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U.S. Department of Energy
on the
Fiscal Year 2011 President's Budget Request
Before The
Senate Armed Services Committee
Subcommittee on Strategic Forces

April 14, 2010

Thank you for the opportunity to present the Fiscal Year (FY) 2011 President's Budget Request for the National Nuclear Security Administration (NNSA). This budget request will allow the NNSA to meet its commitments to the American people to provide for nuclear deterrence, to reduce nuclear dangers around the world, and to provide the capabilities to address the broader national security challenges of the 21st century.

At this time last year, the focus of NNSA efforts was the continuing transformation of the Cold War-era weapons complex to a 21st century Nuclear Security Enterprise, and transformation of the composition and size of the U.S. nuclear weapons stockpile. Simultaneously, we were in the very early stages of defining the efforts necessary to address the President's policy statements on securing the most vulnerable nuclear materials worldwide.

During the first 15 months of the Obama Administration, we have been fully engaged with the Department of Defense (DoD) and the Interagency on the Nuclear Posture Review, and with the Department of State on a new START Agreement and a broad menu of nonproliferation agreements with our international partners.

NNSA efforts this past year defined a portfolio of programs to meet the President's nuclear security agenda for the future. The FY 2011 President's Budget Request for this portfolio is $11.2 billion, an increase of more than 13 percent from last year. In the development of this portfolio, Secretary of Energy Chu and NNSA Administrator D'Agostino worked closely with Secretary of Defense Gates and other DoD officials to ensure that we remain focused on meeting the DoD's requirements. As a result, the budget request for **Weapons Activities** increases nearly 10 percent to a level of $7 billion; Defense **Nuclear Nonproliferation** increases nearly 26 percent to a level of $2.7 billion; **Naval Reactors** increases more than 13 percent to a level of $1.1 billion; and, the request for Federal oversight and staff included in the **Office of the Administrator** account increases by 6.5 percent to a level of nearly $450 million. NNSA's budget request also includes associated outyear projections in a Future-Years Nuclear Security Program (FYNSP) that identifies resources needed to meet the continuing requirements for significant long term investments in the Nuclear Security Enterprise deliverables, capabilities and infrastructure.

The FY 2011 President's Budget Request for the NNSA can be summarized in four core components that, collectively, ensure that the NNSA implements the President's overall nuclear security agenda, introduced in his April 2009 Prague speech, re-enforced during the State of the Union Address on January 27, 2010, and embodied in the Nuclear Posture Review.

Implementing the President's Nuclear Security Vision. The budget request highlights NNSA's crucial role in implementing President Obama's nuclear security vision, including his call for an international effort to secure all vulnerable nuclear material around the world within four years. The request for these efforts is $2.7 billion (an increase of 25.8 percent over the current year). Key nonproliferation programs reflect significant increases from last year, including;

- Nearly $560 million for the Global Threat Reduction Initiative (an increase of 68 percent over the current year) to secure vulnerable nuclear materials around the world within four years, and to provide a comprehensive approach to deny terrorist access to nuclear and radiological materials at civilian sites worldwide;

- Over $1 billion for our Fissile Materials Disposition program (an increase of 47 percent over the current year) for construction of the Mixed Oxide (MOX) Fuel Fabrication Facility and the Waste Solidification Building, design of the Pit Disassembly and Conversion Facility, and meeting our commitment to support Russian plutonium disposition activities;

- More than $590 million for Material Protection, Control, and Accounting and Second Line of Defense activities to accelerate securing nuclear materials in the Former Soviet Union and other Asian states, as well as worldwide efforts to deter, detect, and respond to nuclear smuggling events; and,

- Over $350 million for the Nonproliferation and Verification Research and Development programs (an increase of 10 percent over the current year) to provide the key technical support for the President's arms control and nonproliferation agenda.

Managing the Nuclear Weapons Stockpile. Based on a preliminary analysis of the draft Nuclear Posture Review, the Department concluded that maintaining the safety, security, and effectiveness of the nuclear deterrent without nuclear testing – especially at lower stockpile numbers – requires increased investments to strengthen an aging physical infrastructure and to sustain a depleting technical human capital base across the Nuclear Security Enterprise. As such, we are requesting more than $7 billion (an increase of 9.8 percent over the current year) in the Weapons Activities appropriation to:

- Ensure the capabilities required for stockpile management and for the completion of ongoing Life Extension Programs are available;

- Strengthen the Science, Technology, and Engineering base capabilities that underpin stockpile stewardship, without nuclear testing, as well as all other NNSA nuclear security activities; and,

- Reinvest in the scientists, technicians, and engineers who perform the mission across the Nuclear Security Enterprise.

The President's Budget Request is consistent with the principles of the Stockpile Management Program outlined by Congress in the FY 2010 National Defense Authorization Act.

Recapitalizing our Nuclear Infrastructure and Deterrent Capability. These increases represent an investment in transforming our outdated nuclear weapons complex into a 21st century Nuclear Security Enterprise. This request includes funds to continue the design of the Uranium Processing Facility at the Y-12 facility; the design and construction of the replacement for the Chemistry and Metallurgy Research facility at the Los Alamos National Laboratory; and, conceptual design for the recapitalization of Naval Reactor's Expended Core Facility at the Idaho National Laboratory. Investing in a modern, sustainable nuclear security infrastructure supports the full range of NNSA's nuclear security missions, including:

- Stockpile stewardship;
- Nuclear nonproliferation and disarmament;
- Arms control treaty monitoring;
- Nuclear forensics;
- Counterterrorism and emergency response; and,
- the nuclear Navy.

Additionally, the request supports the recent Department of Defense decision to recapitalize the sea-based strategic deterrent. The OHIO-class ballistic submarines, the most survivable leg of the nation's strategic deterrent, are reaching the end of their operational life. The request will enable Naval Reactors to continue reactor plant design and development efforts begun in 2010 for procurement of long-lead reactor plant components in 2017, in support of Navy procurement of the first OHIO-class submarine replacement in 2019. Providing the OHIO-class replacement a life-of-the-ship reactor core will require substantial advances in manufacturing technology to provide a new cladding and a new fuel system. The request also supports the refueling of a land based prototype reactor, providing a cost effective test platform for these new technologies.

Continuing NNSA Management Reforms. With the increased resources provided by the Congress comes an increased responsibility to be effective stewards of the taxpayer's money. NNSA will continue to promote proactive, sound management reforms that save money, improve the way we do business, and increase efficiency. Following are a few of the efforts already underway:

- A Zero-Based Security Review initiative has led to efficiencies in our site security programs, helping drive down those costs while sustaining core physical security capabilities.

- An Enterprise Re-engineering Team is implementing ideas for improving the way NNSA does business, such as:

- A Supply Chain Management Center has already saved the taxpayers more than $130 million since its inception in 2007 and is expanding its focus. Two key elements of the Center are:
  - eSourcing -- an electronic sealed-bidding and reverse auction function; and,
  - Strategic Sourcing – where our Management and Operating contractors use their combined purchasing power to negotiate multi-site commodity contracts with vendors.

- A moratorium on new, NNSA-initiated Reviews and re-direction of those resources to improve Contractor Management Systems and operations and oversight across the Nuclear Security Enterprise.

- Issuing new NNSA Operating Principles to guide the priorities and decision processes of entities that perform NNSA work consistently across the Nuclear Security Enterprise.

- Applying a new performance-based model, best business practices, and lessons-learned across the Nuclear Security Enterprise. The model, pioneered at our Kansas City Plant, provides greater contractor flexibility and accountability; better focused, risk-based oversight; eliminates redundant and non-value-added reviews; and, improves efficiencies and availability of Federal and contractor resources to support the full scope of NNSA missions.

- Reducing contractor expenses through renegotiation of health and dental plans, using common contracts for administration and supplies, and converting plant shifts for five 8-hour days to four 10-hour day shifts.

- Retaining the critical Federal workforce

  - Piloting for the Department a five-year Office of Personnel Management Demonstration Project on Pay-for-Performance and Pay Banding to test new Human Resource concepts to recruit and retain a high caliber staff by providing faster pay progression for high-performing employees, and to build on the workforce planning system to better identify competency needs and gaps.

  - Conducting a Future Leaders Program and sponsoring Historically Black Colleges and Universities, Hispanic Serving Institutions, Native American Serving Institutions, and other intern and fellowship programs to bring into government the best and brightest talent in science, engineering, business, and other technical positions to ensure that when our aging workforce retires, it is replaced with competent, well-trained, and experienced professionals to carry on the mission work of the NNSA.

Finally, NNSA continues to emphasize performance and financial accountability at all levels of our operations. NNSA needs to assure the Committee and the taxpayers that the we are an excellent steward of the programs and funds the Congress entrusts to us to carry out the

President's nuclear security vision. In 2009, NNSA met 95 percent of its stated program performance objectives, and, over the past two years, NNSA successfully executed consecutive, large annual funding increases in several of our nonproliferation programs while reducing uncosted, uncomitted balances. We are ready to meet the challenge of executing the additional program increases supported by the FY 2011 President's Budget Request. Our Federal and contractor staff and our contracting processes are in place to initiate immediately the increased mission work both in the U.S. and abroad. The NNSA will be a leader in successful program and financial execution for the Department of Energy and for the U.S. Government.

The NNSA is not operating on a "business-as-usual" basis. The budget request represents a comprehensive approach to ensuring the nuclear security of our Nation. NNSA will ensure that our strategic posture, our nuclear weapons stockpile, and our infrastructure, along with our nonproliferation, arms control, emergency response, counterterrorism, and naval propulsion programs, are melded into one comprehensive, forward-looking strategy that protects America and its allies.

Maintaining the nuclear weapons stockpile is the core work in the NNSA. However, the science, technology, and engineering capabilities, which enable the core work, must also continue to focus on providing a sound foundation for ongoing nonproliferation and other threat reduction programs. The investment in nuclear security is providing the tools that can tackle a broad array of national security and energy challenges and in other realms. NNSA now has the tools, but must continue to cultivate the talents of the people to use them effectively.

The NNSA is developing the next generation of scientists, engineers, and technicians required to meet our enduring deterrence requirements as well as the critical work in nonproliferation, nuclear counterterrorism, and forensics. People are ultimately our most important resource. We are working closely with our national laboratories to develop and retain the necessary cadre of the best and the brightest to successfully carry out all of our technically challenging programs into the foreseeable future.

Following are more detailed descriptions of each of the four specific NNSA appropriations.

National Nuclear Security Administration
Budget Overview

The President's Budget Request for the NNSA contains budget information for five years as required by Section 3253 of P.L. 106-065, entitled Future-Years Nuclear Security Program (FYNSP). The FYNSP projects $57.9 billion for NNSA programs through FY 2015. While the funding necessary to support the President's commitment to lead an international effort to secure vulnerable nuclear materials throughout the world is focused in the near term, major longer term funding commitments are needed in other NNSA programs. The Secretaries of the Department of Defense (DoD) and the Department of Energy (DOE) agree that it is necessary to modernize the nuclear security infrastructure of the U.S., and this will require the investments over the long-term reflected in the FYNSP. Modernization of the infrastructure, including major capital projects, is needed to ensure safe, secure, sustainable and cost-effective operations in support of scientific and manufacturing activities. It is also necessary to bolster key scientific, technical and manufacturing capabilities needed to ensure that the U.S. nuclear weapons stockpile remains safe, secure and effective while avoiding the requirement for new nuclear tests. Increased outyear resources are also included for major new deliverables in support of the nuclear navy, including reactor plant development for the OHIO-class replacement submarine, core manufacturing for and refueling of the technology demonstration land-based prototype, and initial planning for the recapitalization of spent nuclear fuel infrastructure.

NNSA Program Summaries

The FY 2011 President's Budget Request for the NNSA is $11.2 billion, a 13.4 percent increase over the FY 2010 appropriated level. Outyear projections meet the requirements for significant long-term investments in the nuclear security enterprise deliverables, capabilities and infrastructure.

Weapons Activities Appropriation

The request for this appropriation is $7.0 billion; an increase of 9.8 percent over the FY 2010 appropriated level. This level is sustained and increased in the later outyears.

Although no change to the existing program budget structure within this appropriation is proposed in this budget, we will address the current programs within the Weapons Activities appropriation in four related components:

- Stockpile Support (Directed Stockpile Work, Readiness Campaign);
- Science, Technology and Engineering (Science Campaign, Engineering Campaign, Inertial Confinement Fusion and High Yield Campaign, Advanced Simulation and Computing Campaign, Science, Technology and Engineering Capability);
- Infrastructure (Readiness in Technical Base and Facilities, Secure Transportation Asset, Facilities and Infrastructure Recapitalization Program, Site Stewardship); and,
- Security and Nuclear Counterterrorism (Defense Nuclear Security, Cyber Security, Nuclear Counterterrorism Incident Response).

Increased funding is requested for programs in Stockpile Support, for Scientific, Technology and Engineering activities related to maintenance assessment and certification capabilities for the stockpile, and for critical Infrastructure improvements. The Security and Nuclear Counterterrorism component decreases about 3 percent from the FY 2010 appropriated levels, attributable to continuing efficiencies in the Defense Nuclear Security programs budget.

This multi-year increase reflects the President's commitment to maintain the safety, security and effectiveness of the nuclear deterrent without underground nuclear testing, consistent with the principles of the Stockpile Management Program outlined in Section 3113 (a)(2) of the National Defense Authorization Act of Fiscal Year 2010 (50 U.S.C. 2524). The nuclear security requirements driving this budget request include improvements to the safety and security of the enduring stockpile; a strengthened science, technology, and engineering base; and a recapitalized physical infrastructure. The enterprise must also be responsive to an arguably more complex future national defense environment than the singular Cold-War context within which the legacy deterrent was built.

The President's Budget Request provides funding necessary to protect and advance the scientific capabilities at the U.S. national security laboratories – including the ability to maintain the nuclear deterrent as well as development and engineering expertise and capabilities—through a stockpile stewardship program that fully exercises these capabilities.

This budget request is responsive to FY 2010 Congressional direction to carry out a Stockpile Management Program in support of stockpile stewardship that provides for effective management of the weapons in the nuclear weapons stockpile. This program will strengthen the stockpile activities, including life extension programs and surveillance; strengthen science, technology and engineering, including the workforce; and modernize the aging infrastructure, particularly special nuclear materials capabilities. The key objectives of the Stockpile Management Program include:

- Increase the reliability, safety, and security of the stockpile;
- Further reduce the likelihood of the need to resume underground nuclear testing;
- Achieve further reductions in the future size of the stockpile;
- Reduce the risk of an accidental detonation; and,
- Reduce the risk of an element of the stockpile being used by a person or entity hostile to the United States, its vital interests, or its allies.

The Stockpile Support component of this appropriation includes Directed Stockpile Work and the supporting Readiness Campaign. The President's Budget Request is $2.0 billion, an increase of 25.2 percent over the FY 2010 appropriation. This provides for the Stockpile Management Program, including surveillance, maintenance, assembly, disassembly and dismantlement activities, and will fully support the ongoing Life Extension Programs for the W76 warhead and

the refurbishment of the B61 bomb. The budget request will enhance surveillance efforts, and ensure that capabilities and capacity are available so that future warhead life extension programs will allow for increased margin and enhanced warhead safety, security and control. The request will initiate a study in FY 2011 to evaluate future options and approaches to maintaining the W78, consistent with the principles of the Stockpile Management Program defined in Section 3113 (a)(2) of the National Defense Authorization Act of Fiscal Year 2010 (50 U.S.C. 2524).

The Science, Technology and Engineering (STE) component of this appropriation includes the Science Campaign, Engineering Campaign, Inertial Confinement Fusion and High Yield Campaign, Advanced Simulation and Computing Campaign, and Science, Technology and Engineering Capability. The President's Budget Request of $1.6 billion is an increase of 10.4 percent over the FY 2010 appropriation and will restore sufficient funds for the science and technology base that supports stockpile assessment and certification in the absence of nuclear testing. Within this request, the Inertial Confinement Fusion and High Yield Campaign is requested at $481.5 million. Construction of the National Ignition Facility (NIF) was completed in FY 2009, and the first in a series of ignition experiments beginning in the summer of 2010 will attempt to compress, implode, and ignite a layered deuterium-tritium capsule with a ~1.3 megajoule energy pulse from the NIF. Regardless of the specific status of ignition, FY 2011 will present a very demanding agenda of work in the ignition effort. Results from the first ignition experiments in 2010 will be analyzed in detail, and the intensive process of tuning laser and target parameters for optimum performance will continue toward development of a robust ignition platform by the end of 2012. The NIF is designed to provide critical scientific data to support the stockpile without underground nuclear testing.

Computation and simulation underpin all of our science, technology and engineering, and are pervasive throughout the activities in the nuclear security enterprise. The FY 2011 President's Budget Request of $616 million for the Advanced Simulation and Computing Campaign will enable a stronger simulation program and inject a renewed scientific rigor back into the program. Developing robust peer review among the national security laboratories as we move away from the test base experience is essential to being able to maintain a stockpile without underground testing. Comprehensive uncertainty quantification calculations in 3D will provide the confidence necessary to make reliable progress toward the predictive capability necessary to address stockpile aging issues. In the next decade, predictive capability and specific warhead simulation deliverables will demand ever more powerful and sophisticated simulation environments. This request will position the national security laboratories to take advantage of future platform architectures to more efficiently steward the stockpile.

Also within the STE component, the new subprogram to provide collaborative efforts in intelligence analysis, which was created in response to congressional funding in the Supplemental Appropriations Act, 2009, continues in FY 2011. This subprogram provides a focal point for science, technology and engineering in NNSA, and will facilitate a point of entry for the wider national security community into NNSA's programs and facilities. The FY 2009 supplemental funding provided for laboratory efforts in intelligence analysis. The FY 2011 request will support NNSA's commitment to a 5-year Memorandum of Understanding with the Defense Threat Reduction Agency for national security research and development of mutual interest. At this time, the defined focus areas of mutual interest are: Advanced Science and

Forensics, Experimental Capabilities, Science Based Output, Active Interrogation of Special Nuclear Material, and Nuclear Weapons Effects Modeling and Simulation.

The Infrastructure component of the appropriation includes Readiness in Technical Base and Facilities, Secure Transportation Asset, Facilities and Infrastructure Recapitalization Program, and Site Stewardship. The President's Budget Request is $2.3 billion, a 4.8 percent increase over the FY 2010 level. Transformation and maintenance of supporting physical infrastructure for the nuclear security enterprise is a high priority in the upcoming FYNSP. Along with the funding to support the ongoing operations of the government-owned, contractor operated laboratories and manufacturing facilities, the President's Budget Request includes funding for major long-term construction projects needed to restore critical capabilities in plutonium and uranium essential to the Stockpile Management program.

The President's Budget Request includes funding to complete the design and begin construction of the Chemistry and Metallurgy Research Facility Replacement -- Nuclear Facility at the Los Alamos National Laboratory. This facility conducts plutonium research and development and provides analytical capabilities in support of pit surveillance and production. The facility will also support the broad range of NNSA's nuclear security missions, including: 1) stockpile stewardship; 2) nuclear nonproliferation and disarmament; 3) arms control treaty monitoring; 4) nuclear forensics; and, 5) counterterrorism and emergency response. Current planning schedules full operation in 2022. A related project is requested to improve the safety profile at the adjoining PF-4 facility. The budget request also includes funding for continuing the design and construction planning of the Uranium Processing Facility at the Y-12 National Security Complex to support production and surveillance of highly-enriched uranium components. This facility is also planned to achieve full operations by 2022.

Maintaining and improving the current infrastructure is also an important priority for NNSA. The Facilities and Infrastructure Recapitalization Program is continuing to reduce the deferred maintenance backlog as it proceeds toward its planned conclusion in 2013. Increased funding is provided for the Site Stewardship program that integrates institutional/landlord functions for our sites, including regulatory-driven long-term Stewardship, Nuclear Materials Consolidation, and energy efficiency projects.

The Security and Nuclear Counterterrorism component of the appropriation includes Defense Nuclear Security, Cyber Security, and Nuclear Counterterrorism Incident Response. The President's Budget Request for these programs is $1.1 billion, which, except for a 5 percent increase in Nuclear Counterterrorism and Incident Response, represents an overall 3.2 percent decrease from FY 2010 appropriated levels. The decrease reflects efficiencies expected to be gained from risk-informed decisions identified through the Defense Nuclear Security program's Zero-Based Security Review, consistent with implementation of the Graded Security Protection Policy.

Defense Nuclear Nonproliferation Appropriation

The request for this appropriation is $2.7 billion; an increase of 25.8 percent over the FY 2010 appropriated level. The increase is driven by the imperative for U.S. leadership in nonproliferation initiatives both here and abroad, including the consolidation of fissile materials

disposition activities into this account. In addition to the programs funded solely by the NNSA, our programs support the Department of Energy mission to protect our national security by preventing the spread of nuclear weapons and nuclear materials to terrorist organizations and rogue states. These efforts are implemented in part through the Global Partnership against the Spread of Weapons and Materials of Mass Destruction, formed at the G8 Kananaskis Summit in June 2002, and the Global Initiative to Combat Nuclear Terrorism, launched in Rabat, Morocco, in October 2006.

The FY 2011 President's Budget Request reflects support for the President's direction to secure vulnerable nuclear materials around the world in four years. The International Nuclear Materials Protection and Cooperation (MPC&A) program increases by 3 percent to support selective new security upgrades to buildings and areas that were added to the cooperation after the Bratislava summit, additional Second Line of Defense sites, sustainability of MPC&A upgrades, and continued expansion of nuclear and radiological material removal. The Global Threat Reduction Initiative increases by 68 percent to support an increase in reactor conversions and shutdowns, acceleration of domestic production capability of Molybdenum-99, and an acceleration of the removal and disposition of high-priority, vulnerable nuclear materials in full support of the President's nuclear security agenda. The Fissile Materials Disposition program increases by 47 percent reflecting continuing domestic construction on the MOX Fuel Fabrication Facility, and the design and construction of two major supporting facilities.

The NNSA's nonproliferation programs seek to secure nuclear materials worldwide that could be used for weapons and to convert such materials for peaceful applications, and, through the Second Line of Defense Program, provide the tools for partner countries to detect and interdict smuggling of these materials across international borders.

The Nuclear Nonproliferation Research and Development (R&D) activities seek to improve detection of nuclear material production and movement through advanced R&D. The program draws on the vast technical expertise of the NNSA and DOE national laboratories, as well as academia and industry, the program delivers solutions to the hardest technical nuclear security challenges. Focusing on nuclear detection instrumentation development that is tightly coordinated across federal and international agencies, these advanced detection techniques are a significant contributor to the U.S. ability to detect foreign nuclear materials production as well as the illicit movement of those materials. Further, the R&D program provides the backbone for advances in U.S. and international capabilities to monitor nuclear-related treaty obligations. In keeping with the President's commitment for verifiable treaties, the R&D program's FY 2011 budget request increases by 10% over the current year to include a more robust set of testing and evaluation activities to demonstrate new U.S. treaty monitoring capabilities.

The FY 2011 President's Budget Request has consolidated all of the funding requests for the Fissile Materials Disposition activities within the Defense Nuclear Nonproliferation appropriation. The current funding for both the MOX Fuel Fabrication Facility and Waste Solidification Building projects were moved in the FY 2010 appropriation, and the Pit Disassembly and Conversion Facility project has been moved back to Defense Nuclear Nonproliferation appropriation starting in FY 2011. The DOE has decided to explore a proposed combination of the Office of Environmental Management Plutonium Preparation Project and the

Pit Disassembly and Conversion Project in a single project located in an existing K-Area Facility at the Savannah River Site. This activity will be evaluated using the Department's project management order, DOE O 413, and will move toward a Critical Decision 1 (approval of alternative selection and cost range).

The U.S. continues to work with the Russian Federation on plutonium disposition in Russia pursuant to the Plutonium Management and Disposition Agreement reached in September 2000. Congress had appropriated $200 million in a FY 1999 Supplemental Appropriation to support Russian plutonium disposition activities; however, $207 million of this and other funding for this program was rescinded in FY 2008 due to lack of progress in Russia. The FY 2011 Request includes $100 million of the U.S. commitment to provide $400 million to support plutonium disposition in Russia once a Protocol amending the 2000 Agreement, related liability provisions, and a monitoring and inspection regime is signed. The balance of more than $2 billion in remaining cost associated with Russian plutonium disposition would be borne by Russia and non-U.S. contributions.

Naval Reactors Appropriation

The request for this appropriation is $1.1 billion; an increase of 13.3 percent over the FY 2010 appropriated level. The program directly supports the U.S. Navy's nuclear fleet, which encompasses all Navy submarines and aircraft carriers. The nuclear fleet is comprised of 54 attack submarines, 14 ballistic missile submarines, 4 guided missile submarines, and 11 aircraft carriers. These ships, and their consistent forward presence, are relied on every day, all over the world, to protect our national interests.

Naval Reactors has a long history of providing safe and reliable Naval nuclear propulsion. This requires continual analysis for prompt identification of leading indicators from fleet operations and careful engineering to assure prudent, yet timely modernization, and scrupulous maintenance. Over the last decade, funding for these successful endeavors has been relatively constant. The onset of unavoidable, nondiscretionary requirements for spent reactor fuel processing and replacement, and maintenance and disposal of an aging support infrastructure has required continued rebalancing of funding priorities. Those priorities coupled with new challenges necessitated the additional funding included in the budget request. Increases in the FY 2011 President's Budget Request support three key deliverables– the OHIO-class submarine replacement reactor plant, the refueling of the land-based prototype located in New York, and the Expended Core Facility at the Naval Reactors Facility located on the Idaho National Laboratory.

The most survivable leg of the Nation's strategic deterrent, the OHIO-class ballistic missile submarines are reaching the end of their operational life. Propulsion plant design and development efforts began in 2010 to support Navy procurement of reactor plant components in 2017, for ship construction starting in 2019. This schedule for development is consistent with previous designs. Key technical challenges include an effort to lower total ownership costs while maintaining the traditionally high operational availability of this new ship. The most important challenge to meet this is a life-of-the-ship reactor core.

The DOE land-based prototype reactor, which has served the Program's needs for R&D and training since 1978, requires refueling in 2017. The reactor provides a cost-effective test

platform for new technologies and components before they are introduced for Fleet applications, supports testing and evaluation of materials, and provides a vital training platform for reactor plant operators. The land-based prototype refueling will also provide key technical data for the OHIO-class submarine replacement, since the reactor core work to support the refueling will also support the core manufacturing development for the OHIO-class replacement. This approach is based on Naval Reactors' extensive experience in reactor design—taking advantage of the prototype refueling opportunity to proof-test new manufacturing techniques for reactor fuel cladding material never previously used by the Navy. This will reduce technical risk in manufacturing the OHIO-class replacement life-of-the-ship core.

The Expended Core Facility (ECF) is the central location for naval spent nuclear fuel receipt, inspection, dissection, packaging, and secure dry storage, as well as detailed examination of spent cores and irradiated specimens. The existing facility is more than 50 years old, and its mission has evolved significantly over time. While serviceable, it no longer efficiently supports the nuclear Fleet or the work required to meet the agreements we have with the State of Idaho for naval spent fuel. To minimize risks associated with an aging facility and support the timely refueling and defueling of nuclear-powered warships, construction is targeted to begin by 2015. Uninterrupted ECF receipt of naval spent nuclear fuel is vital to the timely, constant throughput of ship refuelings and return of these capital warships to the Fleet. The mission need statement for this project has been approved, and conceptual design and alternative analysis efforts began in 2010.

Office of the Administrator Appropriation

The request for this appropriation is $448.3 million; an increase of 6.5 percent over the FY 2010 appropriated level. This appropriation provides for the Federal staff and related support for the NNSA Headquarters and field organizations. The Federal personnel level for FY 2011 is projected at 1,970 Full Time Equivalents, essentially level with the expectation for FY 2010. Implicit in the request is a 1.4 percent cost of living adjustment and a 3.3 percent increase for performance-based salary increases, awards, and benefit escalation associated with the Federal workforce. Other increases reflect full funding for NNSA site office space requirements across the Nuclear Security Enterprise, funds for new building maintenance and lease requirements, and expansion of NNSA international offices for the NNSA's nonproliferation programs.

National Nuclear Security Administration

Appropriation and Program Summary Tables
Outyear Appropriation Summary Tables

FY 2011 BUDGET TABLES
National Nuclear Security Administration

Overview
Appropriation Summary

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
National Nuclear Security Administration			
Office of the Administrator	439,190	420,754	448,267
Weapons Activities	6,410,000	6,384,431	7,008,835
Defense Nuclear Nonproliferation	1,545,071	2,136,709	2,687,167
[non-add MOX Project funded in other appropriations]	[278,879]	N/A	N/A
Naval Reactors	828,054	945,133	1,070,486
Total, NNSA	9,222,315	9,887,027	11,214,755
Transfer of prior year balances - OMB scoring		-10,000	
Total, NNSA		9,877,027	

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

(dollars in thousands)

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
NNSA					
Office of the Administrator	448,267	426,424	430,726	435,069	448,498
Weapons Activities	7,008,835	7,032,672	7,082,146	7,400,966	7,648,200
Defense Nuclear Nonproliferation	2,687,167	2,507,191	2,715,191	2,833,243	2,956,328
Naval Reactors	1,070,486	1,099,734	1,171,178	1,226,017	1,310,530
Total, NNSA	**11,214,755**	**11,066,021**	**11,399,241**	**11,895,295**	**12,363,556**

Office of the Administrator
National Nuclear Security Administration

Overview
Appropriation Summary by Program

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation *	FY 2011 Request
Office of the Administrator			
Office of the Administrator	415,878	418,074	448,267
Congressionally Directed Projects	23,312	13,000	0
Use of Prior Year Balances	0	-10,320	0
Total, Office of the Administrator	**439,190**	**420,754**	**448,267**
Transfer of Prior Year Balances		-10,000	
Total, OMB Scoring	**439,190**	**410,754**	**448,267**

* Note: In accordance with P.L. 111-85, $10,000,000 of Office of the Administrator prior year balances have been transferred to Non-Defense Environmental Cleanup for cleanup efforts at the Argonne National Laboratory.

Public Law Authorization:

Energy and Water Development and Related Agencies Appropriations Act, 2010 (P.L. 111-85)
FY 2009 Omnibus Appropriations Act (P.L. 111-8)
National Nuclear Security Administration Act (P.L. 106-65), as amended

Outyear Appropriation Summary

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Office of the Administrator	**426,424**	**430,726**	**435,069**	**448,498**

Office of the Administrator

Congressionally Directed Projects

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009	FY 2010	FY 2011
Congressionally Directed Projects	23,312	13,000	0

Weapons Activities

Overview
Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Weapons Activities			
Directed Stockpile Work	1,590,152	1,505,859	1,898,379
Science Campaign	316,690	295,646	365,222
Engineering Campaign	150,000	150,000	141,920
Inertial Confinement Fusion Ignition and High Yield Campaign	436,915	457,915	481,548
Advanced Simulation and Computing Campaign	556,125	567,625	615,748
Readiness Campaign	160,620	100,000	112,092
Readiness in Technical Base and Facilities	1,674,406	1,842,870	1,848,970
Secure Transportation Asset	214,439	234,915	248,045
Nuclear Counterrorism Incident Response	215,278	221,936	233,134
Facilities and Infrastructure Recapitalization Program	147,449	93,922	94,000
Site Stewardship	0	61,288	105,478
Environmental Projects and Operations	38,596	0	0
Defense Nuclear Security	735,208	769,044	719,954
Cyber Security	121,286	122,511	124,345
Science, Technology and Engineering Capability	30,000	0	20,000
Congressionally Directed Projects	22,836	3,000	0
Use/Recission of Prior Year Balances	0	-42,100	0
Total, Weapons Activities	**6,410,000**	**6,384,431**	**7,008,835**

Public Law Authorization:

National Defense Authorization Act for Fiscal Year 2010 (P.L. 111-84)
Energy and Water Development and Related Agencies Appropriations Act, 2010 (P.L. 111-85)
National Nuclear Security Administration Act, (P.L. 106-65), as amended

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Weapons Activities				
Directed Stockpile Work	1,900,736	1,999,470	2,240,139	2,346,254
Science Campaign	397,460	418,823	416,199	394,766
Engineering Campaign	149,737	134,996	144,920	145,739
Inertial Confinement Fusion Ignition and High Yield Campaign	480,451	475,597	470,994	484,812
Advanced Simulation and Computing Campaign	622,940	616,257	615,420	633,134
Readiness Campaign	81,697	70,747	69,854	72,584
Readiness in Technical Base and Facilities	1,872,546	1,841,325	1,926,568	1,997,764
Secure Transportation Asset	251,272	249,456	252,869	261,521
Nuclear Counterrorism Incident Response	222,914	222,508	235,300	237,986
Facilities and Infrastructure Recapitalization Program	94,000	94,000	0	0
Site Stewardship	101,929	103,536	174,071	205,802
Defense Nuclear Security	730,944	729,609	728,925	740,649
Cyber Security	126,046	125,822	125,707	127,189
Total, Weapons Activities	**7,032,672**	**7,082,146**	**7,400,966**	**7,648,200**

Directed Stockpile Work

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Directed Stockpile Work			
Life Extension Programs			
B61 Life Extension Program	1,854	0	0
W76 Life Extension Program	203,189	223,196	249,463
Subtotal, Life Extension Programs	**205,043**	**223,196**	**249,463**
Stockpile Systems			
B61 Stockpile Systems	90,204	91,956	317,136
W62 Stockpile Systems	1,500	0	0
W76 Stockpile Systems	63,219	56,554	64,521
W78 Stockpile Systems	40,347	48,311	85,898
W80 Stockpile Systems	30,712	27,398	34,193
B83 Stockpile Systems	26,938	33,502	39,349
W87 Stockpile Systems	40,949	48,139	62,603
W88 Stockpile Systems	43,928	51,940	45,666
Subtotal, Stockpile Systems	**337,797**	**357,800**	**649,366**
Weapons Dismantlement and Disposition			
99-D-141-01 Pit Disassembly and Conversion Facility-SRS	24,883	0	0
99-D-141-02 Waste Solidification Building-SRS	40,000	0	0
Weapons Dismantlement and Disposition	52,695	96,100	58,025
Pit Disassembly and Conversion Facility-O&M	69,351	0	0
Subtotal, Weapons Dismantlement and Disposition	**186,929**	**96,100**	**58,025**
Stockpile Services			
Production Support	308,806	300,037	309,761
Research & Development Support	35,049	37,071	38,582
Research & Development Certification and Safety	169,403	166,523	209,053
Management, Technology, and Production	192,072	183,223	193,811
Plutonium Capability	155,053	0	0
Plutonium Sustainment	0	141,909	190,318
Subtotal, Stockpile Services	**860,383**	**828,763**	**941,525**
Total, Directed Stockpile Work	**1,590,152**	**1,505,859**	**1,898,379**

Outyear Funding Profile by Subprogram

	(dollars in thousands)			
	FY 2012	FY 2013	FY 2014	FY 2015
Directed Stockpile Work				
Life Extension Programs				
W76 Life Extension Program	255,000	255,000	255,000	255,000
Subtotal, Life Extension Programs	**255,000**	**255,000**	**255,000**	**255,000**
Stockpile Systems				
B61 Stockpile Systems	337,851	394,027	437,518	512,296
W76 Stockpile Systems	56,418	58,312	55,396	54,038
W78 Stockpile Systems	104,964	156,340	346,923	345,359
W80 Stockpile Systems	31,627	34,566	35,974	36,621
B83 Stockpile Systems	37,160	38,294	42,621	42,059
W87 Stockpile Systems	67,754	64,924	51,898	50,433
W88 Stockpile Systems	61,229	65,094	69,777	68,648
Subtotal, Stockpile Systems	**697,003**	**811,557**	**1,040,107**	**1,109,454**
Weapons Dismantlement and Disposition	**53,327**	**48,446**	**58,102**	**60,089**
Stockpile Services				
Production Support	288,227	271,067	265,429	274,509
Research & Development Support	35,044	34,667	35,497	36,711
Research & Development Certification and Safety	207,133	213,923	214,632	222,777
Management, Technology, and Production	202,020	196,676	198,660	205,454
Plutonium Sustainment	162,982	168,134	172,712	182,260
Subtotal, Stockpile Services	**895,406**	**884,467**	**886,930**	**921,711**
Total, Directed Stockpile Work	**1,900,736**	**1,999,470**	**2,240,139**	**2,346,254**

Science Campaign

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Science Campaign			
Advanced Certification	19,400	19,400	76,972
Primary Assessment Technologies	80,181	83,181	85,723
Dynamic Plutonium Experiments	23,022	0	0
Dynamic Materials Properties	83,231	86,617	96,984
Advanced Radiography	28,535	28,535	23,594
Secondary Assessment Technologies	76,913	77,913	81,949
Test Readiness	5,408	0	0
Total, Science Campaign	**316,690**	**295,646**	**365,222**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Science Campaign				
Advanced Certification	104,704	129,481	129,978	98,908
Primary Assessment Technologies	86,253	85,248	84,327	87,165
Dynamic Materials Properties	97,114	95,980	94,945	98,144
Advanced Radiography	27,132	26,816	26,528	27,421
Secondary Assessment Technologies	82,257	81,298	80,421	83,128
Total, Science Campaign	**397,460**	**418,823**	**416,199**	**394,766**

Engineering Campaign

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Engineering Campaign			
Enhanced Surety	46,111	42,000	42,429
Weapon Systems Engineering Assessment Technology	16,593	18,000	13,530
Nuclear Survivability	21,100	21,000	19,786
Enhanced Surveillance	66,196	69,000	66,175
Total, Engineering Campaign	**150,000**	**150,000**	**141,920**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Engineering Campaign				
Enhanced Surety	44,019	43,699	48,851	50,523
Weapon Systems Engineering Assessment Technology	16,533	15,199	19,730	20,404
Nuclear Survivability	20,627	18,550	10,334	10,687
Enhanced Surveillance	68,558	57,548	66,005	64,125
Total, Engineering Campaign	**149,737**	**134,996**	**144,920**	**145,739**

Inertial Confinement Fusion Ignition and High Yield Campaign

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Inertial Confinement Fusion Ignition and High Yield Campaign			
Ignition	100,535	106,734	109,506
NIF Diagnostics, Cryogenics, and Experimental Support	66,201	72,252	102,649
Pulsed Power Inertial Confinement Fusion	8,652	5,000	5,000
Joint Program in High Energy Density Laboratory Plasmas	3,053	4,000	4,000
Facility Operations and Target Production	203,282	269,929	260,393
NIF Assembly and Installation Program	55,192	0	0
Total, Inertial Confinement Fusion Ignition and High Yield Campaign	**436,915**	**457,915**	**481,548**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Inertial Confinement Fusion Ignition and High Yield Campaign				
Ignition	110,222	74,410	71,479	73,886
Support of Other Stockpile Programs	17,240	39,637	35,522	49,154
NIF Diagnostics, Cryogenics, and Experimental Support	74,104	83,878	82,921	76,117
Pulsed Power Inertial Confinement Fusion	5,000	5,000	5,000	5,000
Joint Program in High Energy Density Laboratory Plasmas	4,000	4,000	4,000	4,000
Facility Operations and Target Production	269,885	268,672	272,072	276,655
Total, Inertial Confinement Fusion Ignition and High Yield Campaign	**480,451**	**475,597**	**470,994**	**484,812**

Advanced Simulation and Computing Campaign

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Advanced Simulation and Computing Campaign			
Integrated Codes	138,917	140,882	165,947
Physics and Engineering Models	49,284	61,189	62,798
Verification and Validation	50,184	50,882	54,781
Computational Systems and Software Environment	156,733	159,022	175,833
Facility Operations and User Support	161,007	155,650	156,389
Total, Advanced Simulation and Computing Campaign	**556,125**	**567,625**	**615,748**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Advanced Simulation and Computing Campaign				
Integrated Codes	167,327	163,752	163,887	168,143
Physics and Engineering Models	66,541	65,019	64,626	66,438
Verification and Validation	54,168	52,879	52,300	53,835
Computational Systems and Software Environment	175,833	175,833	175,833	180,912
Facility Operations and User Support	159,071	158,774	158,774	163,806
Total, Advanced Simulation and Computing Campaign	**622,940**	**616,257**	**615,420**	**633,134**

Readiness Campaign

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Readiness Campaign			
Stockpile Readiness	27,869	5,746	18,941
High Explosives and Weapon Operations	8,581	4,608	3,000
Nonnuclear Readiness	32,545	12,701	21,864
Tritium Readiness	70,409	68,246	50,187
Advanced Design and Production Technologies	21,216	8,699	18,100
Total, Readiness Campaign	**160,620**	**100,000**	**112,092**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Readiness Campaign				
Tritium Readiness	81,697	70,747	69,854	72,584
Total, Readiness Campaign	**81,697**	**70,747**	**69,854**	**72,584**

Readiness in Technical Base and Facilities

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Readiness in Technical Base and Facilities			
Operations of Facilities			
Kansas City Plant	89,871	156,056	186,102
Lawrence Livermore National Laboratory	82,605	86,670	80,106
Los Alamos National Laboratory	289,169	311,776	318,464
Nevada Test Site	92,203	79,583	80,077
Pantex	101,230	131,602	121,254
Sandia National Laboratory	123,992	104,133	117,369
Savannah River Site	92,762	128,580	92,722
Y-12 National Security Complex	235,397	229,774	220,927
Institutional Site Support	56,102	120,129	40,970
Subtotal, Operations of Facilities	1,163,331	1,348,303	1,257,991
Program Readiness	71,626	73,021	69,309
Material Recycle and Recovery	70,334	69,542	70,429
Containers	22,696	23,392	27,992
Storage	31,951	24,708	24,233
Subtotal, Operations and Maintenance	**1,359,938**	**1,538,966**	**1,449,954**
Construction	314,468	303,904	399,016
Total, Readiness in Technical Base and Facilities	**1,674,406**	**1,842,870**	**1,848,970**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Readiness in Technical Base and Facilities				
Operations of Facilities	1,178,512	1,129,208	1,061,276	1,097,791
Program Readiness	48,492	47,998	63,541	65,713
Material Recycle and Recovery	61,678	63,673	63,386	65,554
Containers	22,043	23,100	22,971	23,757
Storage	19,535	21,425	21,942	22,693
Subtotal, Operations and Maintenance	**1,330,260**	**1,285,404**	**1,233,116**	**1,275,508**
Construction	542,286	555,921	693,452	722,256
Readiness in Technical Base and Facilities	**1,872,546**	**1,841,325**	**1,926,568**	**1,997,764**

Secure Transportation Asset

Overview
Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Secure Transportation Asset (STA)			
Operations and Equipment	127,701	138,772	149,018
Program Direction	86,738	96,143	99,027
Total, Secure Transportation Asset	**214,439**	**234,915**	**248,045**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Operations and Equipment				
Operations and Equipment	149,274	144,398	144,660	150,066
Program Direction	101,998	105,058	108,209	111,455
Total, Operations and Equipment	**251,272**	**249,456**	**252,869**	**261,521**

Secure Transportation Asset

Operations and Equipment

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Operations and Equipment			
Mission Capacity	70,107	75,038	84,010
Security/Safety Capability	20,617	26,472	27,001
Infrastructure and C5 Systems	25,978	23,217	23,681
Program Management	10,999	14,045	14,326
Total, Operations and Equipment	**127,701**	**138,772**	**149,018**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Operations and Equipment				
Mission Capacity	82,966	76,764	75,672	79,699
Security/Safety Capability	27,541	28,092	28,654	29,227
Infrastructure and C5 Systems	24,155	24,638	25,131	25,633
Program Management	14,612	14,904	15,203	15,507
Total, Operations and Equipment	**149,274**	**144,398**	**144,660**	**150,066**

Secure Transportation Asset

Program Direction

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Program Direction			
Salaries and Benefits	75,226	81,225	83,311
Travel	10,188	11,331	7,746
Other Related Expenses	1,324	3,587	7,970
Total, Program Direction	**86,738**	**96,143**	**99,027**
Total, Full Time Equivalents	**570**	**647**	**637**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Program Direction				
Salaries and Benefits	85,781	88,323	90,943	93,641
Travel	7,980	8,218	8,465	8,719
Other Related Expenses	8,237	8,517	8,801	9,095
Total, Program Direction	**101,998**	**105,058**	**108,209**	**111,455**
Total, Full Time Equivalents	**637**	**637**	**637**	**637**

Nuclear Counterrorism Incident Response

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Nuclear Counterterrorism Incident Response (Homeland Security)[a]			
Emergency Response (Homeland Security)[a]	132,918	139,048	134,092
National Technical Nuclear Forensics (Homeland Security)[a]	12,557	10,217	11,698
Emergency Management (Homeland Security)[a]	7,428	7,726	7,494
Operations Support (Homeland Security)[a]	8,207	8,536	8,675
International Emergency Management and Cooperation	4,515	7,181	7,139
Nuclear Counterterrorism (Homeland Security)[a]	49,653	49,228	64,036
Total, Nuclear Counterterrorism Incident Response	**215,278**	**221,936**	**233,134**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Nuclear Counterterrorism Incident Response				
Emergency Response (Homeland Security)[a]	137,715	138,359	139,504	141,107
National Technical Nuclear Forensics (Homeland Security)[a]	11,589	11,694	11,577	11,828
Emergency Management (Homeland Security)[a]	7,129	6,629	6,505	6,694
Operations Support (Homeland Security)[a]	8,691	8,799	8,749	9,000
International Emergency Management and Cooperation	7,129	7,139	7,032	7,275
Nuclear Counterterrorism (Homeland Security)[a]	50,661	49,888	61,933	62,082
Total, Nuclear Counterterrorism Incident Response	**222,914**	**222,508**	**235,300**	**237,986**

[a] Office of Management and Budget (OMB) Homeland Security designation.

Facilities and Infrastructure Recapitalization Program

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Facilities and Infrastructure Recapitalization Program			
Operations and Maintenance (O&M)			
Recapitalization	69,226	69,377	79,600
Infrastructure Planning	10,324	8,982	9,400
Facility Disposition	0	5,600	5,000
Subtotal, Operations and Maintenance (O&M)	**79,550**	**83,959**	**94,000**
Construction	67,899	9,963	0
Total, Facilities and Infrastructure Recapitalization Program	**147,449**	**93,922**	**94,000**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Facilities and Infrastructure Recapitalization Program				
Operations and Maintenance (O&M)				
Recapitalization	79,600	86,600	0	0
Infrastructure Planning	9,400	2,400	0	0
Facility Disposition	5,000	5,000		
Subtotal, Operations and Maintenance (O&M)	**94,000**	**94,000**	**0**	**0**
Construction	0	0	0	0
Total, Facilities and Infrastructure Recapitalization Program	**94,000**	**94,000**	**0**	**0**

Site Stewardship

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Site Stewardship			
Operations and Maintenance	0	61,288	90,478
Construction			15,000
Total, Site Stewardship	**0**	**61,288**	**105,478**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Site Stewardship				
Operations and Maintenance	101,929	103,536	174,071	205,802
Construction	0	0	0	0
Total, Site Stewardship	**101,929**	**103,536**	**174,071**	**205,802**

Environmental Projects and Operations

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Environmental Projects and Operations			
Long-Term Stewardship	38,596	0	0
Total, Environmental Projects and Operations	**38,596**	**0**	**0**

Safeguards and Security

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Safeguards and Security (S&S)			
Defense Nuclear Security (Homeland Security)			
Operations and Maintenance	689,510	720,044	667,954
Construction	45,698	49,000	52,000
Total, Defense Nuclear Security	**735,208**	**769,044**	**719,954**
Cyber Security (Homeland Security)	**121,286**	**122,511**	**124,345**
Total, Safeguards and Security	**856,494**	**891,555**	**844,299**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Safeguards and Security (S&S)				
Defense Nuclear Security (Homeland Security)				
Operations and Maintenance	675,229	672,344	671,671	681,259
Construction	55,715	57,265	57,254	59,390
Total, Defense Nuclear Security	**730,944**	**729,609**	**728,925**	**740,649**
Cyber Security (Homeland Security)	**126,046**	**125,822**	**125,707**	**127,189**
Total, Safeguards and Security	**856,990**	**855,431**	**854,632**	**867,838**

Defense Nuclear Security

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Defense Nuclear Security			
Operations and Maintenance (Homeland Security)			
Protective Forces	418,694	453,000	414,166
Physical Security Systems	77,245	74,000	73,794
Transportation	420	0	0
Information Security	25,880	25,300	25,943
Personnel Security	31,263	30,600	30,913
Materials Control and Accountability	35,929	35,200	35,602
Program Management	71,364	83,944	80,311
Technology Deployment, Physical Security	9,431	8,000	7,225
Graded Security Protection Policy (formerly DBT)	19,284	10,000	0
Total, Operations and Maintenance (Homeland Security)	**689,510**	**720,044**	**667,954**
Construction (Homeland Security)	45,698	49,000	52,000
Total, Defense Nuclear Security	**735,208**	**769,044**	**719,954**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Defense Nuclear Security				
Operations and Maintenance (Homeland Security)				
Protective Forces	422,221	414,432	414,617	421,346
Physical Security Systems	71,405	73,987	71,165	72,297
Information Security	26,202	26,464	26,729	26,996
Personnel Security	31,222	31,534	31,849	32,167
Materials Control and Accountability	35,958	36,318	36,681	37,048
Program Management	80,924	82,239	83,186	83,887
Technology Deployment, Physical Security	7,297	7,370	7,444	7,518
Total, Operations and Maintenance (Homeland Security)	**675,229**	**672,344**	**671,671**	**681,259**
Construction (Homeland Security)	55,715	57,265	57,254	59,390
Total, Defense Nuclear Security	**730,944**	**729,609**	**728,925**	**740,649**

Cyber Security

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Cyber Security (Homeland Security)			
Infrastructure Program	93,776	99,011	97,849
Enterprise Secure Computing	25,500	21,500	21,500
Technology Application Development	2,010	2,000	4,996
Total, Cyber Security (Homeland Security)	**121,286**	**122,511**	**124,345**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Cyber Security (Homeland Security)				
Infrastructure Program	99,550	99,326	98,211	99,693
Enterprise Secure Computing	21,500	21,500	22,500	22,500
Technology Application Development	4,996	4,996	4,996	4,996
Total, Cyber Security (Homeland Security)	**126,046**	**125,822**	**125,707**	**127,189**

Science, Technology and Engineering Capability

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Operations and Maintenance	**30,000**	**0**	**20,000**
Total, Science, Technology and Engineering Capability	**30,000**	**0**	**20,000**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Operations and Maintenance	**0**	**0**	**0**	**0**
Total, Science, Technology and Engineering Capability	**0**	**0**	**0**	**0**

Weapons Activities

Congressionally Directed Projects

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Congressionally Directed Projects	**22,836**	**3,000**	**0**

Defense Nuclear Nonproliferation

Overview
Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Defense Nuclear Nonproliferation			
Nonproliferation and Verification Research and Development	356,281	317,300	351,568
Nonproliferation and International Security	150,000	187,202	155,930
International Nuclear Materials Protection and Cooperation	460,592 [a]	572,050	590,118
Elimination of Weapons-Grade Plutonium Production	141,299	24,507	0
Fissile Materials Disposition	41,774	701,900	1,030,713
Global Threat Reduction Initiative	404,640 [b]	333,500	558,838
Congressional Directed Projects	1,903	250	0
Subtotal, Defense Nuclear Nonproliferation	**1,556,489**	**2,136,709**	**2,687,167**
Use of Prior Year Balances	-11,418	0	0
Total, Defense Nuclear Nonproliferation	**1,545,071**	**2,136,709**	**2,687,167**

NOTES: FY 2009 funds appropriated in Other Defense Activities for the Mixed Oxide Fuel Fabrication Facility, and in Weapons Activities for the Waste Solidification Building and Pit Disassembly and Conversion Facility (FY 2009 and FY 2010) are not reflected in the above table.

Public Law Authorization:

Energy and Water and Related Agencies Appropriations Act, 2010 (P.L. 111-85)
National Nuclear Security Administration Act, (P.L. 106-65), as amended
National Defense Authorization Act for Fiscal Year 2010 (P.L. 111-84)

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Defense Nuclear Nonproliferation				
Nonproliferation and Verification Research and Development	315,941	317,558	328,194	351,145
Nonproliferation and International Security	161,083	165,275	169,861	181,741
International Nuclear Materials Protection and Cooperation	570,798	561,790	558,492	623,670
Fissile Materials Disposition	859,375	1,010,642	789,558	743,600
Global Threat Reduction Initiative	599,994	659,926	987,138	1,056,172
Total, Defense Nuclear Nonproliferation	**2,507,191**	**2,715,191**	**2,833,243**	**2,956,328**

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[a] FY 2009 amount includes international contributions of $4,067,065 from Government of Canada, $387,335 from New Zealand, $837,600 from Norway, and $300,000 from South Korea.

[b] FY 2009 amount includes international contributions of $3,918,000 from the Government of Canada, and $5,722,212 from the United Kingdom of Great Britain and Northern Ireland.

Nonproliferation and Verification Research and Development

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Nonproliferation and Verification R&D			
Operations and Maintenance (O&M)			
Proliferation Detection	195,400	181,839	225,004
Homeland Security-Related Proliferation Detection [Non-Add]	[50,000]	[50,000]	[50,000]
Nuclear Detonation Detection	142,421	135,461	126,564
Subtotal, O&M	**337,821**	**317,300**	**351,568**
Construction	18,460	0	0
Total, Nonproliferation and Verification R&D	**356,281**	**317,300**	**351,568**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Nonproliferation and Verification R&D				
Operations and Maintenance				
Proliferation Detection (PD)	182,614	183,549	189,696	202,962
Homeland Security-Related Proliferation Detection [Non-Add]	[50,000]	[50,000]	[50,000]	[50,000]
Nuclear Detonation Detection	133,327	134,009	138,498	148,183
Total, Nonproliferation and Verification R&D	**315,941**	**317,558**	**328,194**	**351,145**

Nonproliferation and International Security

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Nonproliferation and International Security			
Dismantlement and Transparency	47,529	72,763	49,207
Global Security Engagement and Cooperation	44,076	50,708	47,289
International Regimes and Agreements	40,793	42,703	39,824
Treaties and Agreements	17,602	21,028	19,610
Total, Nonproliferation and International Security	**150,000**	**187,202**	**155,930**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Nonproliferation and International Security				
Dismantlement and Transparency	50,832	52,155	53,602	57,351
Global Security Engagement and Cooperation	48,852	50,124	51,514	55,117
International Regimes and Agreements	41,141	42,210	43,383	46,417
Treaties and Agreements	20,258	20,786	21,362	22,856
Total, Nonproliferation and International Security	**161,083**	**165,275**	**169,861**	**181,741**

International Nuclear Materials Protection and Cooperation

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
International Nuclear Materials Protection and Cooperation			
Navy Complex	30,316	33,880	34,322
Strategic Rocket Forces/12th Main Directorate	51,767	48,646	51,359
Rosatom Weapons Complex	76,070	71,517	105,318
Civilian Nuclear Sites	45,542	63,481	59,027
Material Consolidation and Conversion	21,560	13,611	13,867
National Programs and Sustainability	54,901	68,469	60,928
Second Line of Defense	174,844	272,446	265,297
International Contributions	5,592 [a]	0	0
Total, International Nuclear Materials Protection and Cooperation	**460,592**	**572,050**	**590,118**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
International Nuclear Materials Protection and Cooperation				
Navy Complex	31,764	0	0	0
Strategic Rocket Forces/12th Main Directorate	37,830	0	0	0
Rosatom Weapons Complex	52,000	0	0	0
Civilian Nuclear Sites	18,502	0	0	0
Material Consolidation and Conversion	14,306	14,627	14,627	16,433
National Programs and Sustainability	61,967	39,006	39,006	43,623
Second Line of Defense	354,429	508,157	504,859	563,614
International Contributions	0	0	0	0
Total, International Nuclear Materials Protection and Cooperation	**570,798**	**561,790**	**558,492**	**623,670**

[a] FY 2009 amount includes international contributions of $4,067,065 from Government of Canada, $387,335 from New Zealand, $837,600 from Norway, and $300,000 from South Korea.

Elimination of Weapons-Grade Plutonium Production

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Elimination of Weapons-Grade Plutonium Production (EWGPP)			
Zheleznogorsk Plutonium Production Elimination (ZPPEP)	139,282	22,507	0
Crosscutting and Technical Support Activities	2,017	2,000	0
Total, Elimination of Weapons-Grade Plutonium Production (EWGPP)	**141,299**	**24,507**	**0**

Outyear Funding Profile by Subprogram

(dollars in thousands)

	FY 2012	FY 2013	FY 2014	FY 2015
Elimination of Weapons-Grade Plutonium Production	0	0	0	0

Fissile Materials Disposition

Funding Profile by Subprogram

	(dollars in thousands)		
	FY 2009 Current Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Fissile Materials Disposition (FMD)			
U.S. Surplus Fissile Materials Disposition			
Operations and Maintenance (O&M)			
U.S. Plutonium Disposition	0	90,896	278,940
U.S. Uranium Disposition	39,274	34,691	25,985
Supporting Activities	1,500	1,075	0
Subtotal, O&M	**40,774**	**126,662**	**304,925**
Construction	0	574,238	612,788
Total, U.S. Surplus FMD	**40,774**	**700,900**	**917,713**
Russian Surplus FMD			
Russian Materials Disposition	1,000	1,000	113,000
Total, Fissile Materials Disposition	**41,774**	**701,900**	**1,030,713**

Outyear Funding Profile by Subprogram

	(dollars in thousands)			
	FY 2012	FY 2013	FY 2014	FY 2015
Fissile Materials Disposition				
U.S. Surplus Fissile Materials Disposition (O&M)	302,276	482,185	478,897	459,827
Construction	556,099	527,457	309,661	282,773
Russian Surplus Fissile Materials Disposition	1,000	1,000	1,000	1,000
Total, Fissile Materials Disposition	**859,375**	**1,010,642**	**789,558**	**743,600**

Global Threat Reduction Initiative (GTRI)

Funding Profile by Subprogram [a]

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Global Threat Reduction Initiative			
Highly Enriched Uranium (HEU) Reactor Conversion	**76,706**	**102,772**	**119,000**
Nuclear and Radiological Material Removal			
Russian-Origin Nuclear Material Removal	123,083	94,167	145,191
U.S.-Origin Nuclear Material Removal	8,331	9,889	16,500
Gap Nuclear Material Removal	4,982	9,111	108,000
Emerging Threats Nuclear Material Removal	7,600	5,556	16,000
International Radiological Material Removal	21,702	8,333	45,000
Domestic Radiological Material Removal	17,063	17,778	25,000
Subtotal, Nuclear and Radiological Material Removal	**182,761**	**144,834**	**355,691**
Nuclear and Radiological Material Protection			
BN-350 Nuclear Material Protection	50,977	9,109	2,000
International Material Protection	42,909	41,463	57,000
Domestic Material Protection	41,647	35,322	25,147
Subtotal, Nuclear and Radiological Material Protection	**135,533**	**85,894**	**84,147**
Total, Global Threat Reduction Initiative (appropriation)	**395,000**	**333,500**	**558,838**
Funds from International Contributions	**9,640**	**0**	**0**
Total, Global Threat Reduction Initiative Funds Available	**404,640**	**333,500**	**558,838**

[a] FY 2009 amount includes international contributions of $3,918,000 from the Government of Canada, and $5,722,212 from the United Kingdom of Great Britain and Northern Ireland.

Outyear Funding Profile by Subprogram

	(dollars in thousands)			
	FY 2012	FY 2013	FY 2014	FY 2015
Global Threat Reduction Initiative				
HEU Reactor Conversion	**176,000**	**210,000**	**245,000**	**293,000**
Nuclear and Radiological Material Removal				
Russian-Origin Nuclear Material Removal	96,000	70,000	82,000	83,000
U.S.-Origin Nuclear Material Removal	1,000	3,000	1,000	1,000
Gap Nuclear Material Removal	22,000	16,000	27,000	1,000
Emerging Threats Nuclear Material Removal	16,000	16,000	194,000	188,000
International Radiological Material Removal	44,000	39,000	10,000	10,000
Domestic Radiological Material Removal	31,000	31,000	33,000	34,000
Subtotal, Nuclear and Radiological Material Removal	**210,000**	**175,000**	**347,000**	**317,000**
Nuclear and Radiological Material Protection				
BN-350 Nuclear Material Protection	2,000	0	0	0
International Material Protection	100,000	125,000	130,000	143,000
Domestic Material Protection	111,994	149,926	265,138	303,172
Subtotal, Nuclear and Radiological Material Protection	**213,994**	**274,926**	**395,138**	**446,172**
Total, Global Threat Reduction Initiative	**599,994**	**659,926**	**987,138**	**1,056,172**

Congressionally Directed Projects

Funding Profile by Subprogram

(dollars in thousands)

	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Congressionally Directed Projects	**1,903**	**250**	**0**

Naval Reactors

Overview
Appropriation Summary by Program

	(dollars in thousands)		
	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Naval Reactors Development			
Operations and Maintenance (O&M)	771,600	877,533	997,886
Program Direction	34,454	36,800	40,000
Construction	22,000	30,800	32,600
Total, Naval Reactors Development	**828,054**	**945,133**	**1,070,486**

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
FY 2009 Consolidated Appropriations Act (P.L. 111-8)
FY 2010 Energy and Water and Related Agencies Appropriations Act (P.L. 111-85)

Outyear Appropriation Summary by Program

	(dollars in thousands)			
	FY 2012	FY 2013	FY 2014	FY 2015
Naval Reactors Development				
Operations and Maintenance	1,018,634	1,102,978	1,177,817	1,240,430
Program Direction	41,200	42,400	43,700	45,000
Construction	39,900	25,800	4,500	25,100
Total, Naval Reactors Development	**1,099,734**	**1,171,178**	**1,226,017**	**1,310,530**