

Complex Transformation & Strategic Weapons in the 21st Century

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Today I want to lay out a vision for the future of our National Security Enterprise and explain how it will support strategic weapons in the 21st Century.

Where we are today

Last month I approved the Draft Supplemental Programmatic Environmental Impact Statement (SPEIS) that will begin the process of Complex Transformation. For six decades nuclear weapons have been the backbone of United States security policy, providing the ultimate guarantor of our national security. With the end of the Cold War and as we enter the 21st Century, the mission of our deterrent has evolved to address an unpredictable international environment, persistent proliferation dangers, and emerging nuclear capabilities that could threaten vital American interests and international peace and security.

We believe our 21st Century security requirements can be met with fewer nuclear weapons and a smaller nuclear infrastructure to support them. As a result, President Bush made two decisions that are dramatically reducing the size of our nuclear stockpile. In 2001, both he and Russia's President Putin signed the Moscow Treaty, which will lower our deployed nuclear weapons from levels he inherited to 1,700 to 2,200 warheads. But that treaty didn't include nuclear weapons in reserve, so in 2004, President Bush issued a directive that by 2012 would cut the entire U.S. nuclear weapons stockpile by half of what it was when he entered office. This goal was achieved in 2007. And just last month, he further reduced the 2012 stockpile by another 15 percent. So we are achieving historic reductions in nuclear weapons and will soon have the smallest nuclear stockpile in over 50 years, and one that is less than ½ of the stockpile that was inherited from the previous Administration.

Yet, let me be clear that the U.S. will maintain a strategic deterrent for the foreseeable future, and the NNSA's fundamental mission is to provide safe, secure, and reliable nuclear warheads in support of the nation's deterrent. However, to accomplish this, we will need to retain fundamental capabilities such as plutonium and uranium component manufacturing, world class laboratory and testing systems, and leading edge computing capability. We also believe that a fundamental transformation of our Complex into a National Security Enterprise is needed over the next 10 years both to maintain a safe, secure and reliable nuclear deterrent and to respond to the full spectrum of national security challenges.

The Current Stockpile

Today, our labs and production plants are ensuring that American nuclear weapons are safe, secure and reliable. We have a very successful Stockpile Stewardship Program—developed over the last 15 years in response to the underground nuclear testing moratorium—that continues to

evolve and sustain the stockpile. However, while today's stockpile remains safe, secure and reliable, the weapons laboratories, the Department of Defense and I are concerned about our future ability to maintain the stockpile without nuclear testing. The Stockpile Stewardship Program has worked well, so far, to discover and resolve problems that in the past would have required nuclear testing. As some of you sitting in this room, specifically the laboratory directors, have pointed out, maintaining certification of the finely-tuned designs of an aging Cold War stockpile through Life Extension Programs is becoming increasingly difficult absent nuclear testing, and involves increasing risk. Our aging warheads will continue to be a technical challenge for our best scientists and the risk of a significant technical failure occurring as our warheads age cannot be ruled out. The one certainty we do know is that warhead certification will become more difficult—especially as life extensions and component aging move the warhead further away from the tested design. The reliable replacement warhead (RRW) effort was one way in which we were studying how we might better transform the future stockpile to address these issues, plus incorporate modern safety and security technologies into our systems.

Complex at a crossroads

Today the Complex is at a crossroads and faces challenges not seen since its inception. Maintaining the deterrent means adequately maintaining the nuclear weapons complex. The status quo is not an option. Delay and inaction will only increase the costs and elevate the risks associated with maintaining an aging stockpile. The challenge for us will be to move from a nuclear weapons complex designed for the Cold War to a 21st century national security enterprise that is at the forefront of science and technology and responsive to future national security requirements. Several challenges we face include:

- First, our uranium facilities date to the Manhattan Project and securing these facilities to the terrorism threats we face post-9-11 is increasingly difficult and costly. Every Life Extension Program or LEP warhead and, if built, RRW will likely require uranium component manufacturing. Delivering weapons on-time to the Defense Department means having the manufacturing facilities to meet our customer's schedule and requirements.
- In addition, there cannot be a responsive infrastructure without a plutonium pit production capability. Our current limited capacity, and aging scientific and manufacturing facilities, will not support our anticipated future needs and, if not redressed, would require maintaining a larger stockpile than otherwise would be desired. Moreover, if we found a major problem in the stockpile requiring pit replacement, we have no ability to make replacement pits for a timely response. Maintaining the deterrent requires the ability to manufacture plutonium pits and conduct advanced plutonium research in a facility designed to meet 21st Century security and safety requirements.
- Second, our deterrent is aging with some warheads designed over 40 years ago. These systems will require either replacement with RRWs or major refurbishment via LEPs, although it is not certain that LEPs will be able to address all stockpile issues into the future. With RRW, however, we believe we can achieve steeper reductions in the nuclear stockpile and reduce the potential need for nuclear testing. However, more scientific and technical work is required to assess the opportunity of the RRW and how best to address the increasing concerns we face in the stockpile.

- Finally, security, both physical and cyber, will continue to require substantial resources. The current complex, including some Manhattan Project era facilities, is not optimized to provide both a robust and cost-effective security posture.

In addition to the fundamental technical challenges, costs continue to rise just to maintain the current infrastructure. We simply cannot afford the status quo. We must transform the complex to a smaller, but interconnected enterprise that accomplishes our existing and future national security missions

Transformation Vision

My vision for the future is a smaller, safer, more secure and less expensive enterprise that leverages the scientific and technical capabilities of our workforce to meet all our national security requirements.

Because our nuclear weapons stockpile is decreasing, in this future, the deterrent won't be the old Cold War model based on numbers of weapons, rather it will be the capability to respond to any national security situation and produce those weapons if necessary. This transformation is critical not only to accomplish our weapons mission in support of the nation's deterrent, but to better leverage that scientific and technical know-how to support other national security missions such as non-proliferation, nuclear counter-terrorism, nuclear forensics, and providing solutions to the intelligence community.

My vision for this Complex Transformation consists of four pillars:

- Transform the nuclear stockpile through the Stockpile Stewardship Program in partnership with the Department of Defense.
- Transform to a modernized, cost-effective national security enterprise to support needed capabilities in our infrastructure.
- Create an integrated, interdependent enterprise that employs best business practices to maximize efficiency and minimize costs.
- Advance the science and technology base that is the cornerstone of our nuclear deterrence and remains essential for long-term national security.

In support of this transformation vision, last month I approved the Draft Preferred Alternative for a Supplemental Programmatic Environmental Impact Statement, which will under-pin our decisions on infrastructure.

What about RRW?

Before I discuss the Supplemental Programmatic Environmental Impact Statement (SPEIS), I want to talk about RRW and how it impacts our plan. Complex transformation must take place, with or without RRW, but we believe it can go further with an RRW. Currently, we will be hard pressed to meet even our Life Extension Program (LEP) commitments without a successful complex transformation. If the RRW concept is eventually fielded by a future administration, it will significantly enhance the efficiency and responsiveness of the enterprise. The RRW concept is designed to use fewer exotic and hazardous materials. The RRW would mean lower lifecycle costs by eliminating some processes needed to maintain today's weapons. In addition, the RRW

would incorporate modern safety and security features that cannot be retrofitted in existing warheads through LEPs. Additionally, if RRW meets the promise of allowing a smaller nuclear stockpile, additional savings could be achieved. In short RRW could enhance and complement our transformation objectives. The concept remains sound and I believe as more people study and engage on this issue, and understand the technical challenges to the stockpile and barriers to significant future stockpile reductions, they too will see its merits.

Supplemental Programmatic Environmental Impact Statement (SPEIS)

NNSA has been evaluating complex transformation since early 2002 when the Administration's Nuclear Posture Review was sent to Congress. Since that time and through many different efforts, we developed and released in January a supplemental programmatic environmental impact statement that analyzed many options and include a Draft Preferred Alternative, which embraces the notion of distributed centers of excellence by focusing on core competencies, eliminating redundancies and maximizing consolidation of materials, particularly those that require high levels of security. The most obvious change will be the physical infrastructure. Over the next ten years NNSA will:

- Consolidate special nuclear material to five sites by 2012, with a significantly smaller footprint at those sites by 2017.
- Close or transfer from weapons activities about 600 buildings or structures, many by 2010
- Reduce the square footage of facilities supporting the weapons missions by one-third – from 35 million to less than 26 million square feet
- We also believe that over the course of a decade or so, there will be a reduction in our workforce by 20-30% that directly supports the nuclear weapons activities. This does not mean a wholesale reduction in force by one-third. On the contrary, this will be done through attrition, or by moving people from the weapons account to other important and related national security work such as nuclear counter-terrorism and non-proliferation.

How do we pay for it?

The transformation path we embark on offers the lowest overall cost and risk. We seek to implement these changes within our existing budget projections, assuming, of course, savings are allowed to be reinvested. Some examples of how we will do this includes:

- Shift our contracting strategy to more uniform contracts with incentives for cost reductions over multiple sites.
- Enforce business practice uniformity across the complex.
- Conduct complex-wide procurements for goods and services.
- Employ multi-site architect, engineering and construction contracts.
- Improve risk management and federal staff optimization.
- And finally, expand the work we do for other federal agencies.

Transformation to a National Security Enterprise

Our complex transformation plan is to turn our Cold War nuclear weapons complex into a 21st Century National Security Enterprise. Our legacy was established in the 1940s when the focus of the emerging complex was on nuclear weapons development. Our 21st Century National

Security Enterprise will leverage the science underpinning this historic mission area to respond to and be at the forefront of a full range of national security challenges. For over 60 years the complex has pushed scientific and engineering barriers to develop and maintain the deterrent. The scientific capabilities and infrastructure developed for the nuclear weapons mission are already being utilized by the Defense Department, Homeland Security Department and intelligence community and are recognized as essential to fulfilling their responsibilities. While continuing to maintain our deterrent, our challenge is push these same barriers to find solutions for our most pressing national security challenges.

NNSA laboratories have been jointly participating with other government agencies in addressing a wide range of national security challenges—all which leverage the core mission of nuclear weapons development and sustainability. Recent examples include:

- Supporting war fighter needs in Iraq with IED modeling and analysis.
- Supporting the Defense Department and Federal Bureau of Investigation (FBI) in emergency render-safe and post event technical forensics.
- Aiding the intelligence community in its counterterrorism and nonproliferation efforts by drawing upon our nuclear weapons expertise.
- Developing and deploying integrated systems for countering biological releases and bio-decontamination technologies.
- And, developing and deploying portal detector technology to prevent smuggling of special nuclear materials.

Conclusion

I have taken a long hard look at the nuclear weapons complex, and where we need to be. I am convinced that what I have outlined here is the best path. And I also feel a sense of urgency. We must act now to adapt for the future and stop pouring money into an old, Cold War nuclear weapons complex that is too big and too expensive.

The question will be asked, “What will happen if we do not transform and just maintain the status quo?” The short answer is, we will reach the point where NNSA will be unable to maintain the deterrent. Every year the costs to maintain, operate and secure our physical infrastructure continue to rise, yet our total budget line remains nearly flat. A number of organizations to include the Defense Nuclear Facilities Safety Board, the Defense Science Board and the Secretary of Energy Advisory Board have all issued reports, letters, or findings over the past several years highlighting the need for NNSA infrastructure improvements and modernization. Delay in beginning transformation will only increase the costs and raise the risk to adequately maintain our deterrent. The question on the Reliable Replacement Warhead remains an open issue, but I hope I have provided some understanding of why it is a potentially game changing enhancement that will improve the safety, security and long term viability of the stockpile.

The shift from a nuclear weapons complex to National Security Enterprise will leverage our historic mission area of nuclear weapons development to provide solutions across the spectrum of pressing national security challenges, particularly in nuclear counter-terrorism. This will not be easy, but the key to successfully meeting our mission and to transforming the complex is to

ensure that we become a smaller, safer, more secure, and less expensive national security enterprise that leverages the scientific and technical capabilities of our workforce to meet all of our national security requirements.

Most importantly our dedicated workforce is the key to transformation and its success. Those of you here today along with your colleagues in laboratories, plants and federal offices will be the drivers of this change and your insights, experience and proven dedication will be needed to carry it out.

Thank you, I'll be happy to take your questions.