforce, and allow the incorporation of enhanced safety and security features.

The Department of Defense has been working with NNSA and its predecessors for over fifty years. It is our belief that continued partnership will enable the successful transformation of our nuclear stockpile, infrastructure, and overall enterprise. Transformation will be challenging, and is likely to require additional resources in the near term. At a time with increasing budgetary pressures and competing priorities,

moving forward on our responsive infrastructure vision will require cooperation and long term support by all participants. We appreciate this committee's recognition of the need and importance of transformation, and look forward to your continued support in this effort. Thank you for the opportunity to share our thoughts with you on this important issue, and I look forward to addressing the Committee's questions.