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National Nuclear Security Administration
U. S. Department of Energy
Before the
Subcommittee on Strategic Forces
Committee on Armed Services
U. S. Senate

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Thank you for the opportunity to appear today to discuss the FY 2004 President's Budget Request for the National Nuclear Security Administration. This is my first appearance before this Subcommittee as the Acting Administrator of NNSA, and I want to thank all of the Members for their strong support of our important national security responsibilities. I would like to begin my testimony here today by providing an overview of the NNSA mission requirements followed by the highlights of our budget request.

Overview

The NNSA, comprised of Defense Programs, the Defense Nuclear Nonproliferation Program, and the Naval Reactors Program, has several complementary mission requirements:

- Provide a safe, secure and reliable nuclear deterrent and implement the President's decisions on the Nuclear Posture Review (NPR) recommendations.
- Reduce the threat posed by the proliferation of weapons of mass destruction and continue to support the Global War on Terrorism through aggressive nuclear nonproliferation programs.
- Maintain a robust security posture at NNSA facilities.
- Revitalize the nuclear weapons complex infrastructure.
- Support the nuclear propulsion needs of the U. S. Navy.
- Support the President's Management Agenda for more effective government.

The FY 2004 budget request totals \$8.8 billion, an **increase of \$878 million, about 11 percent, over the enacted FY 2003 budget**. The request is consistent with the planned program levels in the Future-Years Nuclear Security Program recently submitted to the Congress. This substantial increase reflects the Administration's commitment to sustain a stable and effective long term national security program through the NNSA, as well as our obligation to our citizens to conduct this program safely, securely, and in an environmentally acceptable manner.

We are building on recent accomplishments. Although there is a large increase in this year's budget request, there is no single new initiative driving this growth. Rather, we are continuing plans and programs already set in motion, and adjusting to the guidance in the Nuclear Posture Review. We are moving beyond the talking and planning phase of many programs conceived in the 1990's.

This budget supports the Stockpile Stewardship Program, which continues to successfully certify to the President the safety and reliability of the nuclear weapons stockpile without underground nuclear testing. It includes funds to begin a modest Advanced Concepts initiative to provide nuclear deterrence options, begin the transition to a 18-month test readiness posture, continue to revitalize the facilities and infrastructure that are the bedrock of the weapons complex, and push the outer limits of scientific, modeling, and computing ability to apply new experimental capabilities to the processes of maintaining and certifying the stockpile. It supports our efforts to manufacture certifiable pits and to produce tritium.

In the area of reducing global nuclear danger, this budget request for the Defense Nuclear Nonproliferation Program reflects the President's and Secretary Abraham's emphasis on reducing proliferation threats, including the Global Partnership formed at the Kananaskis Summit in June 2002. The FY 2004 request contains funds to support attacking the problem globally, to improve the physical security of nuclear material, to consolidate and reduce that material, and to end its production. It also continues efforts to prevent illicit trafficking of nuclear materials, to improve our ability to detect proliferation, and to stem the "Brain Drain" of weapons experienced scientists from Russia.

Under this budget, the Naval Reactors Program will initiate the design and development of a new reactor that will utilize advanced materials to achieve a substantial increase in core energy. The result will be greater ship operational ability and flexibility to meet increasing national security demands.

Budget Summary Tables

The FY 2003 estimates in the FY 2004 budget documents transmitted to the Congress reflect the President's FY 2003 Budget Request because final FY 2003 appropriations were not enacted until February 20, 2003. The Future-Years National Security Program tables tie to the President's Budget Request. The table below summarizes the enacted funding levels by appropriation. The FY 2003 appropriations estimates are made comparable to the FY 2004 President's Budget Request by eliminating FY 2003 appropriations being transferred to the Department of Homeland Security and to the Department of Energy's Office of Security (for COOP/COG activities). The FY 2003 totals detailed in the table below also reflect applications of the general reductions and the government-wide, across the board reduction of 0.65 percent enacted in the final FY 2003 appropriations.

The outyear budget estimates and associated programmatic information for NNSA programs are contained in the Future-Years Nuclear Security Program document I forwarded to the Congress in February.

**FY 2004 NNSA President's Budget Request
(Dollars in Millions)**

	FY 2002 Comparable Appropriation	FY 2003 Comp Request	FY 2003 Comp Approps	FY 2004 Request	\$ Change	% Change
Weapons Activities	\$5,542	\$5,846	\$5,895	\$6,378	\$483	8.2%
Defense Nuclear Nonproliferation	1,048 ^a	1,028	1,022 ^{bc}	1,340	318	31.1%
Naval Reactors	688	707	702	768	66	9.4%
Office of the Administrator	307	329	321 ^{de}	348	27	8.4%
Total	7,585	7,909	7,940	8,835	895	11.3%

**NNSA Outyear Budget Requests
Future-Years Nuclear Security Program
(Dollars in Millions)**

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Weapons Activities	\$6,378	\$6,661	\$6,961	\$7,277	\$7,518	\$7,651
Defense Nuclear Nonproliferation	1,340	1,356	1,371	1,389	1,322	1,346
Naval Reactors	768	808	795	811	819	834
Office of the Administrator	348	337	344	353	355	362
Total	8,835	9,162	9,471	9,830	10,014	10,193

Nuclear Forces and the Nuclear Posture Review

^aDoes not include \$10 million appropriated as part of the FY 2002 supplemental (P.L. 107-206) for Domestic Sealed Sources Recovery in the Environmental Management program.

^bDoes not include funding appropriated for programs transferred to the Department of Homeland Security.

^cDoes not include \$9.125 million requested to be transferred in FY 2002 from Defense Nuclear Nonproliferation to the Office of the Administrator. This transfer was approved early in FY 2003.

^dDoes not include \$9.125 million requested to be transferred in FY 2002 from Defense Nuclear Nonproliferation to the Office of the Administrator. This transfer was approved early in FY 2003.

^eDoes not include funding appropriated for activities transferred to Homeland Security, or to Office of Security for COOP/COG.

Before going into Weapons Activities Stockpile Stewardship Program, I will discuss the NNSA's response to the broader policy framework set out in the Nuclear Posture Review (NPR) and its implementation.

As the NPR has articulated, the 21st century presents the prospect of a national security environment in which threats may evolve more quickly, be more variable in nature, and be less predictable than in the past. In this broad threat environment, nuclear weapons will play a reduced role in the overall United States security posture – a point reinforced in the NPR. At the same time, the NPR reaffirmed that, for the foreseeable future, nuclear forces linked with an advanced conventional strike and integrated with the capabilities offered by the other two legs of the New Triad will continue to be an essential element of national security by strengthening our overall abilities to reassure allies of U.S. commitments, dissuade arms competition from potential adversaries, and deter threats to the U.S., its overseas forces, allies, and friends.

The NPR offered a basic reassessment of the role of nuclear forces and their contribution toward meeting these defense policy goals. It established the need for a capabilities-based force, a dramatic departure from the threat-based rationale for the nuclear force of the past. This change, in combination with the judgment to no longer plan our forces as if Russia presented an immediate threat to the U.S., was the basis for dramatic reductions codified in the Moscow Treaty in the level of operationally-deployed strategic nuclear forces. Over the next decade, the number of deployed warheads will be cut by approximately two-thirds from today's level.

To meet the challenges of an uncertain and unpredictable threat environment, and in seeking to mitigate any dangers associated with dramatically reduced nuclear forces, the nuclear weapons enterprise must be able to respond rapidly and decisively. This is the idea behind the third leg of the New Triad. That is, by providing means to respond to new, unexpected, or emerging threats in a timely manner, the R&D and industrial infrastructure needed to develop, build, and maintain nuclear offensive forces and defensive systems (of which the nuclear enterprise is a key component) is itself a principal tool for achieving our overall defense strategy. This concept, and its endorsement by the NPR, has had enormous implications for NNSA in helping to gain strong support for its programs from DoD and others.

We are pressing ahead with efforts to reverse the deterioration of the nuclear weapons infrastructure, restore lost production capabilities and modernize others in order to meet the stockpile refurbishment plan. We are actively assessing the NPR's implications in a number of other related areas. Finally, we are pursuing initiatives endorsed by the NPR which are intended to provide the nuclear weapons enterprise with the flexibility to provide a timely response to "surprise," or to changes in the threat environment.

Weapons Activities - Stockpile Stewardship

The President's FY 2004 request for Stockpile Stewardship continues to build and expand on the scientific and engineering successes that are the hallmarks of this program. This request totals \$6.378 billion, an increase of 8.2%. It will also allow us to meet our requirements under the terms of the Nuclear Posture Review including enhancing test readiness, reinvigorating the advanced concepts work in the weapons laboratories, and restoring the weapons complex to meet the national security requirements of the 21st Century. There are a number of significant milestones we expect to achieve this year.

- Manufacture the first certifiable W88 pit.
- Begin irradiation of the first Tritium Producing Burnable Absorber Rods in the TVA's Watts Bar Reactor.
- Continue delivery of W87 Life Extended warheads to the Air Force.
- Complete environmental documentation in support of the Modern Pit Facility.
- Deliver four ultraviolet beams of NIF laser light to the target chamber.
- Initiate Stockpile Stewardship experiments in NIF.
- Perform two and three-dimensional simulations of aging stockpile weapons focused on Life Extension Program activities.
- Ship nuclear weapons, weapons components, and nuclear materials safely through the Secure Transportation Asset.
- Conduct subcritical experiments at the Nevada Test Site to better understand plutonium aging.
- Begin work on the Advanced Concepts initiative and, in particular, on the RNEP Phase 6.2 studies with the Air Force.

These major milestones will be accomplished by the weapons complex in addition to the manufacture of thousands of components needed to maintain the stockpile. The complex will also carry out hundreds of smaller scale experiments, perform surveillance activities, address Significant Finding Investigations to ensure weapons safety and operability, conduct flight tests with the support of the DoD, deploy new manufacturing tools and processes at the production plants, and safely dismantle weapons excess to national security requirements

These and other activities are dependent on retaining today's highly skilled workforce and recruiting the next generation of stockpile stewards. Over the last several years, NNSA has made a significant headway on this all-important front. Critical skill vacancies across the complex have been reduced to 8 percent. Inextricably linked to recruitment and retention is providing the quality workspace and fully functioning tools and technologies needed by our scientists and engineers to carry out their work. We are working diligently to reinvest in the weapons complex infrastructure.

I would now like to highlight several activities under the Stockpile Stewardship Program that I believe are of particular interest to this committee.

Pit Manufacturing and Certification Campaign. Restoring the Nation's ability to manufacture plutonium pits in support of the stockpile has been a central challenge for the stewardship program since the closure of the Rocky Flats plant in 1989. The United States has never before manufactured and certified pits without nuclear testing. I am very pleased to report that late this spring, Los Alamos will manufacture the first certifiable W88 pit. LANL also remains on-track to manufacture a war reserve W88 pit by 2007. To achieve this critical milestone, LANL has produced a number of development pits and has performed a series of engineering tests and physics experiments to confirm pit performance.

While the TA-55 facilities at LANL are adequate to support the W88 pit campaign, they do not appear to be capable of supporting the manufacturing need for long-term stockpile support. NNSA has begun planning for a Modern Pit Facility (MPF) consistent with the Record of Decision for Stockpile Stewardship and Management and the NPR. In May 2002, the Secretary of Energy formally approved Critical Decision "0" (CD-0) for the MPF. The NNSA is now examining five candidate sites-- Pantex, Carlsbad, the Nevada Test Site, Savannah River and Los Alamos-- as possible locations for the MPF. We expect to issue a Draft Environmental Impact Statement (EIS) later this spring. Following a series of public meetings, a final EIS and associated Record of Decision (ROD) will be issued. The program will prepare site specific environmental documentation if the ROD supports a decision to construct and operate an MPF. The FY 2004 request will allow conceptual design and other planning activities, NEPA work, and technology development activities to proceed on a schedule that will support a CD-1 decision in FY 2006.

Test Readiness. While I continue to have confidence in the ability of the Stockpile Stewardship Program to continue to ensure the safety, security, and reliability of this Nation's nuclear deterrent, we must maintain our ability to carry out nuclear weapons tests. Our current readiness posture to conduct such a test is 24 to 36 months, as established in a 1993 Presidential Decision Directive. Last year's NPR stated that this period should be reduced in order to provide options to deal with defense policy goals, including resolving unanticipated problems in the stockpile. A study completed in July 2002 confirmed that additional work was required to maintain the present posture, but it also led us to conclude that the right posture is to be ready for a test within approximately 18 months. With FY 2003 funding now in place, we intend to begin the transition to a 18-month posture. The Nuclear Weapons Council has concurred that our intended action is appropriate. The transition to this new readiness posture is expected to take approximately three years.

Although there have been discussions about a transition to shorter times, there is concern that an unnecessarily expedited time-frame may cause adverse effects on critical personnel resources and require significantly more funding. It is not likely that we will be able to match the short lead times when the weapons complex conducted multiple underground tests annually, nor do I think it is prudent to tie-up important resources to indefinitely maintain an extremely short test readiness posture. Since device and diagnostics preparations are driven by the particular weapon to be tested and the questions to be answered by the test, such a posture might not be responsive to a surprise in the stockpile. The NNSA is studying this matter and I will soon be reporting to the Congress on these subjects as directed in the FY 2003 Defense Authorization Bill.

Advanced Concepts/Robust Nuclear Earth Penetrator. The NPR also highlighted the importance of pursuing Advanced Concepts work to ensure that the weapons complex can provide nuclear deterrence options well into the next century. To that end, the FY 2004 budget includes \$21 million for Advanced Concepts work. About \$15 million will be allocated to the Robust Nuclear Earth Penetrator (RNEP), with the balance of the funding divided between the weapons laboratories for concept and feasibility studies of possible nuclear weapon modifications, or new designs to meet possible new requirements.

The Department of Defense submitted the report on RNEP to the Congress on March 19, 2003, as required by the FY 2003 Bob Stump National Defense Authorization Act. The NNSA will begin an in-depth study once the 30 day waiting period has elapsed. As members know, this study will examine whether or not two existing warheads in the stockpile – the B61 and the B83 – can be sufficiently hardened through case modifications and other work to allow the weapons to survive penetration into various geologies before detonating. This would enhance the Nation's ability to hold hard and deeply buried targets at risk. The RNEP feasibility and cost study is currently scheduled for completion in 2006; however, we are looking at opportunities to reduce study time.

For other advanced concepts, we will work with the DoD to assess evolving military requirements. We will carry out theoretical and engineering design work. I should stress that we have no requirement to actually develop any new weapons at this time.

Physical Infrastructure. Since its inception, the NNSA has been committed to a disciplined corporate facilities management approach to improve the facility conditions of the nuclear weapons complex. We made this corporate commitment clearly recognizing the drivers and practices of the past decade had ultimately resulted in a complex with significant deterioration in our physical infrastructure and an excessive backlog of deferred maintenance. The NNSA complex is part of our Nation's strategic nuclear infrastructure and the third leg of the New Triad as defined in the Nuclear Posture Review. The Nuclear Posture Review gave a responsive infrastructure equal priority with offensive and defensive weapons. Through our focused and disciplined efforts, we now have underway an effective and integrated program to restore, revitalize, and rebuild our nuclear weapons program infrastructure.

Two complementary accounts in the budget, Readiness in Technical Base and Facilities (RTBF) and the Facilities and Infrastructure Recapitalization Program (FIRP), are essential to the operation, maintenance, and renewal of a physical infrastructure. Funding for RTBF, Operations of Facilities, increases by 4 percent in the FY 2004 request. The RTBF provides the funding needed to operate and maintain the facilities required for certification, thus ensuring the vitality of the NNSA national security complex and its goal of a consistent readiness level. FIRP is a capital renewal and sustainability program designed to eliminate maintenance backlogs. The FIRP addresses an integrated, prioritized list of maintenance and infrastructure projects, separate from the maintenance and infrastructure efforts of RTBF, which will significantly increase the operational efficiency and effectiveness of the NNSA sites.

Importantly, beyond the application of the new and much needed funding, FIRP also brings a series of new facility management processes and best business practices which are improving our corporate facility management. One of the most important practices is the NNSA commitment to

deferred maintenance reduction: stabilizing our backlog by FY 2005 and returning it, for our mission essential facilities and infrastructure, to industry standards by FY 2009. To meet this goal, the FY 2004 budget request targets 45% of the FIRP Recapitalization subprogram to facilities and infrastructure specific deferred maintenance projects.

Integral to our corporate approach to RTBF and FIRP are the linkages and discipline provided by the PPBE process, and specifically the Ten-Year Comprehensive Site Plans (TYCSP) and associated facilities and infrastructure planning processes. We are now in the third year that the NNSA has approved the TYCSPs, incorporating technical requirements and performance measures within the financial bounds of the FYNSP resource levels. From the field perspective, these plans provide Federal and M&O managers at each site with the tools and processes to propose, prioritize and obtain approval of the work needed to effectively manage their facilities and infrastructure. From the Headquarters perspective, the TYCSP provides the NNSA with a standardization that allows comparisons and planning to be effected complex-wide.

In recent years, the combined and measurable efforts of FIRP and RTBF have worked to assure that we restore, revitalize, and rebuild the weapons complex infrastructure for today and tomorrow's missions. Across the weapons complex both programs are fixing the backlog of maintenance, keeping up with operational needs, and planning for the future to make a clear and visible difference. These combined efforts are crucial and I urge the committee to support them.

Stockpile Life Extension. While preparing for the future, the labs and plants are working very hard to extend the life of several elements of the existing nuclear weapons stockpile through the Life Extension Program (LEP). The NPR reaffirmed the decision as reached by the Nuclear Weapons Council on the timing, pace, scope, and technical aspects of the LEPs for the W76, W80, B61-7/11, and ongoing W87 work. Through this program new subsystems and components are designed, built, tested and installed, thereby extending the operational service life for these warheads for some 30 additional years.

For the last several years, we have been extending the life of the W87 warhead for the Air Force. This work is ongoing at Y-12 National Security Complex, Lawrence Livermore and Sandia National Laboratories, and the Pantex Plant. We are more than half way through this effort and expect to wrap up the work by early 2004.

Life extension for the W76 involves a comprehensive overhaul of the warhead, including replacement or refurbishment of the Arming, Firing and Fuzing set, high explosives, gas transfer system and other components. We will also be requalifying the weapon primary. For the W80, we will be replacing the Trajectory Sensing Signal and Neutron Generators, the tritium bottles and incorporating surety upgrades. For the B61, we will be refurbishing the secondary. The First Production Units for these systems are scheduled for delivery to the Navy and Air Force in: FY 2007, FY 2006 and FY 2006, respectively.

Tritium. In addition to restoring plutonium manufacturing capabilities, NNSA will begin tritium production later this year when several hundred Tritium Producing Burnable Absorber Rods (TPBARs) are inserted into TVA's Watts Bar Reactor. However, because of significant changes in stockpile size in the outyears as a result of the NPR and the Moscow Treaty, the NNSA has, in

concert with the DoD, adjusted the tritium production requirements to reflect these changes. We remain fully committed to exercise all elements of the system for producing, extracting, and purifying new tritium, including initial operation of the Tritium Extraction Facility (TEF) being constructed at the Savannah River Site.

Timing of tritium production, extraction, and purification has also been delayed by approximately 17 months for two reasons: (1) a reduction in the stockpile requirements by the NPR and (2) a delay in completion of the TEF project. This program delay can be accomplished without impacting nuclear weapons readiness. A revised baseline has been approved increasing the Total Project Cost from \$401 million to \$506 million and delaying project completion from mid-FY 2006 to late-FY 2007.

Since the tritium decays by natural radioactivity at a rate of about 5 percent per year, and since irradiation service costs are the dominant operating costs in supplying tritium to the stockpile, it is prudent not to produce tritium beyond the stated national requirements. Since the program intends to complete and exercise all elements of the tritium production and purification system (including TVA's reactor(s) and the TEF) on a schedule that fully protects the stockpile requirements, irradiation services are being deferred in order to use funds planned for these activities to complete TEF.

National Ignition Facility. I am pleased to report that tremendous technical progress has been achieved over the last year at the National Ignition Facility (NIF). Its mission is to obtain fusion ignition in a laboratory setting by imploding a BB-sized capsule containing a mixture of the hydrogen isotopes, deuterium and tritium. The NIF will provide the capability to conduct laboratory experiments to address the high-energy density and fusion aspects that are important to both primaries and secondaries in the nuclear stockpile.

In December 2002, the first four NIF laser beams were activated to generate a total of 43 kilojoules of infrared laser light in a single pulse. In March 2003, NIF delivered its first 4 beam of ultraviolet laser light focused onto a target at the center of the 30 foot-diameter target chamber. With this accomplishment, all elements of each of the NIF critical subsystems have been successfully activated and operated. Stewardship experiments will begin in FY 2004.

Advanced Simulation and Computing. The Advanced Simulation and Computing (ASCI) Campaign is creating simulation capabilities that incorporate modern physics and engineering models to improve our ability to predict with confidence the behavior of the nuclear weapons in the stockpile. These models, validated against experimental data from past above ground and underground nuclear tests, are the repositories of expert designer judgment as well as the best scientific representations of our current knowledge of the performance of the nuclear weapons. The ASCI Campaign is driving the integration of the theoretical and experimental efforts within the Stockpile Stewardship Program.

At the same time that ASCI continues the development of the most powerful computer capabilities needed for the future, the modern simulation tools previously developed by ASCI – the Blue Pacific and White Machines at LLNL, the Red Machine at SNL, and the Blue Mountain and Q machines at LANL – are being applied day-to-day to address immediate stockpile concerns. The ASCI codes are being used to close Significant Finding Investigations as well as to support Life Extension Programs for the W76, W80, W87, and B61. These activities are enabled by the ongoing supercomputing infrastructures at the national laboratories, encompassing both continuing operations as well as research in new techniques for storage, visualization, networking, and all aspects of the infrastructure required by modern computing.

By FY 2008, ASCI will deliver a high fidelity, full-system physics characterization of a nuclear weapon. At that time, the campaign will deliver a suite of validated codes, running on supercomputer platforms, acquired through open procurement, with user-friendly environments, advanced visualization tools for analysis, and the entire support structure to integrate the components together. Other program deliverables include high-performance storage and high-bandwidth networks. In support of a true integrated SSP effort, the ASCI Campaign continues to push the envelope in distance computing as well as in advanced encryption techniques and other approaches to ensure secure, classified networking.

Secure Transportation

The Office of Secure Transportation is responsible for safely and securely moving nuclear weapons, special nuclear materials, select non-nuclear components, and Limited Life Components for the DOE and the DoD. This work is carried out by 225 Federal agents stationed at three sites– Pantex, Oak Ridge, and Albuquerque. These highly dedicated and skilled agents are authorized to use deadly force in the performance of their duties. Employing highly modified tractor trailers and escort vehicles, and secure and redundant communications they have amassed an impressive safety record of more than 100 million accident free miles without cargo compromise. I would note that this office also provides support to other elements of the DOE, including the Offices of Environmental Management and Nuclear Energy.

Nonproliferation - Reducing the Global Nuclear Danger

The NNSA's nonproliferation activities are central to the Bush Administration's National Strategy to Combat Weapons of Mass Destruction of December 2002, which lists "Strengthened Nonproliferation" as a pillar of its approach to reducing proliferation threats. Secretary Abraham and the NNSA are committed to this critical mission. This commitment is reflected in the diversity of our programs to address nonproliferation concerns in Russia, other former Soviet states, and, increasingly, throughout the world. The NNSA uniquely **integrates technical and policy expertise** to guide and implement the full range of U.S. nonproliferation priorities. The FY 2004 request for this program is \$1.34 billion, an increase of about 31%.

The NNSA addresses concerns that arise from the two requisites of nuclear weapons proliferation: materials and expertise. Whether ensuring that former Russian weapons experts are able to put their skills to use on peaceful and commercial initiatives, reducing the footprint of Russia's "closed" nuclear cities, or leading on-the-ground programs to secure at-risk nuclear materials in Russia or elsewhere, NNSA is at the forefront of U.S. efforts to halt the proliferation of weapons of mass destruction and advance U.S. nuclear security interests.

The Global Partnership Against the Spread of Weapons and Materials of Mass Destruction, formed at the Kananaskis Summit in June 2002, has recommitted the G8 nations to increase greatly assistance to nonproliferation, disarmament, counter-terrorism, and nuclear safety. The partnership pledges to provide \$20 billion over the next ten years for nonproliferation and threat reduction initially focused in Russia. The United States is committed to provide half that total. The effort of our G-8 partners will complement U.S. programs and meets past Congressional concerns that we not carry a disproportionate burden.

I am also pleased to inform you of the substantial progress of the Elimination of Weapons-Grade Plutonium Production Program (EWGPP). The EWGPP is using best project management practices by applying the Department's established directives on project management. On December 20, 2002, the projects received Critical Decision Zero (CD-O), mission-need justification, and we have started the process to procure U.S. contractors.

These contractors will be responsible for oversight, verification, and payment to the Russian Federation Integrating Contractor for work completed. The U.S. contracts will be performance-based with the award fee provisions focusing on successful completion and the ability of the U.S. contractor to incentivize the Russian Federation Integrating Contractor's performance in meeting or exceeding cost, schedule and quality objectives. The U.S. contractor is being selected from a group of contractors that have extensive experience in both fossil fueled power plants and in Russia. Although the projects will be executed in the Russian Federation, using Russian equipment and personnel, we are implementing a rigorous oversight plan to monitor the progress through a formal project management system.

With three exceptions, our FY 2004 request is essentially the same as last year. Last year, at the President's request, Secretary Abraham sought Russian agreement to dispose of additional Russian highly enriched uranium. We are nearing agreement on the purchase of Russian highly enriched uranium for U.S. research reactors and on purchasing downblended uranium from Russian weapons for a strategic uranium reserve. We have requested \$30 million for this program.

Second, there has been a \$19.7 million increase in the request for programs to secure radiological sources that could be used in radiological dispersal devices, also known as "dirty bombs."

The largest FY 2004 budget increase, about \$272 million, supports our plutonium disposition efforts. The United States and Russia will each dispose of 34 metric tons of weapons grade

plutonium by irradiating it as mixed oxide, MOX fuel, in existing nuclear reactors. This program is on track. Over 75 percent of the detailed design of the U.S. MOX facility will be done this year. Russia has told us that it will use the U.S. design for the MOX Fuel Fabrication Facility, thus ensuring the programs remain on roughly the same schedule. Construction of both the U.S. and Russian MOX Fuel Fabrication Facilities will begin in FY 2004.

I would also like to comment on NNSA's efforts to ensure that funding is focused on the highest nonproliferation concerns. Given that adverse impacts of terrorists or rogue nations obtaining nuclear weapons is intangible, we cannot easily assess risks using quantifiable risk analysis methods. However, we have and will continue to conduct qualitative risk analyses to determine that we are applying the most cost-effective approaches to meet the greatest nonproliferation needs.

The NNSA recognizes that proliferation is a multifaceted problem, and reduces the threat in a multitude of ways.

We're attacking the problem globally. The Global Partnership is only the most recent example of U.S. cooperation with the international community on nonproliferation. International cooperation supports our national nonproliferation objectives, and we pursue such cooperation in new ways. The suite of NNSA programs promotes greater international understanding and adherence to export controls, the application of safeguards to secure nuclear materials, and measures to maintain regional security in the world's most volatile regions.

NNSA is improving the physical security of nuclear material. The United States does this primarily through its Materials Protection, Control and Accounting (MPC&A) program in Russia, as well as the Newly Independent States/Baltics. In FY 2004, this will include security upgrades on 24 metric tons of Russian nuclear material and 1200 Russian Navy nuclear warheads. We will also continue our work to ensure the adequate physical protection of nuclear material located in 40 countries around the world.

We are improving our work to secure radiological sources and prevent their use in "dirty bombs." The International Conference on Security of Radioactive Sources delivered a concrete set of findings to guide international efforts to gain better control of high-risk radioactive sources worldwide. Secretary Abraham's announcement of a \$3 million "Radiological Security Partnership" will set in motion a new initiative to address potential threats from under secured, high-risk radioactive sources.

NNSA is helping to consolidate nuclear material. By reducing the number of locations where this material is stored, the United States is greatly reducing its vulnerability to theft or sabotage. By the end of 2003, we will have removed all weapons-usable material from 23 buildings into fewer locations, thus improving security.

Nuclear material can be reduced. Fissile Materials Disposition conducts activities to dispose of surplus highly enriched uranium and weapon-grade plutonium. By disposing of 68 metric tons of plutonium in the U.S. and Russia, the plutonium disposition program will reduce the threat that this material could pose if acquired by hostile nations or terrorist groups. The plutonium will be irradiated as mixed-oxide (MOX) fuel in nuclear reactors, making the material no longer readily usable for nuclear weapons.

The production of nuclear material for weapons can be ended. The value of reducing nuclear materials increases greatly if no new material is being produced at the same time. The EWGPP discussed above aims to accomplish just that by replacing Russia's remaining plutonium production reactors with fossil fuel energy plants to meet the energy needs of local communities.

The illicit trafficking of nuclear materials can be slowed. The Second Line of Defense Program and International Nuclear Export Control programs focus on cooperative efforts to minimize the risk of illicit trafficking of special nuclear material, radiological materials, and dual-use technologies across international borders such as land crossings, airports, and seaports. Under the FY 2004 budget request, the program will continue to target strategic border points and transshipment countries around the world for deployment of radiation detection equipment while maintaining existing equipment in more than 20 countries.

The threat of the "Brain Drain" can be alleviated. To prevent adverse mitigation of WMD expertise, the Russian Transition Initiatives (RTI) program commercializes technology and downsizes Russia's weapons complex. This approach transforms the former weapons infrastructure expertise into commercially viable, peaceful business ventures, and shrinks the complex by moving fence lines, closing buildings, and providing alternative employment opportunities to weapons experts.

We can continually improve our ability to detect proliferation. Research and development in proliferation detection provides the United States timely detection of potential threats. These technologies are key to identifying threats at borders or other critical thoroughfares, detecting clandestine proliferation activities, and verifying treaty adherence.

In sum, the United States, with NNSA leading the way, has developed programs to address the threat of the proliferation of weapons of mass destruction – in all its dimensions.

Naval Reactors

Naval Reactors (NR) continues the success it has had for more than 50 years and is a prime example of how to manage unforgiving and complex technology. Our Naval Reactors program, which supports the nuclear-powered submarines and carriers on station around the world, remains a vital part of the national security mission and the Global War on Terrorism. In FY 2004, NR will support 103 reactors in 82 nuclear-powered warships, including the first-of-a-class reactor

when the USS VIRGINIA goes to sea. In addition, NR will continue to design and develop the reactor for the new transformational carrier CVN-21. The NR budget request for FY 2004 is \$768 million, about a 7% increase above inflation over FY 2003. The increase will allow NR to begin the development of the Transformational Technology Core (TTC) utilizing advanced materials to achieve a substantial increase in core energy. TTC will be forward-fitted into the VIRGINIA Class submarines, and will result in greater ship operational ability and flexibility to meet increasing national security demands. This budget increase will also allow maintenance and replacement of some of the program's 50-plus year-old infrastructure as well as remediation at sites no longer in use, allowing NR to continue its "clean-as-you-go" policy.

Safeguards and Security Throughout the Complex

Security continues to be one of the NNSA's highest priorities. The NNSA's Safeguards and Security program focuses on the protection of our people, classified and sensitive information, nuclear and non-nuclear materials, and the vital infrastructure of our laboratory and industrial production complex. Overall, we have a very **effective safeguards and security program** as validated by internal and external independent reviews across our sites and operations. We then use the results of these reviews to assess and confirm our security postures and areas for improvement. Our FY 2004 budget request maintains a robust safeguards and security posture throughout the weapons complex to protect our facilities, materials, information, and people.

The request also supports evaluation and assessment of options to use cost-effective measures to meet future security requirements. The NNSA sites conduct Vulnerability Assessments that include a review of potential targets and the identification of the variety of methods that an adversary could or might attempt to use against the targets. Tabletop exercises, computer simulations, and actual force-on-force exercises, conducted both internally and through external independent offices, are used to evaluate various scenarios and related options for protection.

In our efforts to assure we have a robust, responsive and adaptable security architecture, we have recently been conducting detailed, site specific reviews, known as Iterative Site Analyses (ISA). The ISAs are analytical, tabletop exercises which address a spectrum of potential threats, both within and beyond the Design Basis Threat. The ISA is conducted by independent and highly skilled security professionals from across the government and private sector. These analytical efforts are designed to give decision makers at each site and NNSA Headquarters a better understanding of how potential changes in threat and protective measures can be factored into actions that improve our system responsiveness and overall security posture. The results are then used in our risk identification and management efforts that assist in determining the safeguards and security program structure and most cost-effective investments at each site.

Immediately following the events of September 11, 2001, NNSA initiated a series of efforts to increase our security posture. As a result, I am very comfortable with the level of our security complex-wide. Most of the increases in our security posture, however, were the result of

increases in the level of physical protection, mainly guard forces. As NNSA looks to the future, it is clear that the threat and protection challenges will continue to become more complicated and costly. More effort is needed to identify and deploy technologies and work procedures that can maintain or improve our security responsiveness while reducing physical security force staffing and overtime requirements.

In FY 2004, the NNSA will initiate a **modest research and development effort** to pursue emerging technologies. In addition to our historic rate of physical protection upgrades, the modest research and development effort will focus on applied technology to define a more robust, flexible and cost-effective security architecture across all aspects of our work in the coming decade. These areas include earlier detection of adversaries, automated response capabilities, better coordinated communications, more efficient efforts to delay adversaries, better detection of contraband at site perimeters and enhanced cyber-security. This relates to both the current infrastructure and operations as well as our up-front planning for new construction and operations. Early in 2003, we completed an initial review of our technology needs and applications. In FY 2004, we will complete the gap analysis of needed security efforts, review various technologies for near term application, and target areas that have the potential for significant long-term contributions. Throughout this effort, we will engage with the ongoing efforts and experiences of the Department of Energy's other program areas and National Laboratories as well as other federal agencies such as Departments of Defense and Homeland Security, to help assure sharing of best practices and maximum leveraging of our resources.

Relationship to Department of Homeland Security

The standup of the NNSA has been shaped by the Nation's response over the past eighteen months to the terrorist attacks on September 11, 2001. Because the NNSA is the steward of the facilities and assets for the Nation's nuclear weapons complex, we placed the highest priority on addressing urgent, emergent concerns about the safeguards and security posture of our nationwide complex of facilities and transportation systems. We also upgraded our emergency response assets, which are available to be deployed in emergencies around the world. We have accelerated research and development on chemical and biological agents, and have shared the expertise resident in our laboratories and other facilities with other agencies and municipalities as part of the expanded focus on homeland security across the government. NNSA has contributed research and development and Federal support programs to the new Department of Homeland Security (DHS) and provided expertise and administrative support for startup of the new department. These programs, totaling about \$88 million, include research and development to counter the chemical and biological threats; nuclear smuggling research and development; nuclear assessments program, from MPC&A; and, Federal program direction funding in support of these programs.

The legislation establishing the new Department specified that the Nation's radiological response capabilities will remain under the direction of the Secretary of Energy and NNSA Administrator.

Funding for the radiological assets will remain within NNSA's Nuclear Weapons Incident Response programs (\$90 million in FY 2004). The assets will continue to respond to radiological accidents at Departmental facilities and will support federal law enforcement activities where nuclear materials may be involved. NNSA's Office of Emergency Operations will work cooperatively with the DHS, and, when deployed in formally designated situations, the radiological assets will take direction from the Secretary of Homeland Security as the Lead Federal Agency. A Memorandum of Agreement establishing a framework for DHS to access the capabilities of these assets was finalized between the two Departments last month.

Office of the Administrator

Finally, I will summarize the FY 2004 budget request for the NNSA Federal workforce, both Headquarters and field. The Office of the Administrator account provides the corporate direction and oversight of NNSA operations consistent with the principles of protecting the environment and safeguarding the safety and health of the public and workforce of the NNSA. This account now represents the consolidated program direction funds from the former Weapons Activities and Defense Nuclear Nonproliferation accounts; the Naval Reactors and Secure Transportation Asset activities retain separately funded program direction accounts. Our FY 2004 budget request of \$348 million reflects declining staffing levels and includes about \$16 million for re-engineering incentives and relocation costs necessary to bring about the new NNSA organizational model.

Management Issues

I would like to conclude by discussing some of the management challenges and successes NNSA has faced. The most obvious challenge has been the ongoing problems at the Los Alamos National Laboratory. There are three specific areas of concern at Los Alamos: improper use of government-issued credit cards; potentially fraudulent use of purchase orders; and, poor accountability of government property. These problems taken together reveal significant weaknesses in business practices at the Laboratory.

As soon as we learned about the extent of these problems this past fall, Secretary Abraham and I insisted that the University of California, which manages the laboratory for the Department, take corrective action. Subsequently, the University has replaced the Los Alamos Director and Deputy Director, and demoted or replaced 15 other officials. The University also has subordinated business services and auditing at the laboratory directly to the University, brought in outside firms to conduct detailed audits, and made numerous changes in the internal procedures. Generally, we are satisfied with the corrective action taken to date. The Secretary has directed the Deputy Secretary and me to conduct a review of the future relationship between the University of California and the Department. This review will be complete by the end of April. In addition, we are compiling a comprehensive set of "lessons learned" from the Los Alamos problems to share with all DOE sites.

On a more optimistic note, good progress has been made in implementing the intent of the Congress in creating the NNSA. The National Nuclear Security Administration is in its third year of operation, focusing the management of the Nation's nuclear security programs through a single organization. The new organization brought together the Department of Energy's Defense Programs, Defense Nuclear Nonproliferation, and Naval Reactors organizations in a separately organized and managed agency within the DOE. The standup of the organization has been a complex undertaking, and I am pleased to report that **NNSA is now fully operational**. As a result of our strategic planning exercises last year, and the resulting re-engineering of program responsibilities and organizations, we are getting a better handle on the many diverse components of the NNSA programs. Through an emphasis on our new Planning, Programming, Budgeting and Evaluation (PPBE) process, we are planning programs with a long-term view, budgeting within a firm five-year resource envelope, and managing program and budget execution with more discipline, all leading to better results for the citizens of the United States.

On December 20, 2002, the NNSA began a **fundamental restructuring** of its management structure designed to implement the President's Management Agenda to create a more effective NNSA. The NNSA of the future will build upon the successes of the past by giving outstanding people the tools needed for strong and effective management of our vital national security mission. This reorganization eliminated a layer of federal management oversight in the field by disestablishing NNSA's three Operations Offices at Albuquerque, Nevada, and Oakland; shifting the locus of federal management oversight to eight Site Offices, closer to where the actual work is performed; and, consolidating all business and administrative support functions into a Service Center to be located in Albuquerque to increase overall efficiency. These changes were the culmination of nine months of functional and business process re-engineering, as first described in the Administrator's February 2002 *"Report to Congress on the Organization and Operations of the National Nuclear Security Administration."* These management and organizational reforms are expected to permit NNSA to achieve significant federal staff reductions of about 20 percent in the nuclear weapons enterprise by the end of FY 2004.

As we continue to implement the NNSA Act, we are particularly mindful of the **President's Management Agenda** to which we are firmly committed. We have invested much time and energy over the past year to carrying out its five major initiatives. Implementation of a PPBE process as NNSA's core business practice is designed to improve budget and performance integration throughout the organization. During the past twelve months, NNSA has been involved in an intensive effort to design and implement a PPBE framework simultaneously with the standup of the new NNSA organization. The processes have been designed in-house, along the lines of the DoD's PPBS system but tailored to our needs. We are adapting processes to address NNSA's emerging organization and unique business operations, and working within limited administrative staffing levels.

Budgeting structures are being updated and aligned with management structures. We are making excellent progress in finalizing the cascade of performance metrics linked from the NNSA Strategic Plan to the individual budget and reporting (accounting) codes and contractor work

authorizations. There is a very significant improvement in the Performance Measures across all programs for FY 2004. Evaluation is becoming formalized through linkage with the budget, and improved by the realignment of roles and responsibilities for program managers and financial managers across the complex.

We are **pleased with the early progress of PPBE** in becoming the core operating philosophy for NNSA. The first year was spent on process design, integration of the NNSA programs primarily at Headquarters, and in consultations and coordination of our efforts with the DOE Office of Management, Budget and Evaluation/Chief Financial Officer and the Administration. The DOE Inspector General is currently auditing the first year's implementation, with a report expected in late Spring 2003. Our near term goal is to extend more formalized PPBE roles and missions from our Headquarters organizations to the new NNSA Federal field structure and the M&O contractors as the NNSA re-engineering proceeds during the next 12-18 months. It will take several budget cycles and lessons learned to complete the culture change, and to properly staff the organization to fully realize the benefits of PPBE. The NNSA remains committed to this goal.

The NNSA also participated in the Administration's Performance Assessment Rating Tool (PART) analyses, evaluating four programs that encompass about 20 percent of NNSA's annual funding. The PART **assessment noted that the NNSA programs were well managed** and that NNSA management was proactively working to make additional improvements to program effectiveness and efficiency. Two of the NNSA programs, Advanced Simulation and Computing and International Nuclear Materials Protection and Cooperation, were rated in the top 5 percent of programs government-wide and received the highest PART ratings of "Effective" from the Office of Management and Budget. The PART analysis tool embodies and reinforces the PPBE processes and discipline we are implementing throughout NNSA. We plan to incorporate the PART assessment for all of NNSA's programs as part of our annual Evaluation cycle, starting with the FY 2005 budget this summer.

Conclusion

In conclusion, I remain confident that we are headed in the right direction. Our budget request will support continuing our progress in protecting and certifying our nuclear deterrent, reducing the global nuclear danger from proliferation and weapons of mass destruction, and enhancing the force projection capabilities of the U.S. nuclear Navy. It will enable us to continue to maintain the safety and security of our people, information, materials, and infrastructure. Above all, it will meet the national security needs of the United States in the 21st century.

Mr. Chairman, this concludes my prepared statement. Now, I would be pleased to answer any questions that you and members of the Committee may have.