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SENATE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON STRATEGIC FORCES
UNITED STATES SENATE

DEPARTMENT OF THE AIR FORCE

PRESENTATION TO SENATE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON STRATEGIC FORCES
UNITED STATES SENATE

SUBJECT: ICBMs, Helicopters, Cruise Missiles, Bombers and Warheads

STATEMENT OF: Maj Gen Roger Burg (AF/A3S)

March 28, 2007

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Statement of

Maj Gen Roger Burg (AF/A3S)

I. Introduction

Mr. Chairman and distinguished members of the subcommittee, thank you for the opportunity to appear before you today to discuss our Strategic Nuclear posture.

Your Air Force is fully engaged around the world fighting terrorism and insurgents in the Global War on Terror (GWOT) and fulfilling our roles as Airmen for the joint team. Simultaneously, we stand prepared for rapid response to conflict around the globe as our Nation's strategic reserve. Air forces succeed when they anticipate and are allowed to shape the future strategic environment and develop the capabilities for the next fight. Air forces succeed when they remain focused on their primary mission as an independent force that is part of an interdependent joint team. We fly, fight and dominate in three war fighting domains – air, space and cyberspace – giving our nation sovereign options to employ military force like no other nation.

II. We Are At War

Supporting U.S. Central Command (CENTCOM) and the GWOT is just a portion part of what your Air Force does for our nation's defense. Your Air Force has responded (or been prepared to respond) across the entire spectrum of conflict – from rapid humanitarian aid to major combat operations.

Fighting and winning the GWOT is our number one priority; however, it is important that we maintain focus on protecting our nation from other potential enemies, both traditional and non-traditional. Currently, your Air Force has over 27,000 airmen, or about 5% of the Total Force deployed in support of global operations. We also have approximately 213,000 personnel, or about 40% of the total force, on-line supporting the Combatant Commands (COCOMs) daily. This number includes Airmen supporting Intercontinental Ballistic Missiles (ICBMs), missile warning and space control, the satellite control network, strategic bombers, special operations, and combat search and rescue forces. It also includes steady-state rotational forces performing a global mission but not necessarily under the direct control of a COCOM Commander or assigned to a particular area of operation (AOR). Examples include Air Expeditionary Force (AEF) postured continental U.S. fighters and theater airlift forces, base-level support troops, Air Force Major Command (MACOM) staffs, forces outside the continental U.S. assigned to Pacific Air Forces (PACAF) and U.S. Air Forces in Europe (USAFE), global support, and strategic forces. Clearly Airmen needn't be deployed to be employed.

Today's strategic forces deliver uncompromising defense to our Nation, no differently than they have accomplished for 60 years. Since the beginnings of the Cold War, Airmen continue to stand silent sentry around the clock to protect and defend our national security, and respond to any adversary should deterrence fail.

III. Strategic Nuclear Forces

Air Force Intercontinental Ballistic Missiles

As the Secretary of the Air Force stated in his response to concerns regarding the Minuteman III (MMIII) force reduction, "the ICBM force has provided a rapid-reaction nuclear deterrent capability since the 1960s. Today, the MMIII is the Nation's only operational ICBM." During

the 2005 Quadrennial Defense Review (QDR), the Defense Department agreed with U.S. Strategic Command (USSTRATCOM) recommendation to reduce the ICBM force from 500 to 450.

The FY07 National Defense Authorization Act (NDAA) mandated that the Air Force modernize MMIII ICBMs in the United States inventory as required to maintain a sufficient supply of launch test assets and spares to sustain the deployed force of such missiles through 2030. The Air Force has ongoing Life Extension Programs designed to extend ICBM service life beyond 2020. Additionally, the Air Force is currently analyzing MMIII missile and ground systems to determine what activities are required to sustain the force through 2030.

The Air Force plans to use an incremental approach to field an ICBM follow-on system that will address aging components while supporting COCOM requirements. The Office of the Secretary of Defense Land-Based Strategic Deterrent Overarching Integrated Product Team will review an initial system assessment in August 2007. The USAF Land-Based Strategic Deterrent Initiative will be addressed in the FY10 Program Objective Memorandum (POM). The AF will complete the concept refinement and pre-Milestone A activities this year.

ICBM Demonstration Validation

Responsive infrastructure is a key component of the New Triad and serves as a backstop that allows us to reduce the nuclear arsenal without compromising our strategic deterrent posture. A comprehensive and aggressive demonstration validation program adds to the deterrent value of the force. The ICBM Demonstration Validation Program is at the core of our efforts to preserve our ballistic missile capability. It allows us to respond to emerging issues in the Minuteman fleet while identifying methods to reduce life cycle costs and improve nuclear safety and surety. The unique capabilities exercised by this Program are essential to keep the Minuteman weapon system operationally viable through 2030.

ICBM Life Extension Programs (LEPs)

The MMIII ICBM is undergoing major LEPs of components from the nozzle to the nose-tip, extending MM III service life through 2020 and beyond. All programs are currently on budget and on schedule. Modifications include:

1. ***Guidance Replacement Program***: Replaces guidance set electronics on MMIII and improves reliability on the ground and in flight. A total of 440 sets have been delivered and the program will be complete with the delivery of the final 32 guidance sets in FY07.

2. ***Propulsion Replacement Program***: Extends booster life through 2020 by re-pouring stages one and two, and re-manufacturing stage three. A total of 311 boosters have been delivered. The program will be complete with the delivery of the final 56 booster sets in FY08.

3. ***Propulsion System Rocket Engine Program***: Refurbishes seven components and assemblies in the liquid propulsion post-boost vehicle. A total of 72 kits have been installed and we will purchase 96 additional kits in FY08.

4. ***Safety Enhanced Reentry Vehicle***: Enables MMIII to carry the more advanced Peacekeeper MK 21 Reentry Vehicle (RV) while retaining the powerful MMIII MK 12A RV multiple independently re-targetable RV (MIRV) capability. Retirement of the older MK 12 RV is now possible, allowing us to avoid a costly $1B LEP. A total of 20 kits have been installed and we will purchase an additional 120 kits in FY08.

5. ***Environmental Control System***: Modernizes cooling system equipment in the Minuteman Launch Facilities and Missile Alert Facilities. Five kits have been installed and we will purchase 112 kits in FY08. We are not planning to modify the facilities assigned to the 564th Missile Squadron at Malmstrom AFB, MT as a result of the planned reduction in the MMIII ICBM force.

6. ***ICBM Security Modernization Program***: This three-part program consists of concrete enhancements, a fast-rising secondary personnel access hatch, and a Remote Visual Assessment (RVA) camera. This comprehensive program began in FY04. Our FY08 program includes the purchase of 100 fast-rising hatches which will allow responding Security Forces adequate time to deny access to our launch facilities. Our FY08 program also purchases 60 RVA units. We are not planning to modify facilities assigned to the 564th Missile Squadron at Malmstrom AFB, MT as a result of the planned reduction in the MMIII ICBM force.

Helicopters

The primary Air Force Space Command (AFSPC) helicopter mission is to provide our Security Forces with a continuous contingency response capability for the national ICBM complex. However, the Bell UH-1N is not capable of meeting current security requirements. It does not meet Key Performance Parameters for speed, endurance, range, or payload. UH-1Ns are not armed with offensive weapons, have no defensive capabilities or countermeasures, and cannot operate in a Chemical, Biological, Radiological, Nuclear (CBRN) environment.

Our average Air Force UH-1N airframe is 38 years old. The original design life for this aircraft was 2,500 flying hours, although some aircraft in the inventory have over 13,000 hours. The UH-1N fleet is showing its age with fatigue-related cracks in the tail boom and is currently undergoing its second tail boom replacement enabling it to meet flight safety standards.

The Common Vertical Lift Support Platform (CVLSP) is an Air Force effort to replace the UH-1N. The CVLSP was originally envisioned as a variant of CSAR-X. The Joint Requirements Oversight Council directed that the efforts be separated and then directed AFSPC to conduct a separate CVLSP Analysis of Alternatives (AoA). The CVLSP AoA is now complete and is in coordination at the Air Staff. CVLSP is sixth on the Air Force's Unfunded Priority List.

The AFSPC team is considering four CVLSP options:

1. CSAR-X platform
2. Rebuild Air Combat Command service life extension program-modified HH-60G aircraft
3. Develop a new aircraft
4. Continue using the UH-1N aircraft

Nuclear Cruise Missiles

The Air Force analyzed current and future roles for nuclear cruise missiles during the 2005 QDR and the FY07 Amended POM (APOM). The Defense Department issued guidance on 20 December 2005 directing USSTRATCOM and the Air Force to study the nuclear cruise missile force structure, including the Air-to-Ground Missile (AGM) -86 Air Launched Cruise Missile (ALCM) and the AGM-129 Advanced Cruise Missile (ACM). The guidance also directed us to build a retirement schedule for the missiles.

The resulting study recommended that the Air Force retire all ACMs, reduce the ALCM force to 528, retire all excess ALCMs, consolidate the ALCM force at Minot AFB, and retain ALCMs in the inventory through at least 2020, possibly 2030. On 12 April 2006, the Deputy Secretary of Defense accepted the study recommendations. On 23 June 2006, the Commander, USSTRATCOM sent a letter to the Secretary of Defense supporting the study findings and advocating adoption of the ALCM/ACM force structure recommendations. The Joint Chiefs of Staff and National Security Council endorsed most of the study recommendations. On 17 October 2006 the Secretary of Defense directed the Air Force to retire the ACM and reduce the ALCM fleet to 528 missiles.

The Air Force intends to remove from service, demilitarize and destroy all ACMs and the excess ALCM missile bodies. The remaining nuclear cruise missile force will be consolidated at Minot AFB, North Dakota. As of this date, the Air Force has taken no irreversible actions as it seeks final congressional approval to demilitarize and destroy these missile bodies. These cruise

missile force structure changes are part of a balanced force reduction that supports both Presidential direction to reduce the active nuclear stockpile, as well as the United States' obligation under the 2002 Moscow Treaty to reduce the number of operationally deployed strategic nuclear warheads to 1700-2200 warheads.

Strategic Bombers

We have no plans to change the current force of B-1 and B-2 aircraft. Our strategy for the future bomber fleet includes a three-phased modernization plan. The first phase of the modernization strategy includes plans for us to divest 38 B-52s while modernizing the remaining legacy systems. President's Budget FY08 funded a B-52 force structure consisting of 56 B-52 Total Aircraft Inventory (TAI). This inventory included 32 Combat Coded (CC), 11 Training (TF), four Test, and nine backup B-52s. Following submission of the FY08 POM to OSD, Congress mandated that the Air Force "not retire more than 18 B-52s (FY07 retirements) and maintain 44 B-52s as Combat Coded." The Headquarters Air Force, Air Combat Command (ACC), and the Air Force Reserve Center are working together to abide by this restriction while meeting the Air Force need to recapitalize aging aircraft. ACC is finalizing a plan to recode 11 TF B-52s and one test B-52 which would result in a total of 44 Combat Coded B-52s. The 20 B-52s the Air Force plans to retire in Fiscal Year 2008 will be stored on the ramps at Barksdale AFB and Minot AFB in XJ status, which means that the Air Force will keep these aircraft in a serviceable condition but not in a common configuration (i.e. no capability upgrades) with the other 56 aircraft.

The FY08 President's Budget reflects the Air Force position. A fleet of 56 TAI B-52s with 32 coded for combat meets AF requirements while supporting the need to recapitalize. The FY07 NDAA mandated that no funds "be obligated or expended for retiring any of the 93 B-52H bomber aircraft in service in the Air Force as of the date of the enactment of this Act until 45

days after the date on which the Secretary of the Air Force submits a Bomber force structure report prepared by the Institute for Defense Analyses (IDA)." The Air Force expects the report to be finished by the end of 2007.

The second and third phases of the modernization strategy include fielding a next-generation long range strike (NGLRS) capability by 2018 and fielding an advanced technology system with increased speed, range, precision, connectivity and survivability by 2035.

Reliable Replacement Warhead

Reliable Replacement Warhead (RRW) designs incorporate a broad suite of enhanced safety features which increases efficiency and cost-effectiveness as well as improved security features to prevent unauthorized use by terrorists, rogue nations or criminal organizations. These designs will replace 1970s-era technologies with modern components which will help minimize future safety and security uncertainties and can be managed using the improved computational and experimental tools developed by the Stockpile Surveillance Program. An all-RRW force is sustainable well into the future providing our combatant commanders with high confidence while managing risk.

In November 2006 the Nuclear Weapons Council commissioned an RRW-2 Phase 1 Study. The purpose of the year-long study is to define concepts for a replacement warhead to existing and future air-delivered systems. The study group is analyzing preliminary concept assessments, identifying delivery systems, recommending nuclear weapon trade-offs, and proposing an initial program schedule.

IV. Closing

We are building an Air Force prepared to dominate in the 21st century – strategically, operationally, and tactically. Air Force Strategic forces, the bulwark of our strategic deterrent

capability, give us the means to ensure Global Vigilance, Global Reach, Global Power, and worldwide Expeditionary Combat Support. These capabilities are essential to the joint fight and are a critical component of the future joint force. The Air Force is committed to advancing strategic capabilities to fully support the joint team. In order to maintain our strategic dominance, the AF must recapitalize and also be allowed to divest itself of outdated, excess platforms. Divesting excess platforms will provide the means to shift vital funds to recapitalization and modernization of our Air Force and to maintain a strategic deterrent second to none. We appreciate your continued support in turning our vision into an operational reality. Our nation must invest today to ensure tomorrow's air, space and cyberspace dominance.

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THE SENATE ARMED SERVICES COMMITTEE
STRATEGIC FORCES SUBCOMMITTEE

STATEMENT OF

REAR ADMIRAL STEPHEN JOHNSON, USN

DIRECTOR, STRATEGIC SYSTEMS PROGRAMS

BEFORE THE

SUBCOMMITTEE ON STRATEGIC FORCES

OF THE

SENATE ARMED SERVICES COMMITTEE

FY2008 STRATEGIC SYSTEMS

28 MARCH 2007

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THE SENATE ARMED SERVICES COMMITTEE
STRATEGIC FORCES SUBCOMMITTEE

Chairman Nelson, Senator Sessions, distinguished members of the Strategic Forces Subcommittee. Thank you for the opportunity to appear before you to discuss the Navy's efforts to maintain the credibility of our strategic deterrent forces. Strategic Systems Programs (SSP) is responsible for maintaining our currently deployed Trident II forces and to develop capabilities which will support future requirements of our Combatant Commanders.

The Navy's operational strategic deterrent fleet continues to provide a credible and affordable deterrent against nuclear war. Our Trident II weapons system, comprised of 14 submarines, 6 in the Atlantic fleet and 8 in the Pacific fleet, is maintaining a reliable sea based deterrent for our national leadership. Two of our submarines are undergoing engineering refueling overhauls (ERO). Along with USS Alabama (SSBN-731), which began her overhaul last year at Puget Sound Naval Shipyard, USS Alaska (SSBN-732) has commenced her ERO at Norfolk Naval Shipyard. Three SSGNs have returned to operation, USS Ohio (SSGN-726), USS Florida (SSGN-728) and USS Michigan (SSGN 727). USS Georgia (SSGN-729), the fourth SSGN, is expected to complete her conversion in September 2007.

D5 Life Extension

TRIDENT II (D5) Submarine Launched Ballistic Missile Life Extension (LE) program will redesign and replace aging missile electronics and guidance systems. Under this program, 108 additional missiles will be procured in order to meet long-term inventory requirements associated with the life extension of the OHIO class SSBN. Redesign of missile electronics and guidance components is in progress, and procurement of new D5 LE missiles begins in FY08. The TRIDENT II (D5) missile has been operational since 1990, providing the backbone of America's strategic deterrence. The low-rate production continuity procurement strategy has

been extensively reviewed and approved by DoD and the Congress, and has been in execution for nearly 15 years.

This procurement strategy has been proven successful, based on the demonstrated performance of the TRIDENT II D5 weapon system. The Navy submitted a report to Congress in December 2002 that detailed the impact of alternative full-funded procurement strategies and recommended continuation of current production. Continued production of critical components represents the best balance of cost and risk to extend the life of the D5 missile.

Nuclear Weapons Security

One of our most important responsibilities is maintaining security over the ships and missiles in the Trident Program. Our budget submit includes elements to improve this security posture, including sensored perimeter fencing, waterfront intruder detection systems, and hardened security force facilities and vehicles, as well as a secure command and control network. The roadmap to implement these nuclear weapons security elements over the FYDP was recently briefed to the VCNO and JROC, and execution is underway.

The SSBN Transit Protection Program extends the security umbrella to cover SSBNs transiting between piers and dive points.

Reliable Replacement Warhead

The Navy and the National Nuclear Security Administration (NNSA) have recently started a joint program to design a replacement warhead for a portion of the Nation's sea-based nuclear weapons used in submarine launched ballistic missiles. This replacement warhead will not require underground testing. Other key aspects of this program include designing

replacement warheads that are more efficient to manufacture, are safer and more secure, elimination of environmentally hazardous materials, and increased design performance margins, thus ensuring long-term confidence in reliability. The Nuclear Weapon's Council, a joint body including DOE and DOD, endorsed NNSA's recommendation for the Lawrence Livermore/Sandia design as the baseline for the RRW-1 program. However, several features of the Los Alamos/Sandia design are of great interest and they will be developed in parallel to the Lawrence Livermore National Laboratory effort. If sufficiently mature, these design enhancements will be incorporated into the baseline design at the appropriate development step.

The selection of the Lawrence Livermore National Laboratory's baseline design was the first step toward detailed design of a reliable replacement warhead. NNSA and the Navy will now work together to develop a detailed RRW project plan and cost estimate for developing and producing the system. The RRW Project Officer Group, led by the Navy, will present the results of a design definition and cost study to the Nuclear Weapons Council for approval later this year, at which time authorization to proceed to detailed design and system development will be requested.

Conventional Trident Modification

The Conventional Trident Modification, or CTM, is the only near-term solution which can provide prompt, precise, conventional kinetic effects at intercontinental ranges. Given the requested resources, we can deliver the initial capability early in 2010, much earlier than any other alternative approach.

CTM adapts the Trident II (D5) missile system to deliver conventional (non-nuclear) effects at global ranges. The Trident Weapon System and the D5 missile are well suited for this

role by virtue of the long range and payload capacity of the D5 missile, and the responsiveness and survivability of the Trident Weapon System. Responsive, survivable and persistent, CTM will defeat a diverse set of unpredictable threats without visible presence or risk to U.S. forces, and with little or no warning prior to strike. CTM implements the New Triad envisioned by the Nuclear Posture Review and is an evolution of deterrence toward conventional weapons. CTM CONOPS have been developed by USSTRATCOM.

CTM will use existing D5 missiles, MK4 reentry bodies equipped with aerodynamic controls, GPS-aided terminal guidance, and a conventional warhead. Advanced error-correcting reentry vehicles with GPS-aided Inertial Navigation Systems have been flight proven in a previous D5 test program. Total time from decision to weapons-on-target is about 1 hour. CTM technology can be rapidly developed and deployed within 24 months.

The FY2008 funding request for CTM is $175 million. We have frontloaded the funding profile to provide the capability to the warfighter as quickly as possible. The bulk of the request is $126 million for R&D to proceed with warhead development efforts required to achieve initial operating capability (IOC) by early 2010. The additional $49 million is procurement funding that is required for reentry body component long lead materials and shipboard systems and trainer modifications.

SSGN

Three of our SSGNs have already returned to service and the fourth will rejoin the fleet in about seven months. Operational tests are in progress and the first patrol is anticipated before year's end.

These SSGNs are already demonstrating a transformational war fighting capability, carrying Tomahawk cruise missiles and supporting special operating forces. They have enhanced communication and improved masts and antennae for network centric operations. We are forging new relationships within the Department of the Navy and the Department of Defense in order to ensure that these submarines be used to maximum advantage in the War on Terror.

Summary

Mr. Chairman and distinguished members of this subcommittee, I thank you for your continued support of Strategic Systems Programs and our operational fleet in particular. Our strategic force remains a credible and reliable deterrent today. It is our goal to ensure that the Nation is protected through efforts to maintain the safety, reliability, and surety of our deployed systems. Thank you again for this opportunity to appear today to speak on behalf of Navy Strategic Systems Programs.

Statement of Thomas P. D'Agostino
Acting Administrator
National Nuclear Security Administration
U.S. Department of Energy
Before the
Senate Committee on Armed Services
Subcommittee on Strategic Forces

March 28, 2007

Introduction

Mr. Chairman, thank you for the opportunity to appear before you today to discuss nuclear weapons policies and programs. My remarks today focus on the Reliable Replacement Warhead (RRW) program and our planning for the future nuclear weapons complex infrastructure—we call it Complex 2030. This is my first appearance before this Committee as the Acting Department of Energy (DOE) Under Secretary for Nuclear Security and Acting Administrator for the National Nuclear Security Administration (NNSA) and I want to thank all of the Members for their strong support for critical national security activities.

My testimony today will focus on the broad strategic context for our nuclear weapons program and, more specifically, describe how the experiences gained and lessons learned over the past 15 years have shaped where we are today and where we are heading in our efforts to "transform" the nuclear weapons stockpile and supporting infrastructure. I will do this by addressing the following questions:

- What is the role of nuclear weapons in the post-Cold War era?
- What was our original strategy for sustaining the stockpile and supporting infrastructure?
- Why do we need to adjust that strategy and why now?
- Where do we want to be in 2030?
- How is our RRW strategy consistent with non-proliferation and arms control?

What is the role of nuclear weapons in the post-Cold War era?

The policies guiding our nuclear weapons programs, and our strategic capabilities more generally, evolve from the 2001 Nuclear Posture Review (NPR), the follow-on Strategic Capabilities Assessment (which led to the dramatic reductions in the nuclear weapons stockpile approved by the President and announced in May 2004), the 2006 Quadrennial Defense Review, and the efforts of the Nuclear Weapons Council leading up to the RRW design selection announcement earlier this month.

The totality of this work has resulted in a number of conceptual breakthroughs in our thinking about nuclear forces—breakthroughs that have enabled concrete first steps in the transformation of our nuclear forces and capabilities. The recognition of a more dynamic and uncertain geopolitical threat environment but one in which Russia does not pose an immediate threat, the broad reassessment of the defense policy goals that we want nuclear forces to serve, and the evolution from a threat-based to a capabilities-based strategic force posture have enabled dramatic reductions in the nuclear force as well as reductions in operationally-deployed strategic warheads that were codified in the Moscow Treaty. This has also led to the deep reduction in the total nuclear warhead stockpile required to support operationally-deployed forces.

In response to the new and changing global environment, the United States has appropriately reduced its reliance on nuclear forces. Precision conventional strike and missile defenses are playing a relatively larger role in our overall security strategy and help strengthen deterrence by providing the President with a broader range of response options that can convince adversaries that any aggressive plans would not succeed. But nuclear weapons are still an important component of our security. Moreover, as we continue to draw down nuclear forces, we intend to rely more on a nuclear weapons R&D and manufacturing infrastructure that can respond in a timely manner and decisively to any new threats that do emerge. The concept that in an uncertain threat environment we can achieve defense policy goals by relying less on "inventory" and more on "capability to produce" was a profound outcome of the NPR.

What then is the role of nuclear weapons? Why, after the Cold War, are we retaining any nuclear weapons at all? And why are we retaining the number we plan to retain? All are fair questions. The last one is, of course, a work in progress—the President has said that he seeks the lowest number of weapons consistent with our nation's security and has moved aggressively to that end since taking office. He has authorized a reduction in the stockpile by nearly a factor of two since assuming office. (Details about this reduction, and the rationale for the size and composition of the remaining stockpile were provided in the classified May 2004 Report to Congress on the Revised Nuclear Warhead Stockpile Plan.) As a result of this and earlier reductions, the stockpile today is one-quarter its size at the end of the Cold War.

Several nations currently possess nuclear, chemical, and/or biological weapons, and the means to deliver these weapons, and have given no indication they are willing to give them up. But the rationale for our own nuclear forces is broader. Quite simply, U.S. nuclear weapons:

- Deter nuclear and other weapons of mass destruction (WMD) threats against the U.S., its forces, and its allies. This implies an ability to hold at risk those elements of power that a potential adversary values. While we should not expect that our nuclear weapons will deter terrorist WMD threats, they can deter transfer of nuclear weapons and other WMD from rogue states to terrorist groups.

- Deter large-scale wars of aggression against the U.S. or its allies.

- Dissuade potential adversaries from trying to match or exceed our nuclear capabilities or from engaging in strategic competition. This requires that we maintain a combination of forces and infrastructure so that a future competitor seeking to gain some nuclear

advantage would conclude that its buildup could not occur more quickly than the U.S. could respond.

- Assure allies of our continuing commitment to them and of our ability to make good on that commitment—the implication is that nuclear forces must be effective and reliable. This strengthens our ties with allies and also serves our non-proliferation objectives because those allies with the capability to develop nuclear weapons can continue to forego doing so, safe in the knowledge of the reliability of the U.S. nuclear umbrella.

More broadly, nuclear forces are the nation's "insurance policy" for an uncertain future and remain a key element of U.S. national security strategy. As a result, NNSA must continue to assure the safety and reliability of the U.S. nuclear stockpile and, consistent with the President's direction to continue a nuclear test moratorium, do so without nuclear testing.

What was our original strategy for sustaining the stockpile and supporting infrastructure? What post-Cold War, post-nuclear testing strategy did we decide would best sustain the stockpile and supporting infrastructure? In the years following the end of the Cold War, budgets for nuclear weapons programs were in "free fall"—funding was simply not available to sustain both R&D and production capabilities. A strategic decision was made to sustain and strengthen weapons program scientific and technical activities in order to ensure a future capability to certify the stockpile. While this was a reasonable decision given the limited resources at that time, in effect we mortgaged the present to ensure the future.

That future was seen as science-based stockpile stewardship and life extension of our Cold War legacy warheads.

When the U.S. stopped nuclear testing in 1992, it sought to replace this critical tool with a Stockpile Stewardship Program (SSP) that emphasized science and technology coupled with a vigorous experimental program as a means to understand better the physics and chemistry of nuclear weapons and their operation, and provided enhanced warhead surveillance tools so that we would have a much better chance of detecting the onset of problems in the stockpile.

The goal of the SSP has been to predict the effects of aging in our warheads so that we could replace aging components before they degraded overall system reliability. The end of the Cold War provided this opportunity—our focus was no longer on a continuous cycle of fielding new warheads to provide new military capabilities, but on sustaining existing nuclear capabilities.

We call this "life extension"—the process of observing the aging of individual components of warheads and replacing them before they fail. Consider this challenge. Your 1965 Ford Mustang, which you maintain as a collector's item, has been sitting in your garage for 40 years. You monitor it for such items as a clogged carburetor, corrosion in the engine block, battery discharge, etc. and you replace parts when you deem it necessary. But you don't get to start the engine and take it for a test drive. The trick is to assure that if you do need it right away that it would work with certainty. That's what we have to do in a nuclear weapons "life extension program" or "LEP."

By the mid-1990's we had embarked on a program to acquire the new tools of stockpile stewardship—advanced computing, high energy density physics capabilities, modern diagnostics facilities, enhanced surveillance, etc.—that would provide the best available alternative to nuclear tests to assure continued confidence in stockpile safety and reliability. Since then, we have made good progress in acquiring and employing these new capabilities.
In 2001 when this administration took office, it thus inherited:

- A strong science base and surveillance program.
- A safe and reliable, but aging stockpile, with serious questions about the future.
- A plan for warhead life extension (but no new development programs underway).

But, it also inherited a deteriorating or non-functioning manufacturing complex characterized by:

- Protracted underfunding
- Idled production capabilities
- Inability to produce plutonium parts
- Inability to produce/extract tritium
- Key facilities not being maintained
- Overly risk averse culture
- Aging workforce

To be fair, some declining production capabilities were not needed at that time to support the stockpile. And we were able, after several years delay, to rebuild components for the W87 LEP which commenced in the 1990's and completed in 2004. While we couldn't produce tritium, we didn't need to then because the large reductions in the stockpile at the end of the Cold War ensured adequate tritium reserves for an extended period for remaining warheads. Nonetheless, by not maintaining some key production capabilities, we ran additional risks in terms of not being responsive to unanticipated events.

Despite problems with the production infrastructure, follow-on efforts to the 2001 NPR led to a substantial reduction in the size of the nuclear stockpile. But, because we couldn't produce warheads when and if they were needed—to hedge technical problems in the stockpile or adverse geopolitical changes—we still had to maintain a larger stockpile than desired.

As a result, and in response to the NPR's call for a more responsive defense R&D and manufacturing infrastructure, we began to restore a balance in the overall program by:

- Continuing to fund R&D and aggressive stockpile surveillance,
- Implementing comprehensive stockpile life extension programs, and
- Restoring lost production capabilities and modernizing others as required.

The NPR was instrumental in our receiving additional resources to restore this balance. Indeed, over the past few years we have made substantial progress including initial steps to achieve the Complex 2030 vision for modernizing the nuclear weapons infrastructure. Specifically, we

- Restored tritium production and extraction from irradiated assemblies in TVA reactors,
- Restored key uranium operations at Y-12 in time to meet demanding LEP schedules,
- Recruited/retained strong workforce with the right skills for the mission,
- Are recapitalizing facilities suffering from years of deferred maintenance,

- Are implementing plans to ramp up to an interim plutonium pit production capacity of 30-50 pits per year at Los Alamos by 2012,
- Are reducing the number of sites with Category I/II special nuclear materials (SNM) and consolidating such material within the remaining sites,
- Are dramatically accelerating dismantlement of retired warheads, and
- Are streamlining and improving business practices including managing risk more effectively (e.g., recent success in increasing throughput at our Pantex facility).

But we have a ways to go including defining the right path to restore our ability to produce plutonium components in sufficient quantity to support the long-term needs of the stockpile.

Why do we need to adjust that strategy and why now?
In 2003 we "took stock" of ten years of the SSP and came to some important conclusions. Let me first reemphasize that the SSP is working—today's stockpile remains safe and reliable and does not require nuclear testing. This assessment is based on a foundation of past nuclear tests augmented by cutting edge scientific and engineering experiments and analysis including improved warhead surveillance. Most importantly, it derives from the professional (and independent) judgment of our lab directors advised by their weapons' program staffs.

As we continue to draw down the stockpile, however, we have become concerned that our current path—successive refurbishments of existing warheads developed during the Cold War and to stringent Cold War specifications—may pose an unacceptable risk to maintaining high confidence in system performance over the long-term.

Specifically, the directors of our national laboratories raised concerns about their ability to assure the reliability of the legacy stockpile over the very long term absent nuclear testing.

The evolution away from designs certified with underground nuclear tests, resulting from inevitable accumulations of small changes over the extended lives of these highly-optimized systems, is what gives rise to the concerns.

While we are confident that the stockpile stewardship program is working and that today's stockpile is safe and reliable, it is only prudent to explore alternative means to manage risk in seeking to ensure stockpile reliability over the long term.

This is, in part, the impetus for our work on RRW: to ensure sustainment of the military capabilities provided by the existing stockpile, not develop warheads for new or different military missions.

A second major driver was the realization after 9/11 that the security threat to our nuclear warheads had fundamentally changed. The security features in today's stockpile are commensurate with technologies that were available during the Cold War and with the threats from that time. Major enhancements in security are not easily available via retrofits in the legacy stockpile.

Specifically, the RRW program is examining the feasibility of providing replacement warheads for the legacy stockpile. Relaxing Cold War design constraints that sought maximum yield in a minimum size/weight package will allow design of replacements that are easier and less costly to manufacture, are safer and more secure, eliminate environmentally dangerous materials, and increase design performance margins, thus ensuring long-term confidence in reliability.

RRW, therefore, also offers a means to transform to a much more efficient and responsive, much smaller, and, we believe, less costly nuclear weapons R&D and production infrastructure.

In 2005, an RRW design competition was initiated involving two independent teams from our nuclear weapons design labs—Lawrence Livermore and Los Alamos, both working with Sandia. A competition of this sort has not taken place in more than two decades, and the process has provided a unique opportunity to train the next generation of nuclear weapons designers and engineers.

Last November, the joint DoD-DOE Nuclear Weapons Council concluded that RRW was a feasible strategy to sustain the nuclear stockpile over the long term.

In March 2007, the NNSA and DoD jointly announced the results of the design competition. The Lawrence Livermore/Sandia design was selected, and an integrated design team led by those two labs will head up joint efforts to develop a replacement warhead for a portion of the nation's sea-based nuclear deterrent. I want to emphasize that this announcement addressed selection of a baseline design for RRW in order to develop a detailed cost, scope and schedule; it was not a decision to begin engineering development of a warhead.

The need to start RRW now is driven by two basic reasons. First, the introduction of the RRW system provides the benefit of additional diversity in the nation's sea-based nuclear force. RRW will replace a portion of W76 warheads deployed on the Trident SLBM system. That particular warhead comprises a very high percentage of our planned future strategic nuclear deterrent force under the Moscow Treaty and an even larger fraction of the force available on a day to day basis. Although we have not uncovered any problems with the W76, it is prudent to hedge against a catastrophic failure of that system by introducing a genetically-diverse warhead design into the SLBM force. Our ability over the next 15 years to produce new plutonium parts for the RRW is very limited—the sooner we start the sooner we can achieve this diversity.

Second, the RRW effort has provided a critical opportunity to ensure the transfer of nuclear design skills from the generation that honed these skills with nuclear testing to the generation that will replace them. In five years, nearly all of that older generation will be retired or dead. Without this opportunity coming at this time (and not five years hence), we would not be able to sustain and transfer the key knowledge and skills necessary to maintain the nuclear stockpile.

Finally, our decision to embark on the path to an RRW does not result from a failure of the stockpile stewardship program, as some have suggested, but is a reflection of its success. The SSP has revealed the need to pursue this approach. Moreover, aggressive pursuit of the new scientific tools currently in use and being developed under the SSP is essential, not only to sustain existing warheads for as long as they are needed, but to our efforts to design, develop and

produce replacement warheads that are safer, more secure, more reliable, and cost-effective over the long term without the need for nuclear testing.

Where do we want to be in 2030?
We seek a Complex 2030 infrastructure that can respond on needed timescales to technical problems in the stockpile or emerging geopolitical threats. Such an infrastructure will provide, sustained long-term confidence in stockpile reliability, enhanced stockpile safety and security, a smaller stockpile with reduced likelihood of requiring future underground nuclear tests, excellence in weapons-related science and R&D, a modernized, fully capable, warhead manufacturing facilities with a production capacity of about 100 warheads per year (not the 2000 warheads per year capacity we had during the Cold War), and periodic exercise of key nuclear design capabilities that have lain dormant for two decades.

With such an infrastructure we believe that we can achieve reduced DOE and DoD ownership costs for nuclear forces over the long term. A smaller stockpile means a lower overall cost to certify, remanufacture, refurbish, and dismantle warheads. A complex in which we consolidate nuclear materials in fewer locations will help contain ever-increasing resources devoted, post-9/11, to physical security. Finally, we will continue to reduce costs by more efficient business practices, including better management of the safety and security risks inherent to our work.

How is our RRW strategy consistent with non-proliferation and arms control?
The RRW strategy itself has positive implications for non-proliferation.

These warheads, by design, will not provide a new role for nuclear weapons or new military capabilities but will help sustain the military capabilities of the existing nuclear arsenal.

Because these warheads would be designed with more favorable performance margins, and be less sensitive to incremental aging effects, they would reduce the possibility that the United States would ever be faced with a need to conduct a nuclear test to diagnose or remedy a stockpile reliability problem. This supports overall U.S. efforts to dissuade other nations from conducting nuclear tests.

In fielding RRWs, we will not be increasing the size of the stockpile. These warheads will replace existing warheads on at most a one-for-one basis.

Once a transformed production complex demonstrates that it can produce replacement warheads on a timescale in which geopolitical threats could emerge or respond in a timely way to technical problems in the stockpile, then we can go much further in eliminating spare warheads—further reducing the nuclear stockpile and, along with a host of other activities, demonstrating our commitment to Article VI of the Nonproliferation Treaty (NPT).

Our near-term strategy also includes an increased rate for dismantling warheads that are retired from the stockpile. Warhead dismantlements ensure that stockpile and infrastructure transformation is not misperceived by other nations as "restarting the arms race."

A safe, secure and reliable U.S. nuclear deterrent, credibly extended to allies, supports U.S. non-proliferation policy because allies that are confident in U.S. extended nuclear deterrence guarantees will not be motivated to develop and field their own nuclear forces. This non-proliferation role of U.S. nuclear weapons is often underestimated.

Finally, we should not forget that the human capital and technical expertise built up over decades to support nuclear weapons programs are the same resources that support nonproliferation, arms control and threat reduction efforts. The linkages and synergies among these programs enhance overall security.

Conclusion
Let me conclude by summarizing my basic message:

- To meet its own security needs and those of its allies, the United States will need a safe, secure, and reliable nuclear deterrent for the foreseeable future. We will achieve this with the smallest nuclear stockpile consistent with our nation's security.

- We see increased risk, absent nuclear testing, in assuring the long-term reliability of today's stockpile—i.e., the legacy warheads left over from the Cold War—that undergo a continuous process of aging, and refurbishment of aging components, and consequently accumulate small changes away from the original tested and certified designs.

- Today's nuclear weapons complex is not sufficiently "responsive" to technical problems in the stockpile or to possible adverse geopolitical change.

- Our task is to work to ensure that the U.S. nuclear weapons enterprise, including the stockpile and supporting infrastructure, meets long-term national security needs.

- Our approach is to develop and field replacement warheads for the legacy stockpile as a means to transform both the nuclear stockpile and supporting infrastructure.

- These warheads will have enhanced safety and security features.

- We intend to accomplish all of this in a manner fully consistent with our obligations under the NPT and without requiring underground nuclear tests.

I am confident that NNSA is headed in the right direction in the coming Fiscal Year. The Budget Request will support continuing our progress in protecting and certifying our nation's strategic deterrent, transforming our nuclear weapons stockpile and infrastructure, reducing the global danger from proliferation and weapons of mass destruction, and enhancing the force projection capabilities of the U.S. nuclear Navy. It will enable us to continue to maintain the safety and security of our people, information, materials, and infrastructure. Taken together, each aspect of this Budget Request will allow us to meet our national security responsibilities during the upcoming Fiscal Year and well into the future.

Our FY 2008 Budget Request for Weapons Activities follows along with a statistical appendix that contains the budget figures supporting our Request. I look forward to answering any questions on the justification for the requested budget.

ATTACHMENT

FY 2008 BUDGET REQUEST FOR WEAPONS PROGRAM ACTIVITIES

The President's FY 2008 Budget Request for NNSA totals $9.4 billion, an increase of $306 million or 3.4 percent over the FY 2007 operating plan. We are managing our program activities within a disciplined five-year budget and planning envelope, and are successfully balancing the Administration's high priority initiatives to reduce global nuclear danger as well as future planning for the Nation's nuclear weapons complex within an overall modest growth rate.

The NNSA budget justification contains information for five years as required by Sec. 3253 of P.L. 106-065. This section, entitled *Future-Years Nuclear Security Program*, requires the Administrator to submit to Congress each year the estimated expenditures necessary to support the programs, projects and activities of the NNSA for a five-year fiscal period, in a level of detail comparable to that contained in the budget.

The FY 2008-2012 Future Years Nuclear Security Program -- FYNSP -- projects $50.0 billion for NNSA programs though 2012. This is an increase of about $1.5 billion over last year's projections in line with the Administration's strong commitment to the Nation's defense and homeland security. The FY 2008 request is slightly smaller than last year's projection; however, the outyears are increased starting in 2009. Within these amounts, there is significant growth projected for the Defense Nuclear Nonproliferation programs to support homeland security, including new initiatives and acceleration of threat reduction programs and increased inspection of seagoing cargoes destined for ports in the United States.

Weapons Program Activities

The FY 2008 Budget Request for the programs funded within the Weapons Activities Appropriation is $6.51 billion, an approximately 3.8 percent increase over the FY 2007 operating plan. It is allocated to adequately provide for the safety, security, and reliability of the nuclear weapons stockpile and supporting facilities and capabilities.

This request supports the requirements of the SSP consistent with the Administration's NPR and subsequent amendments, and the revised stockpile plan submitted to the Congress in June 2004. Our request places a high priority on accomplishing the near-term workload and supporting technologies for the stockpile along with the long-term science and technology investments to ensure the design and production capability and capacity to support ongoing missions. This request also supports the facilities and infrastructure that must be modernized to be responsive to new or emerging threats.

The Department has made significant strides over the past year to transform the nuclear weapons complex. The "Complex 2030" planning scenario was introduced in 2006 and has already resulted in a number of accomplishments. We have not created a separate budget line for our transformational activities in the FY 2008 President's Request. Implementation actions to bring about transformation are incorporated into existing program elements: Directed Stockpile Work

(DSW), Campaigns, Readiness in Technical Base and Facilities (RTBF), and Secure Transportation Asset. The approach to transformation relies extensively on existing line program organizations taking responsibility for individual actions required to change both the stockpile and its supporting infrastructure. While the Administration continues to assess the plans and funding projections for certain elements of NNSA's complex transformation strategy, this budget contains resources to support a number of transformational initiatives underway within our base program activities.

In FY 2008, we are requesting $1.45 billion for DSW, an increase of $21.5 million over the FY 2007 operating plan. We will continue an aggressive dismantlement plan for retired warheads and consolidation of special nuclear material across the nuclear weapons complex. Both of these efforts will contribute to increasing the overall security at NNSA sites. In FY 2007, funding was increased to cover upfront costs associated with tooling procurement, procedure development, Safety Authorization Basis work, hiring of production technicians, and equipment purchases, which will support future-year dismantlement rates. The FY 2008 request reflects the required funding to support the planned dismantlement rates reported to Congress. Funding at higher levels was unnecessary once the dismantlement process was improved with FY 2005 and FY 2006 funding. In May 2006, the NWC directed that the W80 LEP be deferred to support NNSA efforts to transform the nuclear weapons complex and continue work on a RRW. At the same time, the B61 and W76 LEP workloads are increasing, since they both will have entered the production phase by FY 2008. DSW also supports routine maintenance and repair of the stockpile and supports managing the strategy, driving the change, and performing the crosscutting initiatives required to achieve responsiveness objectives envisioned in the NPR. Our focus remains on the stockpile, to ensure that the nuclear warheads and bombs in the U.S. nuclear weapons stockpile are safe, secure, and reliable.

Progress in other elements of the SSP continues. The FY 2008 request for the six Campaigns is $1.87 billion, a $113 million decrease from the FY 2007 operating plan. The decrease in program funding is required to balance overall weapon activity priorities, specifically the transition of the W76 LEP from R&D to production, the consolidation of computing facilities, and a large decrease in Readiness Campaign activities associated in part to the transition of Tritium Extraction Facility to full operations. The Campaigns focus on scientific and technical efforts and capabilities essential for assessment, certification, maintenance, and life extension of the stockpile and have allowed NNSA to continue "science-based" stockpile stewardship. These Campaigns are evidence of NNSA's excellence and innovation in science, engineering and computing that, though focused on the nuclear weapons mission, have broader application and value. The use of DOE Office of Science facilities in supporting Stockpile Stewardship science and engineering will increase modestly at the same time that access to NNSA's science facilities is extended to a broader community of users.

Specifically, $425.8 million for the Science and Engineering Campaigns provides the basic scientific understanding and the technologies required to support DSW and the completion of new scientific and experimental facilities in the absence of nuclear testing.

The Readiness Campaign, with a request of $161.2 million, develops and delivers design-to-manufacture capabilities to meet the evolving and urgent needs of the stockpile and supports the

transformation of the nuclear weapons complex into an agile and more responsive enterprise. In February 2007, startup of the Tritium Extraction Facility at the Savannah River Site was completed, making possible the use of new tritium in the U.S. stockpile for the first time in 18 years.

The Advanced Simulation and Computing (ASC) Campaign is a key example of NNSA excellence and innovation in science and engineering, establishing world leadership in computational simulation sciences with broad application to national security. The request of $585.7 million for the ASC Campaign supports the development of computational tools and technologies necessary to support the continued assessment and certification of the refurbished weapons, aging weapons components, and the RRW program without underground nuclear testing. As we enhance and validate the predictive science capabilities embodied in these tools, using the historical test base of more than 1,000 Cold War era nuclear tests to computer simulations, we can continue to assess the stockpile to ensure that it is safe, secure, and reliable.

The $412.3 million request for the Inertial Confinement Fusion Ignition and High Yield Campaign is focused on the execution of the first ignition experiment at the National Ignition Facility (NIF) in 2010, and provides facilities and capabilities for high-energy-density physics experiments in support of the SSP. To achieve the ignition milestone, $147 million will support construction of NIF and the NIF Demonstration Program and $232.2 million will support the National Ignition Campaign. The ability of NIF to assess the thermonuclear burn regime in nuclear weapons via ignition experiments is of particular importance. NIF will be the only facility capable of probing in the laboratory the extreme conditions of density and temperature found in exploding nuclear weapons.

NIF will join the Z pulsed-power machine at Sandia National Laboratories and the Omega Laser at University of the Rochester's Laboratory for Laser Energetics as world leading facilities in providing quantitative measurements that close important gaps in understanding nuclear weapons performance. NIF, Omega, and Z are complementary in their capabilities, allowing scientists from both inside and outside the nuclear weapons complex to contribute to a better understanding of the high energy density physics of nuclear warheads. NIF will provide the only access in the world to thermonuclear ignition conditions and the Omega laser with its symmetric illumination and very high repetition rate provides a large amount of quantitative information. The Z facility is especially suited for accurate measurement of materials properties that are crucial to weapons performance. These facilities will be operated as national user facilities in order to obtain the best return on investment and maximum contribution to the Stockpile Stewardship mission.

The Pit Manufacturing and Certification Campaign request of $281 million builds on the success of manufacturing and certifying a new W88 pit in 2007 and addresses issues associated with manufacturing future pit types including the RRW and increasing pit production capacity at LANL. There are plans to increase pit production capacity at LANL to meet national security needs. LANL is not only an interim capability for pit manufacturing at the present time, but it serves as the United States' sole capability. We continue to be the only nuclear weapon state without a true manufacturing capability.

Readiness in Technical Base and Facilities (RTBF) and Facilities and Infrastructure Recapitalization Program (FIRP)

In FY 2008, we are requesting $1.96 billion for the maintenance and operation of existing facilities, remediation and disposition of excess facilities, and construction of new facilities. Of this amount, $1.66 billion is requested for RTBF, an increase of $49 million from the FY 2007 operating plan, with $1.36 billion reserved for Operations and Maintenance and $307 million for RTBF Construction. Some new facility construction (e.g., NIF, MESA, TEF, and DARHT) is budgeted in applicable Campaigns.

This request also includes $293.7 million for the Facilities and Infrastructure Recapitalization Program (FIRP), a separate and distinct program that is complementary to the ongoing RTBF efforts. The FIRP mission is to restore, rebuild and revitalize the physical infrastructure of the nuclear weapons complex, in partnership with RTBF. This program assures that facilities and infrastructure are restored to an appropriate condition to support the mission, and to institutionalize responsible and accountable facility management practices. In response to NNSA's request, Congress extended the FIRP end date from 2011 to 2013 to enable successful completion of the FIRP mission. The Integrated Prioritized Project List (IPPL) is the vehicle that the FIRP program will rely on to prioritize and fund outyear projects to reduce legacy deferred maintenance. These projects significantly reduce the deferred maintenance backlog to acceptable levels and support the SSP mission and transformation of the complex.

These activities are critical for the development of a more responsive infrastructure and will be guided by decisions resulting from the Complex 2030 Supplemental Programmatic Environmental Impact Statement and the National Environmental Policy Act (NEPA) process. Since a significant fraction of our production capability resides in World War II era facilities, infrastructure modernization, consolidation, and sizing consistent with future needs is essential for an economically sustainable Complex. Facilities designed according to modern manufacturing, safety, and security principles will be more cost-effective and responsive to a changing future. For example, a facility could be designed to support a low baseline capacity and preserve the option, with a limited amount of contingent space, to augment capacity if authorized and needed to respond to future risks.

Having a reliable plutonium capability is a major objective of NNSA planning. Options for plutonium research, surveillance, and pit production are being evaluated as part of the Complex 2030 NEPA process with a Record of Decision anticipated in 2008. The baseline Complex 2030 planning scenario relies on Los Alamos National Laboratory facilities at Technical Area 55 to provide interim plutonium capabilities until a consolidated, long-term capability can be established. This interim strategy relies on the proposed Chemistry and Metallurgy Research Replacement – Nuclear Facility (CMRR-NF) to achieve all the objectives of (1) closing the existing Chemistry and Metallurgy Research (CMR) facility, (2) replacing essential plutonium capabilities currently at Lawrence Livermore National Laboratory, and (3) achieving a net manufacturing capacity of 50 pits per year. However, the increasing cost of the CMRR-NF and the need to ensure that near- and long-term planning for plutonium facilities are integrated requires that we complete our Complex 2030 decision process before committing to construction

of the CMRR-NF. Since the CMRR Radiological Laboratory, Utility, and Office Building (CMRR-RLUOB) is required under all scenarios, this project will proceed as planned.

The Highly Enriched Uranium Materials Facility (HEUMF) and the proposed Uranium Processing Facility (UPF) will allow a reduction of the high security area at the Y-12 National Security Complex from 150 acres to 15 acres. This reduction will combine with the engineered security features of the two structures to meet the DBT at significantly reduced costs, to lower non-security costs, and to provide a responsive highly enriched uranium manufacturing capability. UPF planning is consistent with the timing of decisions from the Complex 2030 PEIS process.

Secure Transportation Asset

In FY 2008, the Budget Request includes $215.6 million for Secure Transportation Asset (STA) Program, an increase of $6 million from the FY 2007 operating plan, for meeting the Department's transportation requirements for nuclear weapons, components, and special nuclear materials shipments. The workload requirements for this program will escalate significantly in the future to support the dismantlement and maintenance schedule for the nuclear weapons stockpile and the Secretarial Initiative to consolidate the storage of nuclear material. The challenge to increase secure transport capacity is coupled with and impacted by increasingly complex national security concerns. To support the escalating workload while maintaining the safety and security of shipments, STA is increasing the number of SafeGuards Transporters (SGT) in operation by two per year, with a target total of 51 in FY 2014. Due to resource constraints, SGT production has been slowed from three to two per year, extending the original 2011 endpoint target date.

Environmental Projects and Operations

The Environmental Projects and Operations/Long-Term Stewardship Program is requested at $17.5 million in FY 2008. This program serves to reduce the risks to human health and the environment at NNSA sites and adjacent areas by: operating and maintaining environmental clean-up systems; performing long-term environmental monitoring activities; and, integrating a responsible environmental stewardship program with the NNSA mission activities.

Nuclear Weapons Incident Response

The Nuclear Weapons Incident Response (NWIR) Program responds to and mitigates nuclear and radiological incidents worldwide as the United States Government's primary capability for radiological and nuclear emergency response. The FY 2008 Request for these activities is $161.7 million, of which $28 million is reserved for the implementation of two new initiatives that will strengthen the Nation's emergency response capabilities - the National Technical Nuclear Forensics (NTNF) and the Stabilization Implementation programs.

The National Technical Nuclear Forensics Program will establish a DOE capability to support post-detonation activities and enhance DOE Technical Nuclear Forensics capabilities. The development of this capability will facilitate the thorough analysis and characterization of pre-

and post-detonation radiological and nuclear materials and devices as well as prompt signals from a nuclear detonation. Developing forensic capabilities of this nature is crucial to the overall objective of nuclear material or device attribution.

Stabilization is a new concept and a new capability aimed at using advanced technologies to enhance the U.S. Government's ability to interdict, delay and/or prevent operation of a terrorist's radiological or nuclear device until national assets arrive on the scene to conduct traditional "render safe" procedures. NNSA has actively sponsored new research in this area and, additionally, is leveraging emerging technologies that have been demonstrated successfully by the DoD in support of the global war on terrorism. In the implementation phase, NNSA will transfer these matured projects into operational testing, potentially followed by their transition into the collection of tools available to Federal response teams.

Safeguards and Security

The FY 2008 Request for Defense Nuclear Security is $744.8 million, an increase of $121 million above the FY 2007 operating plan. This increase will accommodate the increased cost of sustaining the implementation of the 2003 DBT and the phased implementation of the 2005 DBT in 2008 and the outyears. Full implementation of the 2005 DBT will occur at: the Pantex Plant in FY 2008; Lawrence Livermore National Laboratory in FY 2008; the Nevada Test Site in FY 2009; the Y-12 National Security Complex in FY 2011; and, LANL in FY 2011. During FY 2008, the program's efforts will largely be focused on eliminating or mitigating identified vulnerabilities across the nuclear weapons complex by bolstering protective force training, acquiring updated weapons and support equipment, improving physical barrier systems and standoff distances, and reducing the number of locations with "targets of interest." Physical security systems will be upgraded and deployed to enhance detection and assessment, add delay and denial capabilities, and to improve perimeter defenses at several key sites.

The FY 2008 Request for Cyber Security is $102.2 million is focused on sustaining the NNSA infrastructure and upgrading elements designed to counter cyber threats and vulnerabilities from external and internal attacks. This funding level will support cyber security revitalization, identify emerging issues, including research needs related to computer security, privacy, and cryptography. Additionally, the funding will provide for enhancement, certification, and accreditation of unclassified and classified systems to ensure proper documentation of risks and justification of associated operations for systems at all sites. The funding within this Request will also be applied to foster greater cyber security awareness among Federal and contractor personnel. NNSA will sponsor a wide range of educational initiatives to ensure that our workforce possess the ever-expanding cyber security skills critical to safeguarding our national security information. Funding provided to NNSA sites will be conditioned upon their implementation of a risk-based approach to cyber security.

National Nuclear Security Administration

Appropriation and Program Summary Tables
Outyear Appropriation Summary Tables

FY 2008 BUDGET TABLES

National Nuclear Security Administration
Appropriation and Program Summary

(dollars in millions)

	FY 2006 Current Appropriations	FY 2007 Operating Plan	FY 2008 Request
National Nuclear Security Administration (NNSA)			
Office of the Administrator	354.2	340.3	394.7
Weapons Activities (after S&S WFO offset)	6,355.3	6,275.6	6,511.3
Defense Nuclear Nonproliferation	1,619.2	1,683.3	1,672.6
Naval Reactors	781.6	781.8	808.2
Total, NNSA	9,110.3	9,081	9,386.8

NOTE: The FY 2006 column includes an across-the-board rescission of 1 percent in accordance with the Department of Defense Appropriations Act, 2006, P.L. 109-148.

The NNSA budget justification contains information for five years as required by Sec. 3253 of P.L. 106-065. This section, entitled *Future-Years Nuclear Security Program (FYNSP)*, requires the Administrator to submit to Congress each year the estimated expenditures necessary to support the programs, projects and activities of the NNSA for a five-year fiscal period, in a level of detail comparable to that contained in the budget.

Outyear Appropriation Summary
NNSA Future-Years Nuclear Security Program (FYNSP)

(dollars in millions)

	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
NNSA					
Office of the Administrator	395	405	415	425	436
Weapons Activities (after S&S offset)	6,511	6,705	6,904	7,111	7,324
Defense Nuclear Nonproliferation	1,673	1,798	1,845	1,893	1,942
Naval Reactors	808	828	849	870	892
Total, NNSA	9,387	9,736	10,013	10,299	10,594

Weapons Activities
Funding Profile by Subprogram

(dollars in thousands)

	FY 2006 Current Appropriation	FY 2007 Operating Plan	FY 2008 Request
Weapons Activities			
Directed Stockpile Work	1,372,327	1,425,722	1,447,236
Science Campaign	276,670	270,458	273,075
Engineering Campaign	247,907	162,786	152,749
Inertial Confinement Fusion Ignition and High Yield Campaign	543,582	489,706	412,259
Advanced Simulation and Computing Campaign	599,772	611,973	585,738
Pit Manufacturing and Certification Campaign	238,663	242,392	281,230
Readiness Campaign	216,567	201,713	161,169
Readiness in Technical Base and Facilities	1,654,840	1,613,241	1,662,144
Secure Transportation Asset	209,979	209,537	215,646
Nuclear Weapons Incident Response	117,608	133,514	161,748
Facilities and Infrastructure Recapitalization Program	149,365	169,383	293,743
Environmental Projects and Operations	0	0	17,518
Safeguards and Security	797,751	761,158	881,057
Other	0	17,000	0
Subtotal, Weapons Activities	**6,425,031**	**6,308,583**	**6,545,312**
Use of Prior Year Balances			
Security Charge for Reimbursable Work	-32,000	-33,000	-34,000
Use of Prior Year Balances	-37,734	0	0
Total, Weapons Activities	**6,355,297**	**6,275,583**	**6,511,312**

Public Law Authorization:

John Warner National Defense Authorization Act for FY 2007 (P.L. 109-364)

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2009	FY 2010	FY 2011	FY 2012
Weapons Activities				
Directed Stockpile Work	1,483,417	1,520,502	1,558,515	1,597,478
Science Campaign	282,741	275,622	270,390	275,626
Engineering Campaign	147,090	144,448	142,614	145,417
Inertial Confinement Fusion Ignition and High Yield Campaign	406,098	413,186	411,851	407,487
Advanced Simulation and Computing Campaign	598,241	583,643	570,873	582,243
Pit Manufacturing and Certification Campaign	291,945	339,462	357,622	347,269
Readiness Campaign	190,477	184,703	180,357	183,946
Readiness in Technical Base and Facilities	1,698,403	1,765,458	1,862,729	1,952,633
Secure Transportation Asset	228,300	237,749	253,037	262,118
Nuclear Weapons Incident Response	169,835	178,327	187,243	196,605
Facilities and Infrastructure Recapitalization Program	286,572	297,096	304,330	312,000
Environmental Projects and Operations	32,471	29,923	30,864	31,574
Safeguards and Security	924,410	969,881	1,017,575	1,067,604
Subtotal, Weapons Activities	**6,740,000**	**6,940,000**	**7,148,000**	**7,362,000**
Security Charge for Reimbursable Work	-35,000	-36,000	-37,000	-38,000
Total, Weapons Activities	**6,705,000**	**6,904,000**	**7,111,000**	**7,324,000**

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SENATE ARMED SERVICES COMMITTEE

Statement of

Mr. Brian R. Green

Deputy Assistant Secretary of Defense
Strategic Capabilities

for

The Senate Armed Services Committee
Strategic Forces Subcommittee Hearing

Regarding

Global Strike Issues

28 March 2007

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SENATE ARMED SERVICES COMMITTEE

Written Statement of Mr. Brian Green
Deputy Assistant Secretary of Defense for Strategic Capabilities
before
The Senate Armed Services Committee
Subcommittee on Strategic Forces

March 28, 2007

I. Opening Remarks

Chairman Nelson, Senator Sessions and Distinguished Members of the Subcommittee:

I welcome the opportunity to describe our progress in transforming the nation's strategic capabilities to meet 21st Century security challenges. You understand the importance of this undertaking, and recognize the need to field a New Triad better suited to the new security environment. I want to thank the members of the committee for their support. Successful transformation of our capabilities will require a sustained partnership between the Department of Defense and the Congress.

II. The Nuclear Posture Review and the Role of Nuclear Weapons

The Nuclear Posture Review (NPR) of 2001 put in motion a major change in the role of nuclear forces in our deterrent strategy. The NPR emphasized the need for a broader range of deterrent options and capabilities and established a New Triad composed of offensive strike systems (nuclear, non-nuclear, and non-kinetic); defenses (both active and passive); and a revitalized defense infrastructure—all supported by adaptive planning, command and control, and Intelligence, Surveillance, and Reconnaissance capabilities. The New Triad is intended to reduce our dependence on nuclear weapons and improve our ability to deter attack in the face of proliferating weapons of mass destruction.

The rationale behind the NPR's findings remain valid: the Cold War Triad of nuclear strike systems is not adequate to support the full range of potential challenges and threats in the new security environment. An array of capabilities, including prompt conventional Global Strike, is ultimately necessary to address the new security risks the United States faces.

That said, nuclear capabilities possess unique properties and provide credible military options to deter a wide range of threats, including WMD use. Nuclear weapons will continue to play a vital role in assuring allies of U.S. security commitments, deterring WMD threats, and holding at risk adversary assets and capabilities that cannot be countered through non-nuclear means. The U.S. will continue to honor its extended deterrence commitments to allies—a critical part of our national security and an important tool in our non-proliferation efforts. Extended deterrence, in turn, requires long-term confidence in the reliability and safety of the U.S. nuclear stockpile, and the Reliable Replacement Warhead program is essential to achieving that end. In short, the United States will retain a credible nuclear deterrent at the lowest level of weapons consistent with U.S. and allied security. In transitioning to a New Triad, however, these weapons must be integrated with new non-nuclear strategic capabilities to provide an appropriate range of options.

III. Implementing The Nuclear Posture Review (NPR)

We have made some progress in implementing the NPR over the past five years:

1. We have deployed an initial missile defense capability to protect our nation, deployed forces, friends and allies, and are expanding that capability through evolutionary development and international cooperation.

2. We are on schedule to reduce U.S. nuclear forces to 1,700-2,200 operationally deployed strategic nuclear warheads by 2012. In addition, we have retired the last Peacekeeper ICBM, and DoD plans to retire 50 of the 500 deployed Minuteman III ICBMs and 38 of the 94 B-52 bombers. We will use the savings to provide for a robust Minuteman III test program as well as to help sustain and modernize the remaining bomber fleet.

The remaining Minuteman III ICBM force is being sustained through a life-extension program. The program will keep this element of the New Triad's offensive leg operational and effective into the foreseeable future. DoD is also examining future approaches to a follow-on land-based long-range nuclear strike capability.

3. We have selected a lead National Lab to conduct the engineering and design work on a Reliable Replacement Warhead (RRW) to replace a portion of our sea-based deterrent. The RRW program is vital to assuring long-term confidence in our nuclear deterrent and improving our responsive infrastructure.

4. We are also making improvements to our intelligence and planning capabilities.

IV: Global Strike

Our progress, however, has been uneven. We have not provided the broader range of conventional strike options that both the NPR and the Quadrennial Defense Review (QDR) called for in order to engage high-value or fleeting enemy targets located in access-denied areas; nor have we closed the gap in *prompt*, long-range conventional (non-nuclear) strike capabilities that the QDR identified.

The 2006 QDR considered the new security environment and underscored the need for prompt Global Strike capabilities to address a range of challenges. The QDR identified the following objectives for Global Strike's operational and enabling capabilities:

- Provide the President and the warfighter with a broader range of conventional response options to deter aggression or coercion;
- Attack fleeting enemy targets rapidly;
- Fuse intelligence and operations to exploit time-sensitive intelligence;
- Find and precisely target enemy capabilities in denied areas;
- Deter, defend against and respond in an overwhelming manner to WMD attacks; and
- Shape and defend cyberspace.

DoD has strengthened its conventional strike capabilities with the introduction of the Joint Air-to-Surface Standoff Missile (JASSM) and the Tactical Tomahawk (TACTOM) cruise missile. These missiles offer stealthy (in the case of JASSM), standoff capabilities that can be employed in substantial numbers to destroy high-value, well-defended, and/or relocatable targets. Testing has begun on the JASSM Extended Range (JASSM-ER), which will possess more than double the range of the JASSM

(over 500 nm, vice 200 nm). JASSM-ER also will be able to loiter and transmit in-flight imagery to planners. TACTOM possesses many of the same traits as JASSM-ER but also can also be re-targeted in flight.

In addition, the DoD has nearly completed reconfiguring four strategic nuclear ballistic missile submarines (SSBNs) into guided-missile submarines (SSGNs). The first three SSGNs have completed their conversion with the final conversion to be completed in late FY07. Two of the SSGNs will become operational in FY07 and two more in FY08. Each SSGN can carry up to 154 Tomahawk cruise missiles and deliver special operations teams.

However, analysis conducted during the 2006 QDR also highlighted an important gap in *prompt*, long-range conventional (non-nuclear) strike capabilities. Specifically, the QDR found that existing conventional forces, such as fighter and bomber aircraft and surface ships, could take hours to days to deploy and strike a target. The new Tactical Tomahawk (TACTOM) and Joint Air-to-Surface Standoff Missile (JASSM), although valuable additions to conventional forces, do not fully address this gap. Today, only nuclear-armed ballistic missiles are available 24 hours a day, seven days a week, to engage distant, fleeting targets promptly (within about an hour from the time of an execution decision). Without a portfolio of *prompt* conventional Global Strike capabilities—able to generate timely effects, anywhere, anytime—America's adversaries will retain substantial freedom of action and potential safe havens from which to operate.

Prompt Global Strike capabilities may be needed for time-sensitive operations such as interdicting the transfer of WMD from rogue states to terrorists, preventing a rogue state from launching a ballistic missile armed with a WMD payload, or disrupting or delaying such actions before other U.S. forces arrive on scene. In addition, prompt conventional Global Strike capabilities have the potential to suppress follow-on launches of ballistic missiles against the United States, its forces and allies, and this capability can work effectively in concert with ballistic missile defenses to help mitigate the growing long-range missile threats the United States will face in the future. In order to hold these types of targets at risk, the 2006 QDR called for a portfolio of prompt Global Strike capabilities.

V: <u>Conventional Trident Modification (CTM)</u>

The 2006 QDR determined that a program designated Conventional Trident Modification (CTM) was the best low-cost, low-risk, near-term solution to begin closing the current gap in prompt conventional global strike capabilities. In Fiscal Year 2007, DoD requested funding to modify two Trident II D5 missiles on each of the 12 deployed strategic ballistic missile submarines (SSBNs), and replace their nuclear warheads with non-nuclear warheads. CTM would provide a unique conventional capability to respond to fleeting, time-sensitive, high-value targets virtually anywhere in the world. The President's budget for Fiscal Year 2008 seeks $175M for this initial Prompt Global Strike system.

Although DoD determined CTM to be the best near-term option for conventional prompt Global Strike, the Department is considering other, longer-term solutions, both sea- and land-based, to broaden the portfolio of prompt, non-nuclear capabilities. The additional concepts include sea- and land-based conventional ballistic missiles and advanced technologies, such as hypersonic glide vehicles, employing precision guidance, advanced conventional weapons, and propulsion. While these concepts promise to provide expanded Global Strike capabilities, for the most part they generally lack the technological maturity to achieve full operational status before 2015.

VI: <u>Congressional Concerns</u>

Congress raised concerns about CTM last year, and directed that DoD provide a Report to Congress in consultation with the Department of State. A classified report, signed by both Secretary Gates and Secretary Rice, was transmitted earlier this month. I commend the report to you; it addresses the critical need for Conventional Trident and the concerns. While the concerns raised were posed in terms of CTM they apply to many of the other prompt Global Strike capabilities that may be available in the mid-to-long term.

The most frequently cited concern is that a CTM launch could be misinterpreted as a nuclear attack, prompting Russian retaliation. The CTM report states that the risk is extremely low and can be managed effectively. Few states have the sophisticated technology required to detect and track a ballistic missile launch. However, the Russian Federation has these detection and tracking systems and is generally able to evaluate quickly a ballistic missile's flight path and determine within tens of miles the missile's

aimpoint. In that respect, if Russian sensors detected and tracked a CTM launch, the Russian command would quickly identify it as non-threatening. Moreover, the Russian command would readily distinguish between a CTM launch and a massive nuclear first strike.

Historically, the Russian Federation has not over-reacted to an un-notified or unannounced U.S. or Chinese missile launch. Furthermore, the United States and the Russian Federation now have a more cooperative and less adversarial relationship than during the Cold War, and this new relationship provides a much-changed context in which any launch of a ballistic missile would be understood.

Nevertheless, the United States takes the possibility of misinterpretation seriously. While the risk is extremely low, DoD has developed a comprehensive assurance strategy consisting of confidence-building and operational measures, promoting a high degree of transparency into CTM operations. Engagement of Russia at senior levels is ongoing.

Another concern is that prompt Global Strike, and CTM in particular, may not be well-supported by intelligence capabilities. As with all military operations, CTM operations would require actionable intelligence that is both accurate and timely and provides a high level of situational awareness. Existing intelligence assets can support planning and operations of prompt Global Strike systems like CTM, DoD continues to improve its global intelligence, surveillance, and reconnaissance capabilities. Indeed, current efforts to achieve more persistent collection capabilities against both legacy and emerging threats would be maturing as the Conventional Trident Modification becomes operational. They would be available to support key decision-makers and planners

involved with employment of future prompt Global Strike capabilities. During time-sensitive crises the speed and range attributes of prompt Global Strike systems, like CTM, actually would provide increased time for senior decision-makers to evaluate and refine intelligence before making a decision to employ force.

There is also some concern for CTM's status under existing arms control treaties. CTM is fully compliant with all U.S. treaty obligations. A complete analysis of this issue is available in the Report to Congress on Conventional Trident Modification. In summary:

START:

- CTM is not a new type of SLBM or new kind of Strategic Offensive Arm.
- CTM will remain accountable and subject to START's many provisions for as long as START remains in force. These provisions include:
  - Data updates
  - Re-Entry Vehicle On-Site Inspections
  - Transit notifications
  - Launch notifications
  - Telemetry exchange for test launches
- CTM will have the same number of warheads attributed to it as to the nuclear-armed Trident D5 (8 warheads).

Ballistic Missile Launch Notification Agreement:

- Notification of CTM flight test launches will continue to be provided; and

Moscow Treaty:

- CTM's conventional warheads will not count against the 1,700-2,200 limit on operationally deployed strategic nuclear warheads.

VII: Conclusion

DoD strongly believes that conventional prompt Global Strike is critical to meeting evolving U.S. security needs in the 21st Century. The joint DoD-State Department Report to Congress presents a compelling assessment of the need for CTM and a clear strategy for mitigating the already low risks associated with its use. In the report, Secretary Gates and Secretary Rice agreed:

- There is a critical need for CTM to respond promptly to potentially grave dangers with conventional means—including high-value or fleeting targets such as terrorists or rogue states armed with WMD that may be in hard-to-reach or highly defended areas;
- CTM is the best and only near-term, low-cost, low-risk option to fill an existing capability gap;
- The risk of misinterpretation is extremely low and can be readily managed;
- Development and deployment of a Conventional Trident is needed to achieve a near-term prompt conventional global strike capability; and
- The substantial benefits of CTM far outweigh any risks.

A sustained partnership between the Department of Defense and the Congress will be needed if we are to succeed in transforming our nation's strategic capabilities to meet the uncertainties and challenges ahead. In particular, we need to continue the progress on missile defense, revitalize the nuclear infrastructure with the RRW programs, and address the need for conventional prompt Global Strike. The Conventional Trident is the near-term solution, with advanced technologies to expand the range of effects in the longer term. The Department will require your continued support to replace the legacy Cold War force posture with a New Triad that is better suited to the new security environment.