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# FISCAL YEAR 2009 NATIONAL DEFENSE AUTHORIZATION BUDGET REQUEST FOR DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS

U.S. HOUSE OF REPRESENTATIVES, COMMITTEE ON ARMED SERVICES, SUBCOMMITTEE ON  
STRATEGIC FORCES

ONE HUNDRED TENTH CONGRESS, SECOND SESSION

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Assistant Secretary for Environmental Management (EM), U.S. Dept. of Energy

**Will Tobey** [\[view PDF\]](#)  
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Director, Office of Health, Safety, and Security, NNSA

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United States House of Representatives  
**House Armed Services Committee**



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**Subcommittee Chair Ellen Tauscher  
Strategic Forces Subcommittee  
Hearing on the Department of Energy  
Fiscal Year 2009 Budget Request for Atomic Energy Defense  
Activities**

March 12, 2008

"Good morning. This hearing of the Strategic Forces Subcommittee will come to order. Today, we will consider the Department of Energy's Fiscal Year 2009 budget request for Atomic Energy Defense Activities.

"Let me begin by welcoming our distinguished witnesses:

- General Robert L. Smolen, Deputy Administrator for Defense Programs, National Nuclear Security Administration;
- The Honorable Will Tobey, Deputy Administrator for Defense Nuclear Nonproliferation, National Nuclear Security Administration;
- The Honorable James Rispoli, Assistant Secretary for Environmental Management, Department of Energy; and
- Mr. Glenn Podonsky, Chief Health, Safety and Security Officer, Department of Energy.

"I want to thank our witnesses for appearing before the subcommittee. General Smolen, I believe this is your first appearance before the committee, and we welcome you.

"The Fiscal Year 2009 budget request for the Department of Energy is just over 25 billion dollars. The Armed Services Committee annually authorizes about two-thirds of this total for Atomic Energy Defense Activities.

"For FY 2009, the request of 15.9 billion dollars for these programs is 770 million more than was appropriated in FY 2008.

"This committee and I are strong supporters of the critical missions embodied in your respective program areas: maintaining and ensuring the reliability, safety and security of our nuclear deterrent; conducting the scientific research and production activities necessary to support that deterrent; keeping our nuclear weapons and the weapons complex safe from physical and other threats; leading the government's international nuclear non-proliferation efforts; and cleaning up the environmental legacy of decades of nuclear stockpile work.

"We are eager to hear your testimony on the Fiscal Year 2009 budget request. I am especially interested in your thoughts about five issues:

"First, does the budget include the right investments in the Stockpile Stewardship Program?

"While the Reliable Replacement Warhead proposal was slowed in fiscal year 2008, we must continue efforts to strengthen the Stewardship Program. That means both the scientific tools that are coming on line, such as the second axis at DARHT, the National

Ignition Facility and the world class scientists and engineers that deploy those tools to execute the Stewardship mission. And we expect a steadfast and sustained commitment to fulfill the requirements to initiate the ignition campaign in 2010 and provide full funding to do so.

"In that context, what is the current path forward for the RRW proposal, and when will you deliver to Congress the long-promised 'White Paper' on nuclear weapons policy? How do these plans affect Complex Transformation?"

"Second – and I asked this a year ago – does the budget properly balance various safety and security priorities? Can the NNSA bring the Complex into compliance with the 2005 DBT standards while addressing rapidly escalating cyber security threats?"

"Third, does the budget support the various commitments the federal government has made within the cleanup program?"

"Fourth, does the budget adequately support consolidation of special nuclear materials? How do consolidation plans affect the broad areas of stockpile stewardship, complex modernization, nonproliferation, safety and security, and environmental cleanup?"

"Finally, I would like to know why the defense nuclear nonproliferation budget is cut below the FY 2008 funded level in a number of areas, including verification research and development, and nonproliferation and international security.

"These programs are some of the best national security investments this nation makes, and anything less than robust funding is difficult to understand.

"These are the kinds of concerns we hope you will address in your statements and during our discussion that will follow your testimony.

"With that, let me turn to my good friend, our Ranking Member Mr. Everett, for any comments he may have."

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**Statement of**  
**Gen. Robert L. Smolen, USAF (Ret.) Deputy Administrator for Defense Programs**  
**&**  
**William H. Tobey, Deputy Administrator for Defense Nuclear Nonproliferation**  
**National Nuclear Security Administration**  
**U.S. Department of Energy**  
**Before the**  
**Committee on House Armed Services**  
**Subcommittee on Strategic Forces**

**March 12, 2008**

Thank you for the opportunity to discuss the President's FY 2009 Budget Request for the National Nuclear Security Administration (NNSA). I want to thank all of the Members for their strong support for our vital national security missions.

In the eighth year of this Administration, with the support of Congress, NNSA has achieved a level of stability that is required for accomplishing our long-term missions. Our fundamental national security responsibilities for the United States include:

- assuring the safety, security and reliability of the U.S. nuclear weapons stockpile while at the same time considering options for transforming the stockpile and the complex infrastructure that supports it;
- reducing the threat posed by proliferation of nuclear weapons, material and expertise; and
- providing reliable and safe nuclear reactor propulsion systems for the U.S. Navy.

NNSA is examining how to proceed into the future to address evolving national security needs in a manner that anticipates significant changes in how we manage our national security programs, our assets and our people. To that end, the FY 2009 Budget Request for \$9.1 billion, a decrease of \$35 million from the FY 2008 Consolidated Appropriations Act, supports NNSA's crucial national security mission.

The FY 2009 request will go a long way toward making significant progress in many areas of focus, including those that we have embarked upon in FY 2008. NNSA anticipates that this request will enable the accomplishment of the following results:

- moving from a nuclear weapons complex to an integrated national security enterprise, including:
  - making decisions regarding transformation of the nuclear weapons complex based on the analyses in the Complex Transformation Supplemental Programmatic Environmental Impact Statement this year;
  - shrinking the size of the nuclear weapons complex and consolidating special nuclear material at fewer sites;
  - increasing funding for critical facilities, including an increase in funding for the preliminary design of the Uranium Processing Facility and Chemistry and Metallurgy Research Replacement facility over the amount provided in FY 2007;

- increasing funding for cyber security by 22% over the amount provided in FY 2007; and
- improving cost-savings associated with supply chain management, building upon nearly \$5 million in savings in FY 2007.
- advancing nuclear nonproliferation and countering nuclear and radiological terrorism, including:
  - increasing the amount of funds provided directly to NNSA nonproliferation activities by 7% over the funding amount provided in FY 2007 (not including the Mixed Oxide (MOX) Fuel Fabrication Facility);
  - increasing funding provided to nuclear counter terrorism activities by 40% over the amount provided in FY 2007;
  - increasing the rate at which Highly Enriched Uranium and other radiological and source materials are secured as part of the Global Threat Reduction Initiative (GTRI) program by 14%; and
  - continuing and completing activities under the Bratislava agreement with the Government of Russia.
- securing and maintaining an aging stockpile, including:
  - continuing our Defense Program's "Getting the Job Done" initiative by staying focused on delivering products to Department of Defense in a timely and cost-efficient manner;
  - increasing the number of weapon dismantlements by 26 percent over the number of weapons dismantled in FY 2007; and
  - addressing current and anticipated challenges associated with certifying the stockpile without requiring underground testing.
- expanding our technical excellence while developing the next generation of national security scientific, engineering and program management talent, including:
  - developing an expanded vision of the future role of our national laboratories in supporting NNSA's national security mission; and
  - expanding NNSA's efforts in nuclear nonproliferation, counterterrorism, forensics, and support to the intelligence community.

## **Weapons Activities**

Nuclear weapons remain a cornerstone of our nation's strategic defense posture and will likely remain so throughout this century, even as we continue to reduce the size of our stockpile. Our nuclear deterrent stockpile remains safe, secure and reliable. The supporting infrastructure, however, is aged--many of our critical facilities are over 50 years old. Stockpile Stewardship is working and has been successful to date at finding and remedying the technical challenges facing our aging stockpile. Additionally, we continue to reduce the size of the stockpile to meet the President's mandate to have the smallest nuclear stockpile consistent with our national security objectives. As a result, today the stockpile is half of what it was in 2001, and by 2012, the United States will have the smallest stockpile since the 1950s. Additional reductions in the stockpile are possible, but these reductions will require changes to the weapons complex and the composition of the stockpile.

Our national security enterprise is a national asset and our weapons laboratories remain unrivaled as the pinnacle of American scientific, engineering and technical expertise. Development and maintenance of our nuclear deterrent force has made possible American leadership in nuclear nonproliferation, nuclear counterterrorism, advanced computing, and high-energy density physics. None of these programs would be possible at its current level without technical advances made by the weapons program. As we

continue transforming the infrastructure and maintaining our nuclear deterrent force into the 21<sup>st</sup> Century, our goal is to do so without jeopardizing the advancements in other vital NNSA national security programs made possible by our investment in weapon activities.

Let there be no doubt: today's nuclear weapons stockpile is safe, secure and reliable and has not required post-deployment nuclear testing to date, nor is nuclear testing anticipated or planned. However, while today's stockpile remains safe, secure and reliable, the weapons laboratories, the Department of Defense and the NNSA are concerned about our future ability to maintain the stockpile in the future. The Stockpile Stewardship Program has worked well, so far, to discover and resolve problems that in the past would have required nuclear testing. However, the collective judgment of the Directors of our national weapons laboratories is that maintaining certification of the finely-tuned designs of the aging Cold War stockpile through Life Extension Programs (LEPs) only, absent nuclear testing, necessarily entails increasing risk overtime. Although recent studies have placed the life of our plutonium pits at 85 to 100 years, other exotic materials used in our warheads degrade at different rates and many of their aging properties are still not well understood. The metallurgical and chemical issues we face with our aging warheads continue to be a technical challenge for our best scientists and the risk of catastrophic technical failure occurring as our warheads age cannot be ruled out absolutely. The one certainty we do know is that warhead certification in the absence of testing will become more difficult, especially as life extensions and component aging move the warhead further away from originally-tested designs.

After 9/11 we realized 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 designed for with the threats anticipated at that time. Major enhancements in security are not easily available via retrofits in the life extension programs.

To understand the challenges facing our stockpile, an analogy is in order. Today's Mustang remains a high-performance automobile, has about the same dimensions and weighs only a few hundred pounds more than the first Mustangs, and has all the modern safety and security features we expect today—air bags, anti-lock brakes, GPS navigation, satellite radio, theft deterrent and alarm systems. The 1965 version had none of these features, not even seat belts! We deploy warheads today that have 1970-80's safety, security and anti-terrorism features. It does not mean that these warheads are not safe and secure, but we can do better and we should do better. Based on our initial assessments, I believe that the reliable replacement warhead concepts provide opportunities to incorporate the latest technological advances for precluding unauthorized use in a post-9/11 threat environment.

To address these challenges, the Administration has proposed two efforts to maintain the viability of the deterrent well into the 21<sup>st</sup> Century. The first of these is Complex Transformation. Our goal is to transform the large, costly and inefficient Cold War nuclear weapons complex that cannot meet the full production requirements of our customer into an integrated, modern and cost effective nuclear security enterprise. Complex Transformation involves more than just transforming an aging physical infrastructure; it seeks to transform our contracting and procurement processes and overall management of the enterprise to embrace the best in business and human capital practices. Complex Transformation also must be accomplished in a way that continues to leverage our core competencies in nuclear weapons design and maintenance to advance the Nation's leadership in counterterrorism,

nonproliferation, physical and cyber security, and to support the intelligence community. Our Complex Transformation strategy relies on four pillars:

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

Infrastructure transformation is a major part of Complex Transformation. Some major facilities date back to the Manhattan Project and cannot cost effectively meet today's safety and security requirements. In other cases, new facilities are needed to restore capabilities that have been put in standby since the end of the Cold War but may be needed to support future life extension programs. With the support of Congress, we produced tritium in 2007 for the first time in 18 years and the Tritium Extraction Facility (TEF) at Savannah River is now on-line. Similarly, construction of the Highly Enriched Uranium Materials Facility (HEUMF) at the Y-12 National Security Complex in Oak Ridge will allow us to consolidate uranium storage and improve security with a significantly-reduced security footprint. And at Los Alamos National Laboratory, the Chemistry and Metallurgy Research Replacement (CMRR) project will allow us to continue the plutonium pit surveillance and actinide research vital to maintaining the stockpile and the nation's nuclear deterrent. These three projects are representative of a Complex Transformation that has already commenced.

Our plan for Complex Transformation, detailed in the draft Supplemental Programmatic Environmental Impact Statement (SPEIS), seeks to consolidate special nuclear material at fewer sites and locations within the nuclear weapons complex, close or transfer hundreds of buildings that are no longer required for the NNSA mission, and reduce NNSA's overall footprint by as much as a third over the next ten years. By eliminating multi-site redundancies and consolidating both missions and capabilities at our sites, we expect to dramatically improve our efficiency and cost effectiveness.

The second effort we believe is necessary to maintain the viability of the nuclear deterrent well into the 21<sup>st</sup> Century involves continued study of reliable replacement concepts. We believe continued work on these concepts is necessary in order to allow the next Administration and Congress to make informed decisions regarding the future composition of the stockpile. Continued study of reliable replacement concepts has been identified by U.S. Strategic Command, the Navy and the Air Force as essential to long-term maintenance of an effective nuclear deterrent force. These concepts, coupled with a responsive nuclear infrastructure, offers promise for further reductions in reserve warheads maintained as a hedge against technical failure. These concepts are specifically envisioned to address long term reliability issues that can affect our existing stockpile resulting from component aging, and refurbishment of aging components, that move us further from the original designs validated by underground nuclear testing. In short, we believe these concepts could provide a means to mitigate the technical risks inherent in a life extension-only approach. Moreover, reliable replacement concepts would not add new military capabilities to the stockpile, and would introduce safety, surety and anti-terrorism features that cannot easily be retrofitted into the current stockpile.

In our efforts to advance Complex Transformation and examine the potential promise of reliable replacement concepts, we have not lost focus on meeting our day-to-day commitments to the Department of Defense (DoD). Last year, we reconstituted a limited plutonium pit manufacturing capability and produced new pits for the W88 warhead, and maintained on-time delivery of the LEP B61 weapons to the Air Force. In FY 2008, the Department will continue to manufacture W88 pits, maintain a limited pit manufacturing capability of six pits per year.

Meeting the needs of DoD, maintaining the safety, security and reliability of the stockpile, and commencing Complex Transformation would not be possible without the support of our dedicated federal and contractor workforce of 37,000 employees. Retaining our current work force and attracting the next generation of national security scientific and engineering talent is challenging because the number of qualified university graduates continues to decrease each year.

The scientific capabilities and infrastructure developed for the nuclear weapons mission are utilized by DoD, the Department of Homeland Security, and the intelligence community, are recognized as essential to fulfilling their responsibilities. NNSA laboratories have been participating jointly with other government agencies in addressing a wide range of national security challenges—all of which leverage the core mission of nuclear weapons development and sustainability. Recent examples include:

- Supporting war fighter needs in Iraq with improvised explosive device (IED) modeling and analysis;
- Supporting DoD and the Federal Bureau of Investigation in nuclear weapons emergency render-safe and post-event technical forensics;
- Providing solutions to the intelligence community in their nuclear counterterrorism and nonproliferation efforts by drawing upon our nuclear weapons expertise;
- Developing and deploying integrated systems for countering aerosolized bioterrorist releases and bio-decontamination technologies; and
- Developing and deploying portal detector technology to prevent smuggling of special nuclear material.

Basic research at our national security laboratories has provided technology for airborne detection of toxic chemicals, critical infrastructure modeling for disaster response, and modeling of response strategies for potential influenza pandemics.

It is important to recognize that certain major capabilities are needed at each of our national security laboratories if they are to continue to effectively contribute to national security. By leveraging the science that gave us the atomic bomb that helped win World War II and the technical innovations that helped win the Cold War, today's national security labs are tackling tomorrow's national security challenges. Maintaining a core scientific and technical base at our labs will continue to attract outstanding talent to meet our future national security challenges.

Weapons Activities also provides tangible support to nuclear nonproliferation objectives. A major priority within Defense Programs has been weapons dismantlement. The United States remains committed to its obligations under the Nuclear Nonproliferation Treaty (NPT). In 2004, the President directed a 50 percent reduction in the size of the stockpile, and, in December 2007, he ordered an



additional 15 percent cut. The result will be a nuclear stockpile one quarter the size it was at the end of the Cold War and the smallest since the Eisenhower Administration. During FY 2007, DOE achieved a 146 percent increase in the rate of nuclear weapon dismantlement over the FY 2006 rate, almost tripling our goal of a 49 percent rate increase.

## **Defense Nuclear Nonproliferation**

The possibility that rogue states or terrorists might acquire nuclear and other weapons of mass destruction (WMD) and their related technologies, equipment and expertise, poses one of the most serious threats to the United States and international security. The continued pursuit of nuclear weapons by terrorists and states of concern underscores the urgency of NNSA's efforts to secure vulnerable nuclear weapons and weapons-usable nuclear material, to detect and interdict nuclear and radiological materials and WMD-related equipment, to halt the production of fissile material for weapons, to dispose of surplus weapons-usable material, and to contain the proliferation of WMD technical expertise. The FY 2009 Budget Request will enable NNSA to continue these critical activities that support threat reduction initiatives vital to U.S. national security.

Preventing access to nuclear weapons and fissile material has many dimensions. Our highest priority is to keep these dangerous materials out of the hands of the world's most dangerous actors. Absent access to a sufficient quantity of essential fissile materials, there can be no nuclear weapon. The most direct way to prevent acquisition of nuclear weapons is by denying access to fissile material. Historically, much of our materials security emphasis focused on Russia because that is where most of the poorly secured material was located. We have made remarkable progress cooperating with Russia to strengthen protection, control, and accounting of its nuclear weapons and materials. We recently completed security upgrades at 25 Russian Strategic Rocket Force sites and will meet our commitment to conclude agreed-to security upgrade activities at Russian nuclear sites by the end of this year, as provided for under the Bratislava Joint Statement signed by Presidents Bush and Putin. Although these direct upgrade efforts are largely drawing to a close after over a decade of work, we will continue security upgrade work at some sites added to our work scope after the Bratislava summit, and will continue to work cooperatively with Russia to ensure the long-term sustainability of the systems and procedures already implemented. We recently reached agreement with Russia on a sustainability plan that identifies the requirements for long-term Russian maintenance and infrastructure of security upgrades under our cooperative program.

However, not all nuclear material of proliferation concern is located in Russia. We are also working with other partners to secure weapons-usable nuclear materials in other parts of the world, and to strengthen security at civil nuclear and radiological facilities. One area of particular concern is research reactors, which often use highly enriched uranium (HEU) fuel otherwise suitable for bombs. Our Global Threat Reduction Initiative (GTRI) converts research reactors around the world from HEU to low enriched uranium (LEU) fuel. The GTRI program, and its antecedents, have removed approximately 68 nuclear bombs' worth of highly enriched uranium and secured more than 600 radiological sites around the world, collectively containing over 9 million curies, enough radiation for approximately 8,500 dirty bombs. In the United States the GTRI program has removed over 16,000 at-risk radiological sources, totaling more than 175,000 curies—enough for more than 370 dirty bombs.

An additional nuclear security challenge concerns the effectiveness and credibility of international nuclear safeguards. Against the backdrop of growing nuclear energy demand, concerns over the

diffusion of sensitive nuclear technologies, and the challenges posed by Iran and North Korea, international safeguards are coming under increasing strain. To address this challenge, NNSA has launched the Next Generation Safeguards Initiative (NGSI), which will ensure U.S. leadership and investment in our technologies and experts in the service of nuclear nonproliferation. Enhanced and revitalized international safeguards will also help ensure the sustainability of the gains made by our associated threat reduction efforts.

Additionally, in FY2009, we will continue to lead the U.S. Government efforts to oversee the disablement and dismantlement of North Korea's nuclear program. However, in order to continue our support for these critical disablement and dismantlement activities, we will require a waiver of the Glenn Amendment restrictions that were triggered by North Korea's 2006 nuclear test, as well as more substantial funding. The Glenn Amendment prohibits the Department of Energy, which would otherwise fund denuclearization activities, from providing any financial assistance to North Korea. Without this waiver, the Department will be unable to complete Phase Three denuclearization activities. NNSA and the Administration have been working to insert language into the FY 2008 Iraq War Supplemental, or any other appropriate legislative vehicle, to provide such a waiver.

We are also taking aggressive steps to interdict illicit transfers of weapons-usable nuclear materials and equipment, and to prevent dissemination of related sensitive nuclear technology via strengthened export controls and cooperation. We currently provide export control and commodity identification training to over 50 countries across the globe, in order to improve nations' capabilities to deter and interdict illicit WMD-related technology transfers. As an important complement to physical security improvements, the Second Line of Defense Program enhances our foreign partners' ability to interdict illicit trafficking in nuclear materials through the deployment of radiation detection systems at high-risk land-border crossings, airports and seaports. These efforts increase the likelihood of interdicting illicit nuclear materials entering or leaving the country. To date, 117 Russian border crossings have been equipped with radiation detection equipment under this program.

As part of the Second Line of Defense, the Megaports Initiative, established in 2003, responds to concerns that terrorists could use the global maritime shipping network to smuggle fissile materials or warheads. By installing radiation detection systems at major seaports throughout the world, this initiative strengthens the detection and interdiction capabilities of our partner countries. At the end of 2007, the Megaports program was operational in 12 countries and being implemented at 17 additional ports. In addition, we continue to carry out nonproliferation research and development activities, developing, demonstrating and delivering novel nuclear material and nuclear detonation detection technologies for nonproliferation and homeland security applications.

Since the end of the Cold War, the nation's adversaries have been quick to adapt to technological improvements. Staying ahead of the R&D curve is critically important to keeping our nation safe and secure. As the principal federal sponsor of long-term nuclear nonproliferation-related research and development, NNSA focuses its R&D investments on leading-edge, early stage basic and applied R&D programs, including testing and evaluation, which lead to prototype development and improvements in nuclear detection and characterization systems. By concentrating on these key R&D components, NNSA helps strengthen the U.S. response to current and projected WMD threats.

These critical steps are only part of a comprehensive nonproliferation program. In addition to these efforts to secure, detect, and interdict weapons-usable materials, we also work to eliminate weapons-

usable material. Indeed, there remains enough fissile material in the world today for tens of thousands of weapons. An integral part of our strategy, therefore, has been to encourage other states to stop producing materials for nuclear weapons, as the United States itself did many years ago. For example, Russia still produces weapons-grade plutonium, not because it needs it for weapons, but because the reactors that produce it also supply heat and electricity to local communities. We are helping to replace these non-commercial style reactors with fossil fuel plants, thereby eliminating their production of plutonium. This year two of the remaining three plutonium-producing reactors in Russia will shut down permanently at Seversk, six months ahead of schedule, and the third at Zheleznogorsk will shut down in December 2010, if not, as we hope, sooner.

As previously indicated, there are a number of effective synergies between NNSA's defense activities and our nuclear nonproliferation objectives. For example, we are disposing of the substantial quantities of surplus weapons grade HEU that has resulted from the thousands of warheads we have dismantled, by downblending it to lower enrichment levels suitable for use in commercial reactors. This past February marked the 15<sup>th</sup> anniversary of the U.S.-Russia HEU Purchase Agreement—one of the most successful nonproliferation programs ever conceived. Under the HEU Purchase Agreement, over 322 metric tons of uranium from Russia's dismantled nuclear weapons—enough material for more than 12,000 nuclear weapons—has been downblended for use in commercial power reactors in the United States. Nuclear power generates twenty percent of all American electricity, and half of that is generated by fuel derived from Russian HEU. As a result, one-tenth of U.S. electricity is made possible by material removed from former Soviet nuclear weapons.

Similarly, disposition of surplus U.S. HEU through downblending to low-enriched uranium has been proceeding for nearly a decade and progress is continuing. As of the end of December 2007, approximately 92 metric tons of HEU, equivalent to over 3,500 nuclear weapons, have been downblended and converted to power or research reactor fuel, and an additional 13 metric tons have been delivered to disposition facilities for near-term downblending. This HEU disposition progress has already contributed substantially to nuclear material consolidation efforts in the Department of Energy complex, eliminating the necessity for high security storage at two sites, and greatly reducing it at several others.

In addition to the efforts on HEU, the United States and Russia have each committed to dispose of 34 metric tons of surplus weapon-grade plutonium. In November 2007, we signed a joint statement with Russia that represents a technically and financially credible plan to dispose of 34 metric tons of Russia's surplus plutonium in fast reactors. Under this approach, Russia will pay for the majority of costs and begin disposing of its surplus plutonium in the 2012 timeframe. Last year, the Department of Energy began construction of a Mixed Oxide Fuel Fabrication Facility at the Savannah River Site. The facility originally planned to dispose of 34 metric tons of surplus weapon-grade plutonium by converting it into mixed oxide (MOX) fuel to be irradiated in commercial nuclear reactors, producing electricity and rendering the plutonium undesirable for weapons use. Last September, at the IAEA General Conference in Vienna, Secretary Bodman announced that an additional 9 metric tons of plutonium, enough to make 2000 nuclear weapons, would be removed from such use and eliminated by conversion to mixed oxide fuel. The MOX facility is a critical component of the Department's surplus plutonium consolidation efforts and is essential to the goal of transforming the complex.

Our efforts at home are not enough, in and of themselves. We need cooperation from our international partners as well, and if we are to encourage responsible international actions, the United States must set

the example. We have dramatically improved physical security of U.S. nuclear weapons and weapons-usable materials in the years since the September 11<sup>th</sup> attacks. We have made substantial reductions in our stockpile and made additional plutonium available for conversion into civilian reactor fuel. Additionally our Complex Transformation will further reduce the number of sites and locations where we store special nuclear materials, providing for improved security of these materials.

The risk of nuclear terrorism is not limited to the United States. The success of our efforts to deny access to nuclear weapons and material is very much dependent on whether our foreign partners similarly recognize the threat and help us to combat it. To this end, we undertake efforts to strengthen the nonproliferation regime and expand international nonproliferation efforts. We continue to provide technical and policy support to U.S. efforts within the nonproliferation regime, including support to the Nuclear Nonproliferation Treaty, the Nuclear Suppliers Group, the International Atomic Energy Agency and a wide range of U.S. diplomatic initiatives, including the efforts in North Korea. We also have strengthened international collaboration and dialogue on nonproliferation efforts, including developing an international mechanism through which seven countries have pledged some \$45 million in contributions to our nonproliferation programs.

In July 2006, Presidents Bush and Putin announced the Global Initiative to Combat Nuclear Terrorism to strengthen cooperation worldwide on nuclear materials security and to prevent terrorist acts involving nuclear or radioactive substances. By the end of 2007, 64 nations had joined this Global Initiative, and a number of subject matter expert conferences and training activities have been conducted. Most recently in December 2007, representatives from 15 nations participated in Global Initiative to Combat Nuclear Terrorism Radiation Emergency Response workshop held in China by the NNSA. Paired with UN Security Council Resolution 1540 and working closely with our overseas partners, we now have both the legal mandate and the practical means necessary for concrete actions to secure nuclear material against the threat of diversion.

## **Naval Reactors**

Also contributing to the Department's national security mission is the Naval Reactors Program, whose mission is to provide the U.S. Navy with safe, militarily effective nuclear propulsion plants and ensure their continued safe, reliable and long-lived operation. Nuclear propulsion enhances our warship capabilities by providing the ability to sprint where needed and arrive on station, ready to conduct sustained combat operations when America's interests are threatened. Nuclear propulsion plays a vital role in ensuring the Navy's forward presence and its ability to project power anywhere in the world.

The Naval Reactors Program has a broad mandate, maintaining responsibility for nuclear propulsion from cradle to grave. Over 40 percent of the Navy's major combatants are nuclear-powered, including aircraft carriers, attack submarines, guided missile submarines, and strategic submarines, which provide the Nation's most survivable deterrent force.

## **FY09 Budget Request Programmatic Detail**

The President's FY 2009 Budget Request for NNSA totals \$9.1 billion, a decrease of \$35.0 million or 0.4 percent less than the FY 2008 Consolidated Appropriations level. 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, the National Defense Authorization Act for Fiscal Year 2000. 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 2009-2013 Future Years Nuclear Security Program -- FYNSP -- projects \$47.7 billion for NNSA programs through 2013. This is a decrease of about \$2.3 billion over last year's projections. The FY 2009 request is slightly smaller than last year's projection; however, the outyears increase starting in FY 2010.

### **WEAPONS ACTIVITIES**

#### **Defense Programs**

The FY 2009 Budget Request for the programs funded within the Weapons Activities Appropriation is \$6.62 billion, an approximately 5.1 percent increase over the FY 2008 Consolidated Appropriations level. It is allocated to adequately provide for the safety, security, and reliability of the nuclear weapons stockpile and supporting facilities and capabilities.

Directed Stockpile Work (DSW) activities ensure the operational readiness of the nuclear weapons in the nation's stockpile through maintenance, evaluation, refurbishment, reliability assessment, weapon dismantlement and disposal, research, development, and certification activities. The FY 2009 request is organized by Life Extension Programs, Stockpile Systems, Reliable Replacement Warhead, Weapons Dismantlement and Disposition, and Stockpile Services. The request places a high priority on accomplishing the near-term workload and supporting technologies for the stockpile along with long-term science and technology investments to ensure the capability and capacity to support ongoing missions.

The FY 2008 Consolidated Appropriations Act did not contain funding for the Reliable Replacement Warhead (RRW). The Administration believes that the characteristic features of the RRW are the right ones for ensuring the future of our Nation's nuclear deterrent force. The FY 2009 request includes \$10 million to continue the design definition and cost study. The request also continues efforts called out in the Explanatory Statement referenced in Section 4 of Public Law 110-161 to address issues raised in the recent JASON's summer study of the feasibility of certifying RRW designs without nuclear testing.

Campaigns are focused on scientific and technical efforts essential for the certification, maintenance and life extension of the stockpile. The Stockpile Stewardship Program has allowed NNSA to maintain the

moratorium on underground testing and move to "science-based" certification and assessments for stewardship by relying on experiments, modeling, simulation, surveillance and historical underground nuclear testing experience. The Science and Engineering Campaigns are focused to provide the basic scientific understanding and the technologies required for the directed stockpile workload and the completion of new scientific and experimental facilities. In the Inertial Confinement Fusion Ignition and High Yield Campaign, the National Ignition Facility (NIF) will focus on completing the first experiment on NIF with a credible chance of demonstrating laboratory-scale ignition in 2010. The Advanced Simulation and Computing Campaign will continue to improve capabilities through development of faster computational platforms in partnership with private industry, and with state of the art techniques for calculations, modeling and simulation, and analysis of highly complex weapons physics information. The Readiness Campaign consists of technology-based efforts to reestablish and enhance manufacturing and other capabilities needed to meet planned weapon component production.

The FY 2009 request makes several changes in the location of programs within Weapons Activities. The Pit Manufacturing and Certification Campaign recently concluded with the successful manufacturing and certification of the W88 pit. Pit manufacturing related activities are moved to the Direct Stockpile Work Stockpile Services program and pit certification activities are transferred to the Science Campaign. In addition, in the Science Campaign, the Advanced Certification program will continue efforts begun in FY 2008 at the direction of the Congress to review, evaluate and implement key recommendations from the JASON's RRW study regarding approaches to establishing an accredited warhead certification plan without nuclear testing. Work being performed to understand potential improvised nuclear device designs and responses is being transferred to the nuclear weapons incident response account.

### **Secure Transportation Asset**

The Secure Transportation Asset's FY 2009 Budget Request is an increase of \$9.5 million to \$221.1 million. This funding request supports the increase to transportation capacity necessary for the dismantlement of nuclear weapons, departmental initiatives to consolidate and disposition nuclear material, and the implementation of the current operational doctrine to protect nuclear weapons and material in transport.

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

In FY 2009, we are requesting \$1.89 billion for the maintenance and operation of existing facilities, remediation and disposition of excess facilities, and construction of new facilities. Of this amount, \$1.72 billion is requested for RTBF, an increase of \$83.1 million from FY 2008 operating levels, with \$1.41 billion reserved for Operations and Maintenance. The Operations and Maintenance portion also includes the Institutional Site Support program which supports facility transition and capability consolidation. The request includes \$308.0 million for RTBF Construction.

This request also includes \$169.5 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, which we expect to be completed in FY 2013, 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. The Integrated Prioritized Project List (IPPL) is the vehicle that FIRP 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 Stockpile Stewardship mission and transformation of the complex.

This request also includes \$77.4 million for the newly established Transformation Disposition (TD) Program. TD is NNSA's facility and infrastructure (F&I) retirement program for old, Cold War-era structures. The NNSA owns over 35 million gross square feet of footprint and over 25% of the footprint may become excess as a result of complex transformation. TD is established with the goal of reducing non-process and contaminated excess F&I. This includes facilities that are excess to current and future NNSA mission requirements, including those contaminated structures which are not currently the responsibility of the Office of Environmental Management. This program supports the performance measure of reducing the total square feet, improves management of the NNSA facilities and infrastructure portfolio, and reduces long-term costs and risks. The TD Program will set the groundwork for a smaller complex.

All of these activities are critical for the development of a more responsive infrastructure and will be guided by decisions based on the Complex Transformation Supplemental Programmatic Environmental Impact Statement (SPEIS) and other factors such as funding and national security requirements. 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 future requirements. For example, a facility could be designed to support a low baseline capacity and preserve the option, with a limited amount of contingency space to augment capacity, if authorized and needed, to respond to future needs.

Having a reliable plutonium capability is a major objective of NNSA planning and is a key requirement if the nation is to maintain an effective deterrent, regardless of the composition of the stockpile. Options for plutonium research, surveillance, and pit production are being evaluated as part of the Complex Transformation NEPA process, with a decision anticipated in 2008. The preferred alternative in the draft Complex Transformation SPEIS proposes that Los Alamos National Laboratory facilities at Technical Area 55 (TA-55) provide plutonium research, surveillance and pit production capabilities. This alternative includes the proposed Chemistry and Metallurgy Research Replacement – Nuclear Facility (CMRR-NF) to achieve the objectives of (1) closing the aging existing Chemistry and Metallurgy Research (CMR) facility, (2) replacing essential plutonium surveillance and research capabilities currently at Lawrence Livermore National Laboratory and those being conducted in Plutonium Facility 4 (PF-4) in TA-55, and (3) achieving a net manufacturing capacity of 50 – 80 pits per year by allowing surveillance activities now occurring in PF-4 to be conducted in CMRR.

Completion of the Highly Enriched Uranium Materials Facility (HEUMF) would allow a reduction of the overall size of the high security area at the Y-12 National Security Complex. If NNSA ultimately decides to build a Uranium Processing Facility (UPF) at Y-12, then Y-12's high security area would be reduced from 150 acres to 15 acres. This reduction combined with the engineered security features of the HEUMF and UPF, would allow NNSA to meet the Design Basis Threat (DBT) at significantly

reduced costs, to lower non-security costs, and to provide a responsive highly enriched uranium manufacturing capability.

### **Environmental Projects and Operations**

The Environmental Projects and Operations/Long-Term Stewardship Program is requested at \$40.6 million in FY 2009. 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. The increase in this program is necessary to continue compliance with statutory requirements and to provide Long-Term Stewardship activities for two additional NNSA sites.

### **Nuclear Weapons Incident Response**

The Nuclear Weapons Incident Response (NWIR) Program serves as the United States' primary capability for responding to and mitigating nuclear and radiological incidents worldwide. The FY 2009 Request for these activities is \$221.9 million, of which \$31.7 million is dedicated to the continued implementation of two national security initiatives that will strengthen the Nation's emergency response capabilities—the National Technical Nuclear Forensics (NTNF) and the Stabilization Implementation programs.

The NTNF program will continue the development of capabilities to support pre- and post-detonation activities and enhance technical nuclear forensics capabilities. The continued development of this capability will facilitate the thorough analysis and characterization of pre- and post-detonation radiological and nuclear materials and devices, including devices used in nuclear detonations as well as interdicted devices. Developing forensic capabilities of this nature is crucial to the overall objective of identifying the origin and pathways of interdicted nuclear materials, warheads and improvised nuclear devices.

Stabilization is a 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, continues to leverage 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 to selected teams across the country, potentially followed by their transition into the collection of tools available to Federal response teams.

### **Physical and Cyber Security**

The FY 2009 Budget Request for Defense Nuclear Security is \$737.3 million, a 7.7 percent decrease from the FY 2008 appropriation. The FY 2009 request supports the base program and the program's focus on sustaining the NNSA sites 2003 Design Basis Threat baseline operations and implementing the 2005 DBT Policy upgrades with the Nevada Test Site reaching compliance in FY 2009. Starting in FY 2009, there is no longer an offset in this account or in the Departmental Administration account for the



security charges associated with reimbursable work. These activities will be fully funded by the programs with direct appropriations.

During FY 2009, the program will focus on eliminating or mitigating identified vulnerabilities across the weapons complex. Measures will include additional 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. There are no new construction starts.

The FY 2009 Budget Request for Cyber Security is \$122.5 million, an 11 percent increase from the FY 2008 appropriation. The FY 2009 Budget Request 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, enhancements in assets and configuration management, and identify emerging issues, including research needs related to computer security, privacy, and cryptography.

Additionally, the Cyber Security funding will provide for enhancement, certification, and accreditation of unclassified and classified computer systems to ensure the 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 possesses 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 management and policy.

## **DEFENSE NUCLEAR NONPROLIFERATION**

The Defense Nuclear Nonproliferation Program mission is to detect, prevent, and reverse the proliferation of weapons of mass destruction (WMD). Our nonproliferation programs address the threat that hostile nations or terrorist groups may acquire weapons-usable material, equipment or technology, or WMD capabilities. The Administration’s FY 2009 request totals \$1.247 billion for this program, reflecting a return to measured growth from the FY 2007 appropriation level, but a decrease from the final FY 2008 appropriation, which included a large Congressional plus-up over the President’s request. The decrease also reflects Congressional action to transfer funding for some construction projects to other budget accounts, and the anticipated decrease of other major construction activities under the Elimination of Weapons Grade Plutonium Production Program in 2008, following completion of major elements of that program’s work scope.

### **Global Threat Reduction Initiative**

The FY 2009 Request of \$220 million for the Global Threat Reduction Initiative (GTRI) is an increase of \$27 million over the FY 2008 operating plan. This funding will support GTRI’s mission to reduce and protect vulnerable nuclear and radiological materials at civilian sites worldwide by converting reactors from HEU to LEU, removing excess nuclear/radiological materials, and protecting high priority nuclear/radiological material from theft and sabotage. Specific increases in the GTRI budget reflect an

acceleration of (1) Bratislava efforts to repatriate Russian-origin HEU and convert HEU reactors to LEU; (2) efforts to develop a new ultra-high density LEU fuel needed to convert 28 high performance reactors around the world; (3) the removal of nuclear materials not covered under other existing programs; and (4) security upgrades on high priority HEU and radioactive materials located in the United States.

### **International Material Protection and Cooperation**

NNSA's International Material Protection and Cooperation FY 2009 Budget Request of \$429.7 million represents a decrease of \$194.8 million from the FY 2008 appropriated level. This large decrease reflects: (1) the anticipated completion of major elements of nuclear security upgrade work performed under the Bratislava Agreement; (2) completion of the majority of nuclear security upgrades in countries outside of Russia; and (3) large Congressional increases for this work over the President's FY 2008 budget request. During the past 15 years, the Material Protection Control and Accounting (MPC&A) program has secured 85 percent of Russian nuclear weapons sites of concern, and work is underway to complete this work by the end of FY 2008. To maintain this progress, MPC&A and Rosatom have developed a new joint plan identifying elements required for Rosatom's long-term sustainability of U.S.-installed security enhancements. In FY 2009, international material protection activities will focus on the continued enhancement of Russia's capability to operate and maintain U.S.-funded security improvements in the long-term. The MPC&A Program is also focused on reducing proliferation risks by converting Russian HEU to LEU and by consolidating weapons-usable nuclear material into fewer, more secure locations. In FY 2009, we will eliminate an additional 1.4 metric tons of Russian HEU for a cumulative total of 12.4 metric tons.

Our Second Line of Defense (SLD) Program installs radiation detection equipment at key transit and border crossings, airports and major seaports to deter, detect and interdict illicit trafficking in nuclear and radioactive materials. The SLD Core Program, which installs radiation detection equipment at borders, airports, and strategic feeder ports, has equipped 117 sites in Russia. The U.S. and Russia have agreed to jointly fund work to equip all of Russia's border crossings with radiation detection equipment by the end of 2011, six years ahead of schedule. The Core Program has also equipped 33 sites outside of Russia with radiation detection systems. The SLD Megaports Initiative has deployed radiation detection and cargo scanning equipment at 12 ports to date in the Netherlands, Greece, Bahamas, Sri Lanka, Singapore, Spain, the Philippines, Belgium, Honduras, Pakistan, the United Kingdom, and Israel. Various stages of implementation are underway at ports in 16 other locations.

During FY 2009, the SLD Core Program is planning to complete an additional 49 sites. The SLD Megaports Initiative plans to complete work at nine key ports in FY 2009 in Israel, Jordan, Spain, Mexico, China, the United Arab Emirates, Saudi Arabia, Oman, and Taiwan. We will continue progress on separate ports in Spain and Mexico, and will initiate new work in FY 2009 at ports in Argentina, Brazil, and Malaysia. The Megaports program is also pursuing outreach activities in northeastern Africa and other key regions of concern. FY 2009 funding will also support the procurement of Advanced Spectroscopic Portals (ASP) and mobile detection systems, including Mobile Radiation Detection & Identification Systems (MRDIS) and Radiation Detection Straddle Carriers (RDSC). The Megaports Initiative also works closely with the U.S. Department of Homeland Security's Bureau of U.S. Customs and Border Protection (CBP) by making technical resources available to complement the Container Security Initiative (CSI) and the Secure Freight Initiative (SFI) at international ports. Under SFI, all

U.S.-bound containers are being scanned at three ports in Pakistan, Honduras, and the United Kingdom, fulfilling the 2006 SAFE Ports Act to couple non-intrusive imaging equipment and radiation detection equipment in order to demonstrate the effectiveness of 100 percent scanning of U.S.-bound containers. SLD Megaports has also partnered with CBP at four, limited capacity SFI locations in Hong Kong, Oman, Korea, and Singapore. The Megaports Initiative is installing radiation detection equipment at all CSI ports and has worked with CBP to pursue, where feasible, joint agreements with host nations to implement both the Megaports and SFI programs.

### **Nonproliferation and International Security**

The Nonproliferation and International Security (NIS) mission is to prevent, mitigate, and reverse WMD proliferation by providing policy and technical support to strengthen international nonproliferation regimes, institutions, and arrangements; promote foreign compliance with nonproliferation norms and commitments; and eliminate or reduce proliferation programs and stockpiles. Major NIS strategic priorities in FY 2009 include supporting the safe and secure expansion of nuclear energy use and disablement, dismantlement, and verification of nuclear programs in North Korea. NIS will also support the Next Generation Safeguards Initiative (NGSI) to strengthen international safeguards, revitalize the U.S. technical and human resource base that supports them, and develop the tools, approaches, and authorities needed by the International Atomic Energy Agency to fulfill its mandate far into the future.

In FY 2009, NIS also will confirm the permanent elimination from the Russian weapons stockpile of 30 metric tons of HEU; control the export of items and technology useful for WMD programs; continue an augmented export control cooperation program involving emerging suppliers and high-traffic transit states; break up proliferation networks and improve multilateral export control guidelines; develop and implement policy in support of global nonproliferation regimes; train 2,500 international and domestic experts in nonproliferation; provide technical expertise to the USG to support various WMD interdiction activities; develop and implement transparency measures to ensure that nuclear materials are secure; transition 300 Russian and FSU WMD experts to long-term private sector jobs; and make the preparations necessary for the USG's \$50 million contribution to the International Atomic Energy Agency for the establishment of the International Nuclear Fuel Bank – an international effort to establish a back-up nuclear fuel supply for peaceful uses.

### **Elimination of Weapons Grade Plutonium Production**

Turning to programs that focus on halting the production of nuclear materials, the Elimination of Weapons Grade Plutonium Production (EWGPP) Program is working towards completing the permanent shutdown of the three remaining weapons-grade plutonium production reactors in Seversk and Zheleznogorsk, Russia. The FY 2009 Budget request of \$141 million reflects a decrease of \$38 million from the FY 2008 level, following the planned completion in December 2008 of the fossil fuel plant at Seversk. The budget profile provides the funding required to replace the heat and electricity these reactors would otherwise supply to local communities with energy generated by fossil fuel, permitting the Russians to permanently shut down these reactors by December 2008 in Seversk and no later than December 2010 in Zheleznogorsk. This construction activity thus leads to the elimination of more than one metric ton of weapons-grade plutonium production per year.

## **Fissile Materials Disposition**

The Fissile Materials Disposition program request for FY 2009 is \$41.8 million. The program retains three principal elements: efforts to dispose of U.S. highly enriched uranium (HEU) declared surplus to defense needs primarily by down-blending it into low enriched uranium; technical analyses and support to negotiations involving the United States, Russia, and the International Atomic Energy Agency (IAEA) on monitoring and inspection procedures under the 2000 U.S.-Russia plutonium disposition agreement; and limited support for the early disposition of Russia's plutonium in that country's BN-600 fast reactor including U.S. technical support for work in Russia for disposition of Russian weapon-grade plutonium in fast reactors generally.

The FY 2008 Consolidated Appropriations Act (P.L. 110-161) appropriated funding for the Mixed Oxide Fuel (MOX) Fabrication Facility Project in South Carolina in the Department of Energy's Office of Nuclear Energy account and funding for the related Pit Disassembly and Conversion Facility/Waste Solidification Building projects in the NNSA Weapons Activities account. These projects remain important components of the nation's nuclear nonproliferation efforts. In total, the funding commitment to the Department of Energy's nonproliferation activities is \$1.853 billion in 2009. The MOX project is a key component of the U.S. strategy for plutonium disposition. It is the centerpiece of a comprehensive approach for disposing of surplus weapons-usable plutonium by fabricating it into mixed-oxide fuel for irradiation in existing nuclear reactors. This meets key national security and nonproliferation objectives by converting the plutonium into forms not readily usable for weapons and supports efforts to consolidate nuclear materials throughout the weapons complex.

In addition to its role in the disposition of excess nuclear materials at home, the U. S. views the MOX project as a key component of U.S. global nuclear nonproliferation efforts in which fissile material disposition is the final step in a balanced nuclear nonproliferation strategy aimed at employing measures necessary to detect, secure, and dispose of dangerous nuclear material. In 2007, the U.S. and Russian governments agreed on a framework for a technically and financially credible Russian plutonium disposition program based on the irradiation of plutonium as MOX fuel in fast reactors. When all required steps have taken for implementation, it will enable the U.S. and Russia to meet their commitments under a 2000 agreement to dispose of a combined total of 68 metric tons of surplus weapon-grade plutonium—enough material for approximately over 8,000 nuclear weapons.

This budget request also seeks funding to dispose of surplus U.S. HEU, including downblending 17.4 metric tons of HEU to establish the Reliable Fuel Supply, which would be available to countries with good nonproliferation credentials that face a disruption in supply that cannot be corrected through normal commercial means. This initiative marks an important first step creating a reliable nuclear fuel mechanism that could provide countries a strong incentive to refrain from acquiring their own enrichment and reprocessing capabilities.

## **Nonproliferation and Verification Research and Development**

The FY 2009 budget requests \$275 million for Nonproliferation and Verification Research and Development. This effort encompasses two primary programs that make unique contributions to national security by conducting research and development into new technical capabilities to detect illicit foreign production, diversion or detonation of nuclear materials. The Proliferation Detection Program

conducts research across a spectrum of technical disciplines that supports the NNSA mission, national and homeland security agencies and the counterterrorism community. Specifically, this program develops the tools, technologies, techniques, and expertise required for the identification, location, and analysis of facilities, materials, and processes of undeclared and proliferant nuclear programs. The Nuclear Detonation Detection Program produces the nation's space-based operational sensors that monitor the entire planet to detect and report surface, atmospheric, or space nuclear detonations. This program also produces and updates regional geophysical datasets that enable and enhance operation of the nation's seismic nuclear detonation detection network.

## **NAVAL REACTORS**

The Naval Reactors FY 2009 Budget Request of \$828 million is an increase of \$20 million from the FY 2008 request. Naval Reactor's development work ensures that nuclear propulsion technology provides options for maintaining and upgrading current capabilities, as well as for meeting future threats to U.S. security.

The majority of funding supports Naval Reactor's number-one priority of ensuring the safety and reliability of the 102 operating naval nuclear propulsion plants. This work involves continual testing, analysis, and monitoring of plant and core performance, which becomes more critical as the reactor plants age. The nature of this business demands a careful, measured approach to developing and verifying nuclear technology, designing needed components, systems, and processes, and implementing them in existing and future plant designs. Most of this work is accomplished at Naval Reactors' DOE laboratories. These laboratories have made significant advancements in extending core lifetime, developing robust materials and components, and creating an array of predictive capabilities.

Long-term program goals have been to increase core energy, to achieve life-of-the-ship cores, and to eliminate the need to refuel nuclear-powered ships. Efforts associated with this objective have resulted in planned core lives that are sufficient for the 30-plus year submarine (based on past usage rates) and an extended core life planned for CVN 21 (the next generation aircraft carrier). The need for nuclear propulsion will only increase over time as the uncertainty of fossil fuel cost and availability grows.

Naval Reactors' Operations and Maintenance budget request is categorized into six areas: Reactor Technology and Analysis; Plant Technology; Materials Development and Verification; Evaluation and Servicing; Advanced Test Reactor (ATR) Operations and Test Support; and Facility Operations.

The \$204 million requested for Reactor Technology and Analysis will support work that ensures the operational safety and reliability of reactor plants in U.S. warships and extends the operational life of Navy nuclear propulsion plants. This work includes continued development of the Reactor System Protection Analysis for the next generation aircraft carrier, CVN 21. These efforts also support continued work on core design concepts for submarines.

The increasing average age of our Navy's existing reactor plants, along with future extended service lives, a higher pace of operation and reduced maintenance periods, place a greater emphasis on our work in thermal-hydraulics, structural mechanics, fluid mechanics, and vibration analysis. These factors, along with longer-life cores, mean that for years to come, these reactors will be operating beyond our previously-proven experience base.

The \$104 million requested for Plant Technology provides funding to develop, test, and analyze components and systems that transfer, convert, control, and measure reactor power in a ship's power plant. Naval Reactors is developing components to address known limitations and to improve reliability of instrumentation and power distribution equipment to replace aging, technologically obsolete equipment. Development and application of new analytical methods, predictive tests, and design tools are required to identify potential concerns before they become actual problems. This enables preemptive actions to ensure the continued safe operation of reactor plants and the minimization of maintenance costs over the life of the ship. Additional technology development in the areas of chemistry, energy conversion, instrumentation and control, plant arrangement, and component design will continue to support the Navy's operational requirements.

The \$106 million requested for Materials Development and Verification supports material analyses and testing to provide the high-performance materials necessary to ensure that naval nuclear propulsion plants meet Navy goals for extended warship operation and greater power capability. These funds support the test assemblies for use in ATR, post irradiation examination of the materials tested at ATR, and destructive and non-destructive examinations of spent navy nuclear fuel and reactor component materials.

The \$264 million requested for Evaluation and Servicing sustains the operation, maintenance, and servicing of Naval Reactors' operating prototype reactor plants. Reactor core and reactor plant materials, components, and systems in these plants provide important research and development data and experience under actual operating conditions. These data aid in predicting and subsequently preventing problems that could develop in fleet reactors. With proper maintenance, upgrades, and servicing, the two prototype plants will continue to meet testing needs for at least the next decade.

Evaluation and Servicing funds also support the implementation of the dry spent fuel storage production lines that will put naval spent fuel currently stored in water pools at the Idaho Nuclear Technology and Engineering Center (INTEC) on the Idaho National Laboratory (INL) and at the Expended Core Facility (ECF) on the Naval Reactors facility in Idaho into dry storage. Additionally, these funds support ongoing decontamination and decommissioning of inactive nuclear facilities at all Naval Reactors sites to address their "cradle to grave" stewardship responsibility for these legacies and minimize the potential for any environmental releases.

The \$60 million requested for Advanced Test Reactor Operations and Test Support sustains the ongoing activities of the INL ATR facility, owned and operated by the Office of Nuclear Energy (NE), Science and Technology.

In addition to the budget request for the important technical work discussed above, facilities funding is required for continued support of Naval Reactor's operations and infrastructure. The \$32 million requested for facilities operations will maintain and modernize the program's facilities, including the Bettis and Knolls laboratories as well as ECF and Kesselring Site Operations (KSO), through capital equipment purchases and general plant projects.

The \$22 million requested for construction funds will be used to support the project engineering and design of KAPL infrastructure upgrades and ECF M290 receiving and discharge station, to support the

design and construction of production support complex at NRF, and to support the construction of a materials research technology complex.

### **OFFICE OF THE ADMINISTRATOR**

This account provides for all Federal NNSA staff in Headquarters and field locations except those supporting Naval Reactors and the Office of Secure Transportation couriers. The FY 2009 Budget Request is \$404.1 million, essentially level with the FY 2008 appropriation reflecting a leveling of staffing growth.

This Budget Request is consistent with the funding needed for personnel support in an account that is comprised of over 70 percent salaries and benefits. Staffing is projected to increase by 95 to a total of 1,942 FTE in FY 2009, in support of new hires brought on-board at the end of FY 2008 and beginning of FY 2009 to meet increased requirements in Defense Nuclear Nonproliferation and Emergency Operations program goals as well as address NNSA workforce planning skill mix issues. Information Technology (IT) for the Federal staff is also included in this account, and the FY 2009 request is level with 2008.

The outyear budget for this account projects a 3.7 percent increase in FY 2010, followed by about 4 percent annually in the ensuing years. There remain significant challenges in managing this account due to the essentially uncontrollable impacts of escalation on payroll and benefits for NNSA staff that consume such a high percentage of this account.

### **Historically Black Colleges and Universities (HBCU) Support**

A research and education partnership program with the HBCUs and the Massie Chairs of Excellence was initiated by the Congress through Congressionally directed projects in the Office of the Administrator appropriation in FY 2005. The NNSA has established an effective program to target national security research opportunities for these institutions to increase their participation in national security-related research and to train and recruit HBCU graduates for employment within the NNSA. The NNSA goal is a stable \$10 million annual effort. However, the FY 2008 Consolidated Appropriations Act (P.L. 110-161), included \$22.1 million in congressionally directed projects in support of the HBCU programs within the Office of the Administrator account, for both new and existing projects. In FY 2009, the Office of the Administrator appropriation will provide funding of \$3.6 million in continuing support for HBCU activities for institutions not yet ready to engage in direct NNSA mission support. The Weapons Activities appropriation will provide up to \$6 million; the Defense Nuclear Nonproliferation appropriation will provide up to \$3 million; and the Naval Reactors program will fund up to \$1 million of HBCU efforts in FY 2009 in multiple research partnerships directly supporting mission program activities.

# **National Nuclear Security Administration**

## **Appropriation and Program Summary Tables Outyear Appropriation Summary Tables**

### **FY 2009 BUDGET TABLES**



## National Nuclear Security Administration

### Overview

(dollars in thousands)

	FY 2007 Current Appropriations	FY 2008 Original Appropriation	FY 2008 Adjustments	FY 2008 Current Appropriation	FY 2009 Request
<b>National Nuclear Security Administration</b>					
Office of the Administrator	358,291	405,987	-3,850	402,137	404,081
Weapons Activities	6,258,583	6,355,633	-58,167	6,297,466	6,618,079
Defense Nuclear Nonproliferation	1,824,202	1,673,275	-15,279	1,657,996	1,247,048
Naval Reactors	781,800	781,800	-7,114	774,686	828,054
<b>Total, NNSA</b>	<b>9,222,876</b>	<b>9,216,695</b>	<b>-84,410</b>	<b>9,132,285</b>	<b>9,097,262</b>
Rescission of Prior Year Balances	0	-322,000	0	-322,000	0
<b>Total, NNSA (OMB Scoring)</b>	<b>9,222,876</b>	<b>8,894,695</b>	<b>-84,410</b>	<b>8,810,285</b>	<b>9,097,262</b>

### Appropriation Summary

#### Outyear Appropriation Summary

#### NNSA Future-Years Nuclear Security Program (FYNSP)

(dollars in thousands)

	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
<b>NNSA</b>					
Office of the Administrator	404,081	419,848	436,266	451,771	469,173
Weapons Activities	6,618,079	6,985,695	7,197,844	7,286,912	7,460,318
Defense Nuclear Nonproliferation	1,247,048	1,082,680	1,076,578	1,111,337	1,133,982
Naval Reactors	828,054	848,641	869,755	880,418	899,838
<b>Total, NNSA</b>	<b>9,097,262</b>	<b>9,336,864</b>	<b>9,580,443</b>	<b>9,730,438</b>	<b>9,963,311</b>

**Office of the Administrator  
National Nuclear Security Administration**

**Overview**

**Appropriation Summary by Program**

(dollars in thousands)

FY 2007 Current Appropriation	FY 2008 Original Appropriation	FY 2008 Adjustments	FY 2008 Current Appropriation	FY 2009 Request	\$ Change
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**Office of the Administrator**

**Office of the  
Administrator**

	358,291 <sup>a</sup>	383,487	-3,490	379,997	404,081	+24,084
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**Congressional Directed  
Projects**

	0	22,500	-360	22,140	0	-22,140
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**Total, Office of the  
Administrator**

	358,291	405,987	3,850 <sup>b</sup>	402,137	404,081	+1,944
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**Public Law Authorization:**

FY 2008 Consolidated Appropriations Act (P.L. 110-161)

National Nuclear Security Administration Act, (P.L. 106-65), as amended

**Outyear Appropriation Summary**

(dollars in thousands)

FY 2010	FY 2011	FY 2012	FY 2013
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**Office of the Administrator**

	419,848	436,266	451,771	469,173
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<sup>a</sup> Reflects the Congressionally approved appropriation transfer of \$17,000,000 (07-D-04) from a source within the Weapons Activities appropriation and \$1,000,000 from the FY 2007 supplemental in support of the Defense Nuclear Nonproliferation program.

<sup>b</sup> Reflects a rescission of \$3,850,000 as cited in the FY 2008 Consolidated Appropriations Act (P.L. 110-161).

## Weapons Activities

### Funding Profile by Subprogram

(dollars in thousands)

	FY 2007 Current Appropriation	FY 2008 Original Appropriation	FY 2008 Adjustments	FY 2008 Current Appropriation	FY 2009 Request
<b>Weapons Activities</b>					
Directed Stockpile Work	1,430,192	1,413,879	-12,627	1,401,252	1,675,715
Science Campaign	267,758	290,216	-2,592	287,624	323,070
Engineering Campaign	161,736	171,075	-1,527	169,548	142,742
Inertial Confinement Fusion Ignition and High Yield Campaign	489,706	474,442	-4,236	470,206	421,242
Advanced Simulation and Computing Campaign	611,253	579,714	-5,177	574,537	561,742
Pit Manufacturing and Certification Campaign	242,392	215,758	-1,927	213,831	0
Readiness Campaign	201,713	159,512	-1,424	158,088	183,037
Readiness in Technical Base and Facilities	1,613,241	1,652,132	-14,751	1,637,381	1,720,523
Secure Transportation Asset	209,537	213,428	-1,905	211,523	221,072
Nuclear Weapons Incident Response Facilities and Infrastructure	133,514	160,084	-1,429	158,655	221,936
Recapitalization Program	169,383	181,613	-1,622	179,991	169,549
Environmental Projects and Operations	0	8,669	-77	8,592	40,587
Transformation Disposition	0	0	0	0	77,391
Defense Nuclear Security	656,653	806,434	-7,201	799,233	737,328
Cyber Security	104,505	101,191	-904	100,287	122,511
Congressionally Directed Projects	0	48,000	-768	47,232	0
<b>Subtotal, Weapons Activities</b>	<b>6,291,583</b>	<b>6,476,147</b>	<b>-58,167</b>	<b>6,417,980</b>	<b>6,618,445</b>
Security Charge for Reimbursable Work	-33,000	-34,000		-34,000	0
Use of Prior Year Balances	0	-86,514		-86,514	-366
<b>Total, Weapons Activities</b>	<b>6,258,583</b>	<b>6,355,633</b>	<b>-58,167</b>	<b>6,297,466</b>	<b>6,618,079</b>

### Public Law Authorization:

FY 2008 Consolidated Appropriations Act (P.L. 110-161)

National Nuclear Security Administration Act, (P.L. 106-65), as amended

## Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2010	FY 2011	FY 2012	FY 2013
<b>Weapons Activities</b>				
Directed Stockpile Work	1,762,079	1,789,979	1,760,218	1,776,388
Science Campaign	309,091	295,192	296,662	299,902
Engineering Campaign	148,863	146,565	150,475	153,907
Inertial Confinement Fusion Ignition and High Yield Campaign	434,007	381,173	373,005	377,762
Advanced Simulation and Computing Campaign	526,373	510,808	514,405	520,645
Pit Manufacturing and Certification Campaign	0	0	0	0
Readiness Campaign	170,003	161,139	161,130	164,295
Readiness in Technical Base and Facilities	1,904,398	2,153,557	2,275,909	2,372,916
Secure Transportation Asset	249,555	261,543	268,134	269,325
Nuclear Weapons Incident Response	229,661	235,211	242,425	250,947
Facilities and Infrastructure Recapitalization Program	192,945	196,379	195,096	194,779
Environmental Projects and Operations	37,288	39,026	37,468	36,040
Transformation Disposition	89,457	88,589	88,008	87,863
Defense Nuclear Security	818,285	817,809	793,856	814,928
Cyber Security	113,690	120,874	130,121	140,621
<b>Total, Weapons Activities</b>	<b>6,985,695</b>	<b>7,197,844</b>	<b>7,286,912</b>	<b>7,460,318</b>

## Defense Nuclear Nonproliferation

### Funding Profile by Subprogram

(dollars in thousands)

	FY 2007 Current Appropriation	FY 2008 Original Appropriation	FY 2008 Adjustments	FY 2008 Current Appropriation	FY 2009 Request
<b>Defense Nuclear Nonproliferation</b>					
Nonproliferation and Verification Research and Development	265,197	390,752	-3,556	387,196	275,091
Nonproliferation and International Security	128,911	151,370	-1,377	149,993	140,467
International Nuclear Materials Protection and Cooperation	597,646	630,217	-5,735	624,482	429,694
Elimination of Weapons-Grade Plutonium Production	231,152	181,593	-1,653	179,940	141,299
Fissile Materials Disposition	470,062	66,843	-608	66,235	41,774
Global Threat Reduction Initiative	131,234	195,000	-1,775	193,225	219,641
International Nuclear Fuel Bank	0	50,000	-455	49,545	0
Congressional Directed Projects	0	7,500	-120	7,380	0
<b>Subtotal, Defense Nuclear Nonproliferation</b>	<b>1,824,202</b>	<b>1,673,275</b>	<b>-15,279</b>	<b>1,657,996</b>	<b>1,247,966</b>
Use of Prior Year Balances	0	0	0	0	-918
<b>Total, Defense Nuclear Nonproliferation</b>	<b>1,824,202</b>	<b>1,673,275</b>	<b>-15,279</b>	<b>1,657,996</b>	<b>1,247,048</b>
Rescission of Prior Year Balances	0	-322,000	0	-322,000	0
<b>Total, Defense Nuclear Nonproliferation (OMB Scoring)</b>	<b>1,824,202</b>	<b>1,351,275</b>	<b>-15,279</b>	<b>1,335,996</b>	<b>1,247,048</b>

NOTES: The FY 2007 Current Appropriation column includes additions for international contributions to the Elimination of Weapons-Grade Plutonium Production Program in the amount of \$5,397,964; to the International Nuclear Materials Protection and Cooperation Program in the amount of \$4,916,044 and to the Global Threat Reduction Initiative Program in the amount of \$1,738,800. FY 2008 Adjustments reflect a rescission of \$15,279,000 as cited in the FY 2008 Consolidated Appropriations Act (P.L. 110-161).

#### Public Law Authorization:

FY 2008 Consolidated Appropriations Act (P.L. 110-161)

National Nuclear Security Administration Act, (P.L. 106-65), as amended

## Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2010	FY 2011	FY 2012	FY 2013
<b>Defense Nuclear Nonproliferation</b>				
Nonproliferation and Verification Research and Development	318,620	334,182	343,397	351,098
Nonproliferation and International Security	151,052	158,711	171,108	175,368
International Nuclear Materials Protection and Cooperation	400,511	394,626	395,225	404,064
Elimination of Weapons Grade Plutonium Production	24,507	0	0	0
Fissile Materials Disposition	37,691	27,985	28,435	26,000
Global Threat Reduction Initiative	150,299	161,074	173,172	177,452
<b>Total, Defense Nuclear Nonproliferation</b>	<b>1,082,680</b>	<b>1,076,578</b>	<b>1,111,337</b>	<b>1,133,982</b>

## Naval Reactors

### Funding Profile by Subprogram

(dollars in thousands)

	FY 2007 Current Appropriation	FY 2008 Original Appropriation	FY 2008 Adjustments	FY 2008 Current Appropriation	FY 2009 Request
<b>Naval Reactors Development</b>					
Operations and Maintenance (O&M)	747,648	739,100	-6,726	732,374	771,600
Program Direction	31,380	32,700	-297	32,403	34,454
Construction	2,772	10,000	-91	9,909	22,000
<b>Total, Naval Reactors Development</b>	<b>781,800</b>	<b>781,800</b>	<b>-7,114</b>	<b>774,686</b>	<b>828,054</b>

**Public Law Authorizations:**

P.L. 83-703, "Atomic Energy Act of 1954"

"Executive Order 12344 (42 U.S.C. 7158), "Naval Nuclear Propulsion Program"

P.L. 107-107, "National Defense Authorizations Act of 2002", Title 32, "National Nuclear Security Administration"

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

FY 2008 Consolidated Appropriations Act (P.L. 110-161)

National Nuclear Security Administration Act, (P.L. 106-65), as amended

### Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2010	FY 2011	FY 2012	FY 2013
<b>Naval Reactors Development</b>				
Operations and Maintenance	782,087	811,651	827,164	831,084
Program Direction	35,754	37,054	38,354	39,754
Construction	30,800	21,050	14,900	29,000
<b>Total, Naval Reactors Development</b>	<b>848,641</b>	<b>869,755</b>	<b>880,418</b>	<b>899,838</b>

**Statement of James A. Rispoli**  
**Assistant Secretary for Environmental Management**  
**U.S. Department of Energy**  
**Before the Subcommittee on Strategic Forces**  
**Committee on Armed Services**  
**U.S. House of Representatives**

**March 12, 2008**

Good morning, Madam Chairman, Congressman Everett, and Members of the Subcommittee. I am pleased to be here today to answer your questions on the President's Fiscal Year (FY) 2009 budget request for the Department of Energy's Office of Environmental Management (EM). I want to thank the Subcommittee for your support of the EM program.

The year 2009 will mark 20 years since the EM program was first established just as the Cold War was coming to an end. While the budget we are considering today is oriented toward the future, I think it is appropriate to begin today by considering how much this program has accomplished since its creation.

At that time, nearly 50 years of nuclear weapons production and energy research had left a legacy of enormous amounts of waste and environmental contamination at more than 100 sites across the country. The extent of the risk to our citizens and communities was literally unknown, and certainly many of the processes and technologies to reduce that risk had not yet been invented.

Since then, we have closed 86 of 108 sites nationwide. The national "footprint" of the Department's nuclear complex and its accompanying risks has been drastically reduced, and eliminated altogether from many states. We have packaged and safely stored all of the nation's excess plutonium inventory. We have pioneered new technologies that have allowed us to make progress retrieving millions of gallons of tank waste, and to safely dispose tens of thousands of cubic meters of transuranic waste. In FY 2006 and FY 2007 alone, we demolished approximately 500 buildings (nuclear, radioactive, and industrial) as part of our decontamination and decommissioning (D&D) projects. And finally, we have made great strides in protecting groundwater using innovative treatment systems.

Today marks likely the final time that I will be testifying before you regarding our program's budget request. When I first assumed the position of Assistant Secretary for Environmental Management in August 2005, I set out to institute a rigorous project management system, and, above all, to continue to emphasize safety and risk reduction. I sought to refine and independently verify our project baselines – the estimates of scope, schedule and cost that guide every project – to ensure that they are realistic and executable. I will discuss our successes in this area as well as our ongoing challenges.



The FY 2009 budget request is once again built on the principle of prioritizing risk reduction across the *entire* complex for which EM is responsible, supported by our four guiding tenets of safety, performance, cleanup and closure. With 90 percent of our budget addressing mission activities at our cleanup sites, more than half of FY 2009 funding will go towards our highest-risk activities of stabilizing tank waste, nuclear materials and spent nuclear fuel; another one-quarter of the budget will be devoted to cleaning up contaminated soil, groundwater, and excess facilities, and about 14 percent going to manage wastes streams related to those cleanup activities. The remaining 10 percent covers mission activity support, including costs for program oversight provided by our federal personnel, and technology development.

Mr. Chairman, let me point out that the Administration recognizes that EM's FY 2009 budget request of \$5.528 billion is based on, and would implement, an environmental management approach under which the Department would not meet some of the milestones and obligations contained in the environmental agreements that have been negotiated over many years. It is also important to recognize that some upcoming milestones will be missed regardless of the approach that is chosen and its associated level of funding.

Moreover, some of the relevant agreements were negotiated many years ago, with incomplete knowledge by any of the parties of the technical complexity and magnitude of costs that would be involved in attempting to meet the requirements. This incomplete knowledge, coupled with other issues including contractor performance, overly optimistic planning assumptions, and emerging technical barriers, also have impeded the Department in meeting all milestones and obligations contained in the environmental compliance agreements.

In planning its environmental cleanup efforts and developing the budget for those activities, the Department seeks to focus on work that will produce the greatest environmental benefit and the largest amount of risk reduction. The Department strongly believes that setting priorities and establishing work plans in this way is the most effective use of taxpayer funds and will have the greatest benefit, at the earliest possible time, to the largest number of people.

In determining these priorities, the Department works closely with the federal and state regulators, and will seek the cooperation of those entities in helping evaluate needs and focus work on the highest environmental priorities based on current knowledge, particularly where doing so necessitates modification of cleanup milestones embodied in prior agreements with the Department.

## MANAGING OUR PRIORITIES

When I appeared before this Subcommittee two years ago, I pledged that safety would remain our first priority. All workers deserve to go home as healthy as they were when they arrived at the job in the morning. No milestone is worth any injury to our workforce. I am pleased to say that EM's safety performance continues to be outstanding. As a result of collaborative efforts by DOE and our contractors, worker injuries have been reduced by 50 percent during the past three years. Currently EM's injury rate is less than 10 percent of comparable commercial waste disposal and construction industries.

Another priority we discussed two years ago was my goal of making EM a high-performing organization by every measure. This goal has required us to look critically at every aspect of how we plan, procure, execute and manage every project under our jurisdiction, and how we align every dollar the taxpayers provide to achieving environmental cleanup goals.

On the subject of our management practices, in September 2005, Congress asked NAPA to undertake a management review of EM, including an assessment of EM's human capital. NAPA's study, conducted over a period of 18 months, was very interactive; we opened our operations to NAPA for scrutiny and in turn have embraced and implemented nearly all of NAPA's proposals.

Most of all, we were gratified that NAPA concluded in its final report issued this past December that EM, "is on a solid path to becoming a high-performing organization." We know we have much remaining to be accomplished, but we take NAPA's conclusion as a sign that we are, in fact, headed in the right direction with regard to how we function as an organization.

A budget is only as good as its planning basis. Our request is developed from our project baselines that define the scope, cost, and schedule for each project, and I have much to report to you in this area. When I assumed this position, I was concerned that the accepted baselines for many of our projects were unrealistic. The reasons for this included overly aggressive assumptions in the technical and regulatory arenas, increasing costs of materials and simple underperformance.

Since that time, our sites have undergone an independent review to verify the reasonableness of the scope, cost, and schedule for each project. This review also documented assumptions and associated risk management plans that supported baseline development. As a result, all near-term baselines up to five years have now been independently reviewed and verified, while long-term cost ranges have been determined to be reasonable. As we move forward in the FY 2009 budget process, I believe that the Subcommittee can view near-term cost assumptions associated with our projects with greater confidence than ever before.

The majority of EM sites do, in fact, include baselines with completion dates beyond 2013. Through a collaborative process with our field sites, EM is seeking to define aggressive but achievable strategies for accelerating cleanup of distinct sites or segments of work that involve multiple sites. Moreover, it is important to note that EM's site cleanup activities are managed as one integrated *national* program; the work and risks associated with each site are inherently interrelated with that at other sites. Thus, we continue to evaluate and implement cross-site risk priorities and cleanup activities.

In 2005, we set out to integrate proven project management tools into our business processes, and address our shortcomings in project management by using DOE and industry-standard business management tools. I stated to you in 2006 that our goal was for at least 90 percent of our projectized portfolio to perform on-target, or better than on-target regarding cost and schedule. I am pleased to report that we now consistently meet that goal—in excess of 90 percent of our portfolio, currently numbering more than 65 independently audited projects, consistently performs within cost and schedule targets.

As an “acquisition” organization, EM accomplishes its mission through procurement and execution of our projects. Since the contract serves as the principal agreement governing how a project is executed between DOE and the contractor, contract and project management must be seamlessly managed in parallel. To oversee this process, about 18 months ago, we implemented an organizational structure, including the creation of a Deputy Assistant Secretary for Acquisition and Project Management. This position integrates the two functions of procurement planning and project management, helping us to professionalize the procurement process so that we learn from, and improve upon, each contract experience. Moreover, it provides us with strong management oversight after the contract is awarded. We are striving to make EM nothing short of a “Best-in-Class” organization for project and contract management and engineering and technology.

The FY 2009 Technology Development and Deployment Program will be highly focused and concentrate its investments in EM high priority cleanup areas, including radioactive tank waste, soils and groundwater remediation, and deactivation and decommissioning excess facilities. Best-in-class performers, including other Federal agencies, the national laboratories, the university system, and private industry will be utilized to conduct the Technology Development and Deployment scope.

The EM program has always required a strong technology component to accomplish its mission, one that is focused on developing and deploying technologies to enhance safety, effectiveness, and efficiency. As we look ahead to our cleanup work, we face the ongoing challenge of maturing and integrating technology into first-of-a-kind solutions. An Engineering and Technology Roadmap has been developed to address this need. The Roadmap identifies the technical risks the EM program faces over the next ten years, and strategies to address the risks. EM’s validated baselines are a powerful tool that allows EM managers to identify the points at which new knowledge and technology can be efficiently inserted into EM cleanup projects to address risks.

## BUDGETING FOR OUR PRIORITIES

Before I discuss the FY 2009 budget request, allow me to draw attention to the significant cleanup progress achieved recently. We have:

- Completed stabilization and packaging for all plutonium residues, metals, and oxides and begun consolidation of all of these materials at the Savannah River Site (SRS);
- Produced for disposition more than 2,500 cans of vitrified high-level waste from highly radioactive liquid wastes;
- Completed retrieval and packaging for disposal of more than 2,100 metric tons of spent nuclear fuel from K-basins at Hanford to protect the Columbia River;
- Shipped more than 50,000 cubic meters of transuranic (TRU) waste from numerous sites to the Waste Isolation Pilot Plant (WIPP) for permanent disposal, including 25,000 out of a planned 30,000 drums from SRS;
- Disposed of nearly one million cubic meters of legacy low-level waste and mixed low-level waste;

- Eliminated 11 of 13 high-risk material access areas through material consolidation and cleanup; and
- Cleaned up the Melton Valley area at the Oak Ridge Reservation and continued decontamination and decommissioning of three gaseous diffusion buildings at Oak Ridge.

The program has made significant progress in shifting focus from risk management to risk reduction. This focus on measurable risk reduction continues to be the guiding principle behind the development of our FY 2009 budget request.

To strike the balance that allows EM to continue achieve risk reduction and pursue cleanup goals, we propose funding the following risk reduction and regulatory activities in priority order:

- Stabilizing radioactive tank waste in preparation for treatment (about 32 percent of the FY 2009 request);
- Storing, stabilizing, and safeguarding nuclear materials and spent nuclear fuel (about 18 percent of the FY 2009 request);
- Disposing of transuranic, low-level, and other solid wastes (about 14 percent of the FY 2009 request); and
- Remediating major areas of EM sites, and decontaminating and decommissioning facilities (about 26 percent of the FY 2009 request).

#### FY 2009 BUDGET REQUEST

The Department's FY 2009 budget request for the Office of Environmental Management is \$5.528 billion, of which \$5.298 billion is for defense EM activities.

For FY 2009, EM's funding priorities to best address our environmental cleanup challenges are:

- Conducting cleanup with a "Safety First" culture that integrates environment, safety and health requirements, and controls into all work activities to ensure protection to the worker, public, and the environment;
- Establishing a disposition capability for radioactive liquid tank waste and spent nuclear fuel;
- Securing and storing nuclear material in a stable, safe configuration in secure locations to protect national security;
- Transporting and disposing of transuranic and low-level wastes in a safe and cost-effective manner to reduce risk;
- Remediating soil and groundwater in a manner that will assure long-term environmental and public protection; and
- Decontaminating and decommissioning facilities that provide no further value to reduce long-term liabilities while remediating the surrounding environment.

Examples of milestones and planned activities for FY 2009 by site-specific categories are:

## Idaho

- *Meet requirements in the Idaho Settlement Agreement to ship stored contact-handled and remote-handled transuranic (TRU) waste to the Waste Isolation Pilot Plant (WIPP).*

The Idaho National Laboratory will continue characterizing, treating, packaging, and transporting of contact-handled and remote-handled TRU waste to WIPP.

- *Continue construction of the sodium-bearing waste treatment facility to support tank waste retrievals.*

The overall objectives of this project are to treat and dispose of sodium-bearing tank wastes, close the tank farms tanks, and perform initial tank soil remediation work. Construction and operation of the sodium-bearing waste treatment facility will reduce potential risk to human health and the environment by preventing the potential migration of contamination into the Snake River Plain Aquifer, which is a sole-source aquifer for the people of Southeastern Idaho.

- *Complete the transfer of all EM-managed spent nuclear fuel to dry storage.*

EM will continue to promote the safe and secure receipt and dry storage of spent fuel to protect the Snake River Plain Aquifer.

## Los Alamos National Laboratory

- *Promote soil and water remediation.*

The Los Alamos National Laboratory (LANL) Soil and Water Remediation Project scope includes identification, investigation, and remediation of chemical and or radiological contamination attributable to past Laboratory operations and practices. In order to support the project scope, in FY 2009 EM plans to: complete required groundwater monitoring within eight watersheds, install four regional aquifer monitoring wells, complete four soil cleanups, including Material Disposal Area R in Technical Area-16, and continue remediation of tanks at the Material Disposal Area A in Technical Area-21.

- *Continue TRU waste shipments to WIPP.*

The Solid Waste Stabilization and Disposition Project includes the treatment, storage, and disposal of legacy TRU and mixed low-level waste generated between 1970 and 1999 at LANL. The end-state of this project is the safe disposal of legacy waste from LANL. In FY 2009, EM plans to continue characterization and certification of TRU waste for shipment to WIPP and continue services and safety-related activities to maintain the waste inventories in a safe configuration and within allowable Material-at-Risk limits established for the site.

## Oak Ridge

- *Complete final design for the Uranium-233(U-233) down-blending project and begin Building 3019 modifications.*

The U-233 inventory in Building 3019 will be down-blended as expeditiously as possible to reduce the substantial annual costs associated with safeguards and security requirements and to address nuclear criticality concerns raised by the Defense Nuclear Facilities Safety Board (DNFSB).

- *Process and ship contact-handled and remote-handled TRU waste to WIPP.*

Approximately 300 cubic meters of contact-handled TRU debris and 100 cubic meters of remote-handled TRU debris will be processed for disposal at WIPP.

- *Decontaminate and decommission (D&D) the Y-12 National Security Complex and Oak Ridge National Laboratory (ORNL).*

Remediation of the Corehole 8 plume at ORNL and of mercury contamination at Y-12 will be performed. The on-site disposal cell for receipt of D&D debris and cleanup waste will be expanded.

## Richland

- *Complete shipping of special nuclear materials from the Plutonium Finishing Plant (PFP).*

The PFP complex consists of several buildings that were used for defense production of plutonium nitrates, oxides and metal from 1950 through early 1989. As part of the PFP cleanup, Richland's goal is to complete shipments of special nuclear materials off-site to the Savannah River Site and procure additional casks to support completion of the shipping campaign by the end of FY 2009.

- *Enhance groundwater remediation at the Central Plateau and along the Columbia River.*

Over 50 years of weapons production at the Hanford site has left the groundwater contaminated by carbon tetrachloride, chromium, technetium 99, strontium, and uranium. EM is dedicated to protecting the groundwater resources at Hanford as well as the Columbia River, through deployment of innovative technologies in FY 2009 to address all of the contaminants in the vadose zone and groundwater, with supporting investigations such as installation of new wells for monitoring and characterization, and geophysical logging to provide additional subsurface information on contaminant distribution.

- *Cleanup of waste sites and facilities along the Columbia River Corridor including K-East Basin D&D.*

The K Basins project is a high priority risk reduction activity due to its close proximity to the Columbia River. To date, we have completed the removal, packaging, and transportation of approximately 2,100 metric tons of degrading spent nuclear fuel, removal of an estimated 44 cubic meters of radioactively contaminated sludge, and the basin water is now being pumped out. In FY 2009, the K-East basin will be completely demolished. The end-state of the K Basins cleanup will mean the removal of more than 55 million curies of radioactivity from near the Columbia River.

- *Retrieve suspect contact-handled and remote-handled TRU waste from burial grounds and continue to ship to WIPP.*

The Hanford Site contains thousands of containers of suspect contact-handled and remote-handled TRU waste, low-level waste, and mixed low-level waste. Activities planned in FY 2009 are to retrieve 1,100 cubic meters of suspect contact-handled and remote-handled TRU waste from the low-level burial grounds, continue certification of transuranic waste, and dispose of on-site generated low-level and mixed low-level wastes at the mixed waste disposal trenches.

#### River Protection

- *Manage the tank farms in a safe and compliant manner until closure.*

The radioactive waste stored in the Hanford tanks was produced as part of the nation's defense program and has been accumulating since 1944. To protect the Columbia River, the waste must be removed and processed to a form suitable for disposal and the tanks must be stabilized. To reach these goals, EM plans to enhance the Single-Shell Tank Integrity Program, continue to develop retrieval technologies and retrieve waste from approximately one tank per year, and continue to evaluate supplemental treatment technology, and interim pre-treatment capabilities.

- *Advance in Waste Treatment and Immobilization Plant construction.*

The Waste Treatment and Immobilization Plant (WTP) is critical to the completion of the Hanford tank waste program by providing the primary treatment capability to immobilize the radioactive tank waste at the Hanford Site. The WTP complex includes five facilities: the Pretreatment Facility, the High-Level Waste Facility, the Low-Activity Waste Facility, the Balance of Facilities, and the Analytical Laboratory. In FY 2009, EM plans to continue construction of all of these facilities to achieve approximately 55 percent completion, while maintaining the viability of other supplemental treatment options. The end-state of this project will be the completion of the WTP hot commissioning and transfer of the facilities to an operations contractor to run the plant.

## Savannah River

- *Continue consolidation and disposition of special nuclear materials.*

The receipt, storage, and disposition of materials at the Savannah River Site allows for de-inventory and shutdown of other DOE complex sites, providing substantial risk reduction and significant mortgage reduction savings to the Department. In FY 2009, the Savannah River Site will complete the receipt of surplus plutonium from the Hanford Site, Los Alamos National Laboratory, and Lawrence Livermore National Laboratory. Also in FY 2009, EM plans to operate H-Canyon/HB-Line to disposition special nuclear materials and begin processing of Savannah River Site's spent nuclear fuel in H-Canyon.

- *Reduce radioactive liquid waste.*

The mission of the tank waste program at Savannah River is to safely and efficiently treat, stabilize, and dispose of approximately 37 million gallons of legacy radioactive waste currently stored in 49 underground storage tanks. In FY 2009, planned EM activities include: continue operation of Actinide Removal Project, Modular Caustic-Side Solvent Extraction Unit, and the Defense Waste Processing Facility, continue the construction of the Salt Waste Processing Facility; and prepare sludge batches in support of continued high-level waste vitrification. Activities are planned to free up additional tank space, such as treatment of organic waste in the 1.3 million gallon Tank 48 to return the tank to useful service.

## Waste Isolation Pilot Plant

- *Continue safe shipment, receipt, and disposal of contact-handled and remote-handled TRU waste.*

WIPP in Carlsbad, New Mexico, is the nation's only mined geologic repository for the permanent disposal of defense-generated TRU waste. In FY 2009, the budget request supports up to 21 contact-handled TRU and up to 5 remote-handled TRU shipments per week from across the DOE complex.

## CONCLUSION

Mr. Chairman, I am proud of the progress the EM program has made in recent years, both in terms of meeting the nation's cleanup priorities, and in building the foundation for future efforts. I respectfully submit EM's FY 2009 budget request and am pleased to answer your questions.



Written Testimony of Glenn S. Podonsky  
Chief Health, Safety and Security Officer  
U.S. Department of Energy  
Before the  
Subcommittee on Strategic Forces  
Committee on Armed Services  
U.S. House of Representatives

March 12, 2008

**Introduction**

Chairwoman Tauscher, Ranking Member Everett, and members of the subcommittee, thank you for inviting me to testify today on the Department of Energy's Fiscal Year (FY) 2009 Budget Request for the Office of Health, Safety and Security (HSS). As the Department's central organization responsible for health, safety, and security, HSS provides corporate-level leadership and strategic vision to coordinate and integrate these programs. HSS provides the Department with effective and consistent policy development, technical assistance, professional development and training, complex-wide independent oversight, and enforcement. As the Chief Health, Safety and Security Officer, I advise the Secretary on a wide range of matters related to health, safety, and security across the complex. Today, I am here to assure you that HSS continues to strengthen the Department's safety and security posture.

Since its creation, HSS has institutionalized its infrastructure and is now recognized by the Department's leadership team, the DOE current and former workforce, other U.S. Departments and Agencies, Congress, the Defense Nuclear Facilities Safety Board (DNFSB), and within the international community as an organization striving for excellence in health, safety, and security arenas.

With the creation of HSS, we recognized that it was important for us to identify opportunities to improve DOE worker health, safety, and security programs. Over the past year, HSS conducted a series of focus group meetings with DOE program offices, worker trade unions, professional associations, and other stakeholders to establish and/or strengthen lines of communication, seek feedback, and identify areas of interest and concern.

HSS continues to interface with other Federal organizations such as the Nuclear Regulatory Commission (NRC), Environmental Protection Agency (EPA), Department of Homeland Security (DHS), and Department of Defense (DoD), to share information and coordinate efforts in strengthening the Department's and the Nation's overall safety and security posture. The HSS security technology deployment program leverages millions of dollars previously invested by DoD, the intelligence community, and other agencies for deployment of proven security technologies. HSS functions as the corporate catalyst for deployment of effective and affordable security technologies crosscutting all DOE program offices to reduce the duplication of effort and provide lessons learned across the complex. Using integrated safety and security experts within HSS, full-scale deployment of new security technology systems at three major DOE facilities and partial deployment at six other sites was completed in 2007 and 2008, allowing for an evaluation of these deployed systems that may benefit all Departmental sites in a cost effective and timely manner without significant increases in manpower.

To better facilitate the implementation of the Energy Employees Occupational Illness Compensation Program Act (EEOICPA), HSS initiated continuous communication with the Department of Labor (DOL) and the National Institute for Occupational Safety and Health

(NIOSH). HSS published a status report on the Former Worker Medical Surveillance Program to inform our former and current workforce, Congress, and the public of the efforts being undertaken for those individuals who may have been exposed to harmful conditions as a result of working for DOE. In FY 2008, HSS (in cooperation with the grantee service providers) initiated a review of the program to ensure the 10,000 medical screenings conducted in FY 2007 is maintained in the coming years.

In the international arena, HSS renegotiated the agreement between DOE and Spain's Ministry of Education and Science to end the Department's 41 years of financial obligations in FY 2009 for the environmental studies associated with the accidental release of nuclear material at Palomares. HSS also strengthened the Department's relationships with Japan and the Marshall Islands to better manage these DOE-funded health programs.

To ensure a safer environment for Departmental workers and the public, and effective security for National assets entrusted to the Department as well as meeting commitments to stakeholders such as Congress and DNFSB, HSS developed or revised and assisted in the implementation of a variety of safety and security directives related to: worker health and safety, incorporating safety in design, environmental protection, integrated safety management, radiation protection, nuclear materials packaging, nuclear facility restart and operational readiness, personnel security, protective force, physical security, information security, and nuclear material control and accountability. At the direction of the Secretary of Energy, HSS is in the process of completing a review of all security requirements and initiated a review of all safety requirements in order to

identify the basis, and to ensure they are performance-based, meaningful, clear, and concise without being overly prescriptive or redundant.

Notably and in response to a highly publicized security incident at Los Alamos National Laboratory (LANL), HSS formed the Office of Departmental Personnel Security to ensure management attention and leadership at the Departmental level to provide consistent implementation of personnel security requirements. In addition, HSS amended applicable DOE worker safety and personnel security requirements to ensure fitness for duty and the reliability of its workforce as it relates to illegal substance abuse. At the direction of the Secretary of Energy, HSS implemented a more stringent illegal drug testing policy for Federal and contractor applicants seeking DOE access authorizations (clearances) and for current employees with clearances.

By aggressively championing DOE environmental programs, HSS, in collaboration with DOE Program and Site Offices, helped the Department achieve a “green” rating for status and progress for the 1) environmental management systems implementation, 2) green purchasing, 3) electronics stewardship, and 4) compliance management elements of the Office of Management and Budget’s *Environmental Stewardship Scorecard*. HSS was instrumental in the submittal of 28 DOE nominations for the 2007 White House *Closing-the-Circle* Awards; winning four awards and receiving three honorable mentions out of the 17 winners and 13 honorable mentions from the 200 nominations submitted from agencies across Federal government. In addition, HSS continues to support outstanding environmental performance throughout the Department through the DOE Pollution Prevention (P2) Star Awards program.

In addition to providing the Department with safety and security policy and assistance services, HSS is also responsible for performance feedback via operational experience analyses, independent oversight and enforcement activities. These activities provide Departmental leadership, line management, and stakeholders with timely information needed to gauge the success of implementing Departmental safety and security requirements.

HSS has established viable safety indicators applicable to the majority of DOE contractor operations. Safety indicators are collected through various reporting mechanisms, analyzed, and provided to senior Departmental management every two to three months. Results are used to focus management attention to prevent serious events such as loss of life or serious injuries; over exposures to radiation, hazardous materials or other conditions; inadvertent off-site releases of nuclear and non-nuclear materials; nuclear criticalities; and fires and explosions that would negatively impact the ability of the Department to accomplish its mission.

HSS continued to conduct comprehensive independent oversight appraisals of DOE performance in the areas of safeguards and security; cyber security; emergency management; and environment, safety, and health. Information gained from these appraisals provides Departmental senior management, line management, and HSS and other policy organizations, e.g., the Office of the Chief Information Officer, the information needed to effect improvements in these programs.

More specifically, for example, the Office of Cyber Security Evaluations, within HSS's Office of Independent Oversight, continues to execute one of the most aggressive and sophisticated cyber security corporate oversight programs in the Federal government, which allows the Department to proactively self-identify and address weaknesses. The cornerstone of our cyber security oversight function is to implement a rigorous penetration-testing program in a variety of ways to achieve multiple objectives. These include:

- Announced external and internal penetration testing of Departmental classified and unclassified networks conducted in conjunction with announced cyber security inspections that evaluate a broad set of threats and are designed to assess protection boundaries, physical and logical security configurations and controls, access authorizations, and activity monitoring practices;
- Unannounced remote penetration testing or "red teaming", which emulates a stealthy, methodical, and sophisticated external attack on the network and is designed primarily to test intrusion detection and incident response capabilities. These attacks often target the work force itself, using deceptive emails, fake websites, and unsolicited mailings of compact disks and flash drives, all of which introduce malicious software onto the networks.

In conjunction with our penetration testing activities, HSS assesses key management processes that are essential to an effective cyber security program such as risk management, certification and accreditation, configuration management, and patch management. While our technical testing provides a good snapshot of the effectiveness of the network's cyber security protection, the programmatic evaluation allows an assessment of the direction and sustainability of the cyber security program along with identification of underlying root causes for implementation

weaknesses identified through technical testing. This same basic approach is used to assess unclassified, classified, and intelligence systems operated by the Department. Other cyber security performance testing includes evaluating the protection posture of telephone modems and identifying vulnerable wireless access points that could potentially provide an unprotected alternate pathway into one of our networks.

Threats to our information systems have never been greater and continue to grow in sophistication and intensity every day. Like all Federal agencies, the Department of Energy faces constant challenges to identify, evaluate, and apply cyber security measures that will mitigate these threats and establish an appropriate protection posture for our information and information systems in this ever-changing cyber threat environment. It is of paramount importance that we protect the confidentiality, integrity, and availability of these critical resources utilizing sound risk management approaches. While continuing to have many challenges in this area, the Department has greatly benefited from the HSS cyber security oversight program and continues to make cyber security an area of senior management focus.

The Secretary of Energy is ultimately responsible and accountable for the performance of DOE, including NNSA. Through HSS, the Secretary establishes Department-wide environment, safety, health, and security policy, which also applies to NNSA. The Secretary relies on HSS to conduct corporate independent oversight of all safety and security disciplines, and expects NNSA to respond to all findings with effective corrective actions to eliminate weaknesses. As a result, it is imperative for HSS to maintain a close working relationship with NNSA. The roles of certain elements within NNSA, such as the Office of Defense Nuclear Security, are

complementary to HSS in providing policy, assistance, and training. The role of the Office of Defense Nuclear Security is to provide a line management support function by advising the Administrator, NNSA, on the status of security within NNSA.

Finally, HSS promotes overall improvement in the Department's safety and security programs through management and implementation of the statutorily required DOE enforcement programs under 10 C.F.R. Parts 820, 824, and 851. Over the past 18 months, HSS has integrated the classified information security and worker health and safety enforcement programs into the more established nuclear safety (Price Anderson Amendments Act) enforcement processes. Draft thresholds for reporting into the voluntary Noncompliance Tracking System were developed and used by DOE contractors during a six-month, trial-reporting period to validate the thresholds and familiarize contractors with the reporting process. Results of these efforts include the highly publicized notice of violation against the former and current Los Alamos National Laboratory contractors. HSS is currently conducting several enforcement investigations, including the inquiry into events that led to the release of nuclear material at the Hanford Site Tank Farm.

### **FY 2009 Budget Request Overview**

The HSS FY 2009 budget request of \$446.868 million includes \$347.271 million for the Health, Safety and Security Programs and \$99.597 million for Program Direction. A summary of the programs and activities proposed to continue in FY 2009 with this funding request includes:

**Health and Safety Policy, Standards, and Guidance (\$4,425,000):** DOE issues policy, standards, and guidance to ensure workers and the public, property, and the environment are



protected from the common industrial and unique hazards of DOE activities. Policy, standards, and guidance must take into account the nuclear, chemical, and industrial hazards posed by DOE operations and must be current with worldwide technologies, knowledge and experience.

Environmental compliance programs at DOE sites are, for the most part, driven by U.S. Federal, state, and local regulations. HSS provides environmental corporate direction and assistance to DOE sites, especially in the areas of pollution prevention and Environmental Management Systems (EMS) development and implementation. In FY 2008, HSS initiated a review of all safety orders and manuals using the process implemented in FY 2007 for the review of security requirements. The purpose of this review is to identify the basis for all requirements to ensure they are performance-based, meaningful, clear and concise. The FY 2009 budget request provides for HSS to:

- Continue implementation of 10 C.F.R. Part 851, Worker Safety and Health Program
- Amend 10 C.F.R. Part 850, Chronic Beryllium Disease Prevention Program, that implements lessons learned over the past eight years
- Amend 10 C.F.R. Part 835, Occupational Radiation Protection to reflect updated dosimeter standards
- Strengthen worker health and safety, nuclear safety, radiation protection, and environmental policies and standards, including Integrated Safety Management (ISM) and EMS by continuing the review of all requirements contained in DOE directives
- Continue implementation of the Federal Employee Occupational Safety and Health (FEOSH) program via training, guidance, and other communications methods
- Continue assisting DOE sites to implement EMS and the DOE Environmental Compliance Management Improvement Plan

- Continue implementation of the Human Performance Improvement Initiative to identify and correct the organizational and cultural factors that increase the potential for human error causing accidents that interrupt accomplishment of mission
- Develop and issue the DOE Annual Site Environmental and National Environmental Standards for Hazardous Air Pollutants Reports
- Conduct and support cultural resource and environmental protection program workshops, lessons-learned programs and guidance and tools, including those related to implementation of environmental management systems requirements under the new Executive Order 13423 (Strengthening Federal Environmental, Energy, and Transportation Management) as well as those for continued compliance with environmental laws
- Continue supporting training for Nuclear Executive Leadership, Senior Technical Safety Managers, and Environment, Safety, and Health Project Managers
- Update, clarify and strengthen nuclear safety directives and guidance, including those addressing facility maintenance, operational readiness, and integration of safety into design of new facilities
- Maintain requirements for the Federal Technical Capabilities Program (FTCP) which supports the development of Federal personnel with the demonstrated technical capability to safely accomplish the Department's mission and discharge its responsibilities

**DOE-Wide Environment, Safety, and Health Programs (\$3,575,000):** DOE-Wide

Environment, Safety, and Health Programs support worker and nuclear facility safety, and protect the public and the environment. Activities under these programs develop state-of-the-art analysis tools and approaches specific to the nature and mix of radioactive, hazardous, and toxic

materials at DOE facilities. Efforts include construction safety; work planning activities, and techniques to identify, evaluate, and eliminate hazards; methods for reducing or eliminating release of pollutants; and the identification of technologies and innovative adaptations of existing practices. Over the past year, HSS has strengthened the DOE Voluntary Protection Program (DOE-VPP) by increasing the number of performance-based evaluations conducted at DOE sites by HSS. The FY 2009 budget request provides for HSS to:

- Continue providing assurance that worker radiation exposures are accurately determined through the DOE Laboratory Accreditation Program (DOELAP)
- Prepare the Annual DOE Occupational Radiation Exposure Report
- Work with DOE sites to increase the utilization of the DOE-VPP program to enable additional workers to benefit
- Promote pollution prevention through DOE Pollution Prevention (P2) Star Awards and improve pollution prevention data reporting and analysis
- Assist sites in maintaining safe operations throughout the life-cycle of their nuclear facilities
- Assist in the implementation of Environmental Management Systems (EMS); provide EMS Status Report to the U.S. Environmental Protection Agency
- Strengthen the implementation of the Enforcement Program by integrating enforcement protocols for both nuclear and worker safety and health
- Improve the Non-compliance Tracking System to strengthen report generation and address feedback received from end users

**Corporate Safety Programs (\$8,289,000):** Corporate Safety Programs serve a crosscutting safety function for the Department and its stakeholders by ensuring excellence and continuous

improvement in environment, safety, and health in the conduct of its missions and activities.

Elements that comprise Corporate Safety Programs include Performance Assessment, the Quality Assurance (QA) Program (which includes the Corrective Action Management Program [CAMP]), Filter Test Facility (FTF), the Facility Safety Program (which includes Accident Investigations and Corporate Safety Basis), Safety and Security Enforcement Program, and the Analytical Services Program. The FY 2009 budget request provides for HSS to:

- Strengthen trending and analysis of DOE's safety performance and report performance using the Corporate Safety Performance Indicators
- Communicate feedback and improvement information throughout the Department via the Operating Experience Program
- Continue improving the DOE QA Program through updated directives, assessments, technical assistance, and maintenance of the Corrective Action Management Program
- Consolidate the HSS QA mission and function into a single integral organization to better provide DOE with leadership in setting policy, developing directives, and providing assistance to Program and Site Offices as well as the contractor community in the consistent and effective implementation of QA across the Department
- Operate and maintain the High Efficiency Particulate Air Filter Test Facility
- Conduct Type A investigations for serious incidents and oversee the conduct of Type B investigations via the Accident Investigation Program
- Continue implementation of the Nuclear Safety, Worker Health and Safety, and Security Enforcement Programs

- Implement the Analytical Services Program by developing corporate-level environmental sampling protocols and conducting quality assurance audits of environmental laboratories used by the sites in support of environmental compliance programs
- Analyze the effectiveness of site suspect or counterfeit items programs and prepare the DOE Annual Suspect or Counterfeit Items Activities Report
- Participate in Operational Readiness Reviews and Readiness Assessments, and associated program training, at Category 1, 2, and 3 nuclear facilities prior to the startup or restart of those facilities
- Implement the Differing Professional Opinion program on technical issues related to environment, safety, and health activities
- Enhance management systems supporting employee assistance activities associated with employee concerns, workforce reliability, and violence in the workplace
- Continue support for the DOE Continuity of Operations program to ensure the Department meets its mission and maintains operational viability in an emergency impacting the National Capital Region
- Fund the Federal Energy Regulatory Commission to conduct periodic structural integrity inspections of DOE dams and other water retention/detention structures

**Health Programs (\$47,559,000):** Health Programs support domestic and international health studies including the Former Worker Program (a nationwide program of medical screening to identify work related health effects) and studies to investigate and identify work-related injury and illness in DOE workers and the public surrounding DOE sites. The benefits of these projects and programs include discovery and documenting health effect outcomes that provide the

scientific basis for national and international worker protection policy and standards. These radiation protection standards and practices, in turn, provide levels of protection appropriate for the risk posed to workers by hazards present at DOE sites. In FY 2007, 10,000 medical screenings were performed through the National Supplemental Screening Program and individual site-specific cooperative agreements managed by HSS. The same number of screenings is expected to be performed in FY 2008 and FY 2009. In FY 2008, HSS published a status report on the Former Worker Medical Surveillance Program and, in cooperation with the grantee service providers, initiated a review of the program to enable more former workers to receive program benefits. The FY 2009 budget request provides for HSS to:

- Continue implementing the Former Worker Medical Surveillance Program by conducting 10,000 medical screenings to identify potential health issues. This program has screened over 51,000 individuals to date and will continue its important efforts with greater coordination and outreach
- Provide rapid medical expertise, response, and physician training in response to accidental exposure to radiation via the Radiation Emergency Accident Center and Training Site
- Collect and analyze medical and industrial hygiene data on current workers exposed to beryllium, plutonium, and other hazards
- Implement the health-related aspects of the Human Reliability Program designed to ensure certain individuals who occupy positions affording access to certain materials, nuclear explosive devices, facilities, and programs meet high standards for trustworthiness, dependability, and physical and mental reliability
- Continue conducting studies to determine the effect of DOE operations on surrounding populations and communities

- Strengthen pandemic influenza preparedness planning
- Conduct international health and environmental monitoring programs associated with:
  - the atomic blasts above Japan - Radiation Effects Research Foundation
  - assist the Marshall Islands with resettlement, medical surveillance, and cancer treatment
  - the accidental dispersal of radioactive materials in Palomares, Spain (FY 2009 marks the end of the Department's financial commitment for this activity)
  - the health of workers of and communities near a nuclear weapons production facility in Russia

**Employee Compensation Program (\$4,500,000):** This activity funds DOE's efforts in support of the implementation of the Department of Labor (DOL) Energy Employees Occupational Illness Compensation Program Act (EEOICPA). DOE assists DOL, the National Institute of Occupational Safety and Health (NIOSH), and the Advisory Board on Radiation and Worker Health by providing access to all available records and information needed to support claims filed by DOE contractor employees, and to enable DOL to fulfill its responsibilities. In FY 2007, DOE responded to almost 18,000 record requests from DOL and NIOSH. The Department expects to receive this same level of requests in FY 2008 and FY 2009. The FY 2009 budget request provides for HSS to:

- Provide DOL, the NIOSH, and the Advisory Board on Radiation and Worker Health, access to all available records and information needed to support such claims in a timely manner
- Maintain continuous communication and coordination with DOL and NIOSH through weekly conference calls and periodic meetings with the President's Advisory Board on Radiation and Worker Health

- Work with line management to identify Field contacts to improve program implementation
- Increase efforts to recover records that potentially would assist workers / former workers in EEOICPA claims
- Support DOL initiative to develop a site exposure matrix detailing the hazards and potential resulting illnesses for each DOE site

**Safety and Security Training (\$16,656,000):** Funding supports development and maintenance of the proficiency and competence of DOE safety and security personnel through standardized training, education, and professional development services. Funding also provides for the conduct of workforce analyses and career development programs required for the protection of the environment, safety, and health of the public, the Departmental workforce, and critical assets and national security. The DOE National Training Center, in Albuquerque, NM, is the designated DOE Center of Excellence for safety and security training and the primary resource for performing these functions. In FY 2007, the NTC opened the Integrated Safety and Security Training and Evaluation Complex designed to replicate DOE facilities to provide students with hands-on, performance-based training in a simulated environment. In FY 2007 and 2008, the National Training Center developed and implemented safety and security professional development and executive leadership training programs. The FY 2009 budget request provides for HSS to:

- Increase focus on safety and security training interface, based on the safety and security expertise within HSS
- Enhance the Tactical Response Force courses by providing performance-oriented training
- Conduct professional development courses emphasizing leadership and management



- Conduct safety and security training needs assessment surveys to identify training requirements for new security and/or safety technologies
- Enhance safety training Department-wide by developing and presenting 10 new safety courses
- Expand safety awareness for the Department's senior executives through Nuclear Executive Leadership Training

**Security Operational Support (\$12,652,000):** Security Operational Support activities provide technical expertise to support the implementation of Department-wide security requirements. HSS initiated a review of all security and safety directives (orders and manuals) to identify drivers, eliminate unnecessary requirements, and shift toward performance-based requirements to provide meaningful, clear, concise directives that are not overly prescriptive or duplicative. HSS examined and evaluated innovative vulnerability assessment methodologies and techniques to update processes that result in a more effective evaluation of a site's security posture. The FY 2009 budget request provides for HSS to:

- Continue evaluation of the Design Basis Threat (DBT) Policy and security directives
- Enhance rules of engagement in support of force-on-force performance exercises and for response to security events
- Maintain the security aspects of the Human Reliability Program
- Continue support for sharing methods and products to satisfy regulatory security requirements through the Security Awareness Special Interest Group
- Maintain security-related data systems, e.g., Safeguards and Security Information Management System

- Continue support for the Foreign Ownership, Control or Influence and Foreign Visits and Assignments programs and associated data management systems
- Maintain the Nuclear Materials Management and Safeguards System (NMMSS) and other nuclear and radiological material tracking programs in support of DOE operations, international treaties, and Nuclear Regulatory Commission initiatives
- Continue implementation of the Elite Protective Force Initiative
- Provide risk management, vulnerability assessment, and security system performance evaluations, verifications, and validations for identification and clarification of threats to Departmental assets
- Continue technical enhancements to the security risk management framework and processes to promote cost-effective Departmental objectives

**Headquarters Security Operations (\$25,509,000):** Headquarters Security Operations supports the security protective force and systems designed to provide protection of DOE Headquarters facilities and assets. In FY 2007 and 2008, physical security barriers and equipment at Headquarters facilities located in Washington, D.C. and Germantown, MD, were enhanced. In addition, HSS has begun to replace and upgrade access control equipment to meet HSPD-12 requirements. The FY 2009 budget request provides for HSS to:

- Conduct physical protection and access control operations and programs for DOE activities in the National Capital Area (Washington, D.C. and Germantown, MD)
- Perform Technical Surveillance Countermeasures (TSCM) Program activities for DOE Headquarters and contractors in the greater Washington, D.C. area
- Maintain security alarms and access control systems

- Conduct security briefings for DOE federal and contractor employees; other personnel granted DOE access authorizations, and non-DOE personnel granted unescorted access to DOE Headquarters facilities

**Security Technology Development and Systems Deployment (\$14,796,000):** The Security Technology Development and Systems Deployment activity provides technology-based solutions to known security vulnerabilities throughout the DOE complex as an alternative to costly increases in manpower needed to implement the DBT Policy, and provides technologies to counter threats for which no current defensive capability exists. The activity identifies and evaluates commercial and military technologies to ensure that system performance is commensurate with operational safety and security requirements before such technologies are purchased and deployed to protect critical national security assets. Funding provides for the modification of existing technologies to meet site environmental and system operability requirements, deployment of technologies, training and technical assistance to meet security expectations in the most cost-effective manner possible. Funding also provides for deployment data generation and distribution, including safety and software certifications, performance test metrics, procurement and lifecycle costs, tactical impacts, training materials, and other lessons learned, essential for safe and effective deployment.

**Classification, Declassification and Controlled Information (\$11,178,000):** This activity ensures that the Department meets its statutory responsibility to implement the U.S. Government-wide program to classify and declassify nuclear weapons-related technology (e.g., Restricted Data and Formerly Restricted Data), and to implement the requirements of Executive

Order (E.O.) 12958 to classify other information that is critical to the national security (e.g., National Security Information). This program also identifies information controlled under statute to protect national security and other governmental, commercial, and private interests. Funding provides for the training and certification of DOE and other U.S. Government Department and Agency personnel. Funding also provides for the final review of classified DOE documents and documents with DOE equities from all U.S. Government Departments and Agencies requested under the Freedom of Information Act (FOIA) and under mandatory provisions of E.O. 12958 to ensure that classified and other controlled information is identified and protected from unauthorized release to the public. Other U.S. Departments and Agencies are prohibited from conducting such reviews under 10 C.F.R. Part 1045. In FY 2007 and 2008, significant reductions in the backlog of classification reviews of FOIA and mandatory requests were achieved.

**Security Investigations (\$35,206,000):** This activity manages funding for background investigations to provide access authorizations to DOE federal and contract personnel who, in the performance of their official duties, require access to classified information or certain quantities of special nuclear material. Background investigations are required by Section 145 of the Atomic Energy Act of 1954, as amended, and E.O. 12968, Access to Classified Information. The investigations are performed and access authorizations granted in accordance with 10 C.F.R. Part 710, *Criteria and Procedures for Determining Eligibility for Access to Classified Matter or Special Nuclear Material*. Beginning in FY 2009, HSS will allocate funding to each processing DOE personnel security office based on projected costs. If actual requirements exceed the HSS allocation in any given fiscal year, the landlord/program offices will be responsible for providing

the additional funds. The centralized management of access authorizations and related data is performed in a cost-effective, efficient manner using electronic databases and Internet-capable tools that constitute the electronic DOE Integrated Security System (eDISS+). These electronic tools support and track the adjudication process from the beginning to the disposition of the access authorization request. Background investigations are performed by the Federal Bureau of Investigation (FBI) or the Office of Personnel Management (OPM), as required by law or DOE requirements. This activity also provides support for performing evaluations, preparation of decision packages and associated correspondence by the Office of Departmental Personnel Security. Professional level support is also provided to Headquarters Clearances adjudications (case reviews and analysis and conducting interviews), and other support such as court reporting and consulting physicians on an as needed basis.

**Program Direction (\$99,597,000):** Program Direction provides the salaries, benefits, travel, working capital fund and other related expenses for the 398 federal employees as well as other resources and associated costs required to support overall direction and execution of HSS programs. As a result of a skills mix evaluation and the use of early retirement and buyout authority, HSS has been able to reduce its FY 2009 FTE allocation by 39 compared to the FY 2008 level. Program Direction provides for implementation of independent oversight activities that evaluate the Department's performance in safeguards and security; cyber security; emergency management; environment, safety, and health; and other subject areas as directed by the Secretary and Deputy Secretary. Funding also supports the activities of the Departmental Representative (DR), which provides liaison support for DOE to the DNFSB. DR also provides the leadership necessary to maintain DOE's Facility Representative Program, a proactive

program focused on ensuring that work throughout the Department is accomplished in a safe and environmentally responsible manner.

**Specialized Security Activities (\$162,926,000):** Funding provides for the identification and communication of information necessary to ensure adequate protection of the Department's national security assets.

### **HSS Priorities**

As the Chief Health, Safety and Security Officer, I am constantly aware of the vital role and significant responsibilities assigned to HSS to ensure the health, safety, and security functions of this Department. Last year when I testified before you, I identified priorities for HSS to ensure we meet our commitment to the Department and our Nation. We have remained focused on those priorities and will continue to pursue initiatives to further strengthen the Department's safety and security posture in FY 2009. Those priorities include:

- Continuing to improve the quality and timeliness of safety and security policies and requirements
- Enhancing worker health and safety based on priorities developed from operating experience, health studies and surveillance data, independent oversight results, enforcement activities, and stakeholder feedback
- Improving Federal expertise in the area of line management oversight of field operations
- Improving issues management to provide a foundation for continuous improvement and preventing recurrences of adverse events
- Improving worker health, safety, and security interface

- Continuing to lead and coordinate Departmental efforts in the deployment and evaluation of security technologies with the support of Departmental organizations to provide cost effective solutions for implementing the Design Basis Threat Policy and necessary security enhancements
- Strengthening the management and delivery of the Former Worker Medical Screening and EEIOCPA programs
- Continuing and enhancing independent oversight and enforcement activities

### **Concluding Remarks**

Madam Chairman and members of the subcommittee, the Secretary of Energy created HSS to strengthen the worker health, safety, environment, and security functions within the Department. Since its creation 18 months ago, HSS has received strong and continuous support from the Secretary, the Deputy Secretary, and others in the Department's leadership. We have made significant strides towards improving the health, safety, environment, and security functions of the Department including better alignment of responsibilities associated with these functions. We are confident that with the continued support of DOE management, our stakeholders, and Congress, we can expand on the accomplishments and further strengthen the Department's health, safety, environment, and security functions. This will result in increased assurance that all DOE workers, the public, and our national security assets are both safe and secure.