

Corporate Context for National Nuclear Security Administration (NS) Programs

This section on Corporate Context that is included for the first time in the Department's budget is provided to facilitate the integration of the FY 2003 budget and performance measures. The Department's Strategic Plan published in September 2000 is no longer relevant since it does not reflect the priorities laid out in President Bush's Management Agenda, the 2001 National Energy Policy, OMB's R&D project investment criteria or the new policies that will be developed to address an ever evolving and challenging terrorism threat. The Department has initiated the development of a new Strategic Plan due for publication in September 2002, however, that process is just beginning. To maintain continuity of our approach that links program strategic performance goals and annual targets to higher level Departmental goals and Strategic Objectives, the Department has developed a revised set of Strategic Objectives in the structure of the September 2000 Strategic Plan.

For more than 50 years, America's national security has relied on the deterrent provided by nuclear weapons. Designed, built, and tested by the Department of Energy (DOE) and its predecessor agencies, these weapons helped win the Cold War, and they remain a key component of the Nation's security posture.

The Department's National Nuclear Security Administration (NNSA) now faces a new and complex set of challenges to its national nuclear security missions in countering the threats of the 21st century. One of the most critical challenges is being met by the Stockpile Stewardship program, which is maintaining the effectiveness of our nuclear deterrent in the absence of underground nuclear testing. Another critical challenge is the proliferation of weapons of mass destruction, where nuclear, chemical, or biological weapons or nuclear materials could fall into the wrong hands and be used against U.S. interests, both domestically or internationally. Additionally, international events and crises continue to arise to which the United States must project a forward presence and quickly protect our national interests. The U.S. Navy will meet those military deployment objectives using nuclear-powered submarines and aircraft carriers.

The NNSA was created by Congress through the National Defense Authorization Act for Fiscal Year (FY) 2000 (Public Law 106-065) to bring focus to the management of the nation's defense nuclear programs. Three existing organizations within the Department of Energy (DOE)—Defense Programs, Defense Nuclear Nonproliferation, and Naval Reactors—were combined into a new, separately organized and managed agency headed by an Administrator. The Administrator, who is also an Under Secretary within DOE, has authority over and is responsible for all programs and activities necessary to accomplish the mission of the NNSA.

The vision of the NNSA is to be an integrated nuclear security enterprise, operating an efficient and agile nuclear weapons complex, and recognized as preeminent in technical leadership and program management.

National Nuclear Security Administration (NS) Goal

Strengthen United States security through the military application of nuclear energy and by reducing the global threat from weapons of mass destruction

Strategic Objectives

The National Nuclear Security Administration's business line goal is supported by the following strategic objectives. Offices requesting funding to achieve these objectives are identified with each objective:

NS1: Maintain and enhance the safety, security, and reliability of the nation's nuclear weapons stockpile to counter the threats of the 21st century.

NS2: Detect, prevent, and reverse the proliferation of weapons of mass destruction while promoting nuclear safety worldwide.

NS3: Provide the Navy with safe, militarily effective nuclear propulsion plants and ensure their continued safe and reliable operation.

NS4: Ensure the vitality and readiness of the NNSA's nuclear security enterprise.

NS5: Create a well-managed, responsive and accountable organization.

Budget Summary table

(dollars in thousands)

	FY 2001 Comparable Appropriation	FY 2002 Comparable Appropriation	FY 2003 Request
<i>Office of the Administrator</i>			
§ Program Direction (053)	<u>\$326,148</u>	<u>326,486</u>	<u>\$347,705</u>
	326,148	326,486	347,705
<i>Weapons Activities (053)</i>			
§ Defense Programs	4,531,533	4,811,761	5,116,913
§ Safeguards and Security	411,418	554,881	509,954
§ F&I Recapitalization	<u>8,700</u>	<u>196,800</u>	<u>242,512</u>
Total Weapons Activities	4,951,651	5,563,442	5,869,379
<i>Defense Nuclear</i>			
§ Nonproliferation (053)	864,131	1,026,586	1,113,630
§ Naval Reactors (053)	688,761	689,273	708,020
<i>Other Defense Activities (053)</i>	-3,244	-269	
Total NS	6,827,447	7,605,518	8,038,734

Weapons Activities

Proposed Appropriation Language

For Department of Energy expenses, including the purchase, construction, and acquisition of plant and capital equipment and other incidental expenses necessary for atomic energy defense weapons activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition or condemnation of any real property or any facility or for plant or facility acquisition, construction, or expansion; and the purchase of not to exceed **[11]** *one* passenger motor **[vehicles for replacement only, \$5,429,238,000]** *vehicle, \$5,869,379,000*, to remain available until expended. (*Energy and Water Development Appropriations Act, 2002; additional authorizing legislation required.*)

[For emergency expenses to respond to the September 11, 2001, terrorist attacks on the United States, and for other expenses to increase the security of the Nation’s nuclear weapons complex, for “Weapons Activities”, \$131,000,000, to remain available until expended, to be obligated from amounts made available in Public law 107-38.**]** (*Energy Supplemental Act, 2002.*)

National Nuclear Security Administration

Weapons Activities

Executive Summary

Mission

One of the statutory missions of the National Nuclear Security Administration (NNSA) is to maintain and enhance the safety, reliability and performance of the United States nuclear weapon stockpile to meet national security requirements. The mission is carried out in partnership with the Department of Defense, with NNSA providing research, development and production activities supporting the U.S. nuclear weapon stockpile funded within the Weapons Activities appropriation. This appropriation also supports national assets for secure transportation of weapons, weapon components, and special nuclear materials; assets to respond to incidents involving nuclear weapons and materials; and nuclear weapons complex safeguards and security, including cyber security.

Nuclear Posture Review

NNSA has been a key participant in the Administration's comprehensive Nuclear Posture Review, (NPR). The purpose of this review was to lay out the direction for American nuclear weapons forces over the next five to ten years. The centerpiece of the NPR is the New Triad of flexible response capabilities consisting of the following elements:

- c non-nuclear and nuclear strike capabilities including systems for command and control,
- c active and passive defenses including ballistic missile defenses, and
- c R&D and industrial infrastructure needed to develop, build, and maintain nuclear offensive forces and defensive systems.

Of particular interest to the NNSA is that the New Triad reflects a broad recognition of the importance of a robust and responsive nuclear weapons infrastructure in sustaining deterrence and dissuasion. In this connection, the report notes that the flexibility to sustain our enduring nuclear weapons stockpile, to adapt current weapons to new missions, or to field new weapons, if required, depends on a healthy program for stockpile stewardship and peer-review-based certification as well as a robust infrastructure for nuclear weapons production. It is a key point that not only the forces, but the demonstrable capabilities of the nuclear weapons complex itself, including its ability to sustain and adapt, are required to underpin credible deterrence in a changing security environment.

Most importantly, this review reemphasizes the importance of nuclear weapons to deter the threats of weapons of mass destruction, to assure allies of U.S. security commitments, to hold at risk an adversary's assets and capabilities that cannot be countered through non-nuclear means and to dissuade potential adversaries from developing large-scale nuclear or conventional threats.

To accomplish this goal, the NNSA expects to certify the stockpile through an aggressive science-based Stockpile Stewardship Program without resorting to underground nuclear testing. As discussed in the NPR, the NNSA will seek to reduce the lead-time to carry out a test by working with the DoD to refine test scenarios

and evaluate the cost-/benefit tradeoffs in order to determine, implement, and sustain the optimum test readiness time that best supports the New Triad. The review also reaffirms a stockpile refurbishment plan that has been under development between DoD and DOE and outlines the shape of the nuclear weapons stockpile as we significantly reduce the number of operationally deployed nuclear weapons to the 1,700-2,200 range over the next ten years. The number and condition of warheads to be provided under the NPR is consistent with the plan put forth in this budget request. Simultaneously, the review calls for maintaining a “Responsive Force” which can be used to hedge against unforeseen problems in the deployed stockpile or an unexpected evolution of international relations. In addition, the NPR calls for NNSA to re-establish an advanced concepts effort to ensure that our nuclear weapons capability can respond to a spectrum of threats to U.S. security.

To indefinitely ensure the reliability and performance of this smaller number of weapons, the NPR calls for a modernized responsive nuclear weapons infrastructure to recover and sustain our nuclear weapons capability. Having significantly downsized the footprint of the nuclear weapons complex over the past ten years, a modernized responsive infrastructure means upgrading our key facilities, many of which are now approaching 50 years in age, with a dedicated refurbishment program. It also means accelerating contingency planning for a modern pit facility to address long-term pit replacement needs.

Most importantly, this review calls for a stable, adequately-funded Future Years Nuclear Security Plan (FYNSP) to accomplish these goals.

Strategic Objectives

The Strategic Goals, Strategies and Strategic Indicators developed for the NNSA’s Strategic Plan are the basis for this budget request.

NS-1: Maintain and enhance the safety, security, and reliability of the Nation’s nuclear weapons stockpile to counter the threats of the 21st Century.

This Strategic Objective is supported by the Program Strategic Performance Goals that follow:

NS 1-1: Conduct a program of warhead evaluation, maintenance, refurbishment, and production, planned in partnership with the Department of Defense.

NS 1-2: Develop the scientific, design, engineering, testing, and manufacturing capabilities needed for long-term stewardship of the stockpile.

NS-4: Ensure the vitality and readiness of the NNSA’s nuclear security enterprise.

This Strategic Objective is supported by the Program Strategic Performance Goals that follow:

NS 4-1: Attract and retain the best laboratory and production workforce.

NS 4-2: Provide state-of-the-art facilities and infrastructure supported by advanced scientific and technical tools to meet operational and mission requirements.

NS 4-3: Protect classified information and assets.

Strategy

The nuclear weapons stockpile remains a cornerstone of U.S. national security policy. In 1993, the President and the Congress established the science-based Stockpile Stewardship Program (SSP) with the goal of maintaining high confidence in the stockpile absent underground nuclear testing. Deterrence depends on maintaining a robust and flexible nuclear weapons complex and exercising our capabilities to design, develop, fabricate, and certify new warheads. The Stockpile Stewardship Program involves a wide range of activities designed to maintain the safety, security, and reliability of the stockpile and carried out by both federal and M&O contractor employees. Stockpile Stewardship has both near- and long-term aspects.

Under the direction of the Presidentially-approved Nuclear Weapons Stockpile Plan, the NNSA provides maintenance and day-to-day care; and research, development, engineering, and certification activities to support weapons in the stockpile, as planned in partnership with the DoD, and specified in the NNSA's Production and Planning Directive. The NNSA and the DoD share the responsibility for advising the President, on an annual basis, as to the safety and reliability of the U.S. nuclear weapons stockpile. Using data and experiments, together with validated models, the NNSA will determine if a technical need exists for underground nuclear testing. In addition, research and development in hydrodynamics, engineering science, materials science, high-energy-density physics, and simulation and computing conducted in Campaigns, supports both the ongoing stockpile work and the annual certification process.

The NNSA must also maintain and develop the scientific, engineering, and manufacturing capabilities necessary to sustain that stockpile indefinitely, including the ability to design, produce, and test age-related alterations and new weapons, if required. To provide a sustained basis for future stockpile certification, the NNSA conducts research and development through Campaigns to increase our scientific and technical understanding of the stockpile. Production capabilities are reestablished or developed for warhead maintenance and refurbishment. The NNSA will reestablish the capability to manufacture and certify nuclear weapon primaries (pits) and provide a reliable source of tritium. Finally, the ability to conduct underground nuclear testing, if necessary, is maintained to meet Administration's test readiness posture.

The ability to perform NNSA's core functions for the long term depends on renewing internal capabilities to support national security. Key scientists and engineers who perfected their specialized skills in nuclear weapons development during the era of underground nuclear testing are reaching retirement age. To ensure the availability of top-notch people with a wide range of skills and disciplines for the Stockpile Stewardship Program, the NNSA is providing challenging and rewarding work in a safe and secure environment in concert with recruitment and retention initiatives.

The NNSA must also provide, manage, and maintain the physical infrastructure and facilities required to conduct its nuclear security business. The NNSA is making substantial investments, both in ongoing maintenance and operations and in recapitalization activities, to restore our facilities to ensure adequate capability and compliance with current environmental, safety, and security standards. We are incorporating Integrated Safety Management practices into all of our activities to protect our workers, the public, and the environment.

The NNSA is responsible for the safeguards and security at all NNSA landlord sites. To ensure the protection of classified information and assets, the NNSA supports physical security, personnel security, and cyber security programs. These programs are designed to ensure operations at NNSA facilities meet security

standards; protect classified information, nuclear weapons, weapons components, and special nuclear materials; and ensure the continuing reliability of employees having access to classified matter at all NNSA sites.

Program Strategic Performance Goals and Annual Performance Results and Targets are included in the overview sections of Directed Stockpile Work, Campaigns, Readiness in Technical Base and Facilities, Facilities and Infrastructure Recapitalization Program, Secure Transportation Asset, and Weapons Safeguards and Security. Detailed performance metrics are included in the Detailed Program Justifications for each budget subelement.

Program Overview

The Weapons Activities appropriation consists of six major components: Directed Stockpile Work, Campaigns, Readiness in Technical Base and Facilities, Facilities and Infrastructure Recapitalization Program (formerly Facilities and Infrastructure), Secure Transportation Asset, and Weapons Safeguards and Security. Campaigns consists of six subelements: Science Campaigns, Engineering Campaigns, High Energy Density Physics Campaign (formerly the Inertial Confinement Fusion and High Yield Campaign), Advanced Simulation and Computing Campaign, Pit Manufacturing and Certification Campaign, and Readiness Campaigns. Consistent with the FY 2002 appropriations act, funding for **Weapons Program Direction** was transferred to the Office of the Administrator appropriation account in FY 2002.

These activities ensure the safety, security, and reliability of the warheads in the nuclear weapons stockpile. Along with these activities to maintain specific weapons and systems, investments must be made in our scientific and manufacturing capabilities, as well as facility infrastructure and security, to ensure the capability to accurately assess weapon status, extend weapon lifetime, and certify that the stockpile remains safe, secure, and reliable. Approximately 25,000 contractor employees, under the direction and oversight of NNSA Federal employees, carry out program activities in a safe, secure, and environmentally responsible manner at a nationwide complex of government-owned, contractor-operated nuclear weapons production facilities, national laboratories, and the Nevada Test Site.

Directed Stockpile Work (DSW) maintains confidence in the safety, security, and reliability of the nuclear weapons in the nation's stockpile through maintenance and evaluation of the weapons and planned refurbishments. Early in FY 2001, the NNSA worked with the Nuclear Weapons Council (NWC) to reach agreement on the timing, pace, scope and technical aspects of the life extension activities for the W76, W80, and B61-7/11 (in addition to the ongoing W87 refurbishment). As a result, Directed Stockpile Work accelerated sharply as preparations were made to undertake these life extension activities. The recent Nuclear Posture Review reaffirmed that these actions are consistent with overall national security policy, and a large workload during this five year period is expected.

Activities in **Campaigns** contribute technology needed to carry out the directed stockpile work, as well as foster new ideas and concepts that will provide opportunities for cutting-edge improvements to sustain the stockpile and the program for many years into the future. The Science, High Energy Density Physics, Advanced Simulation and Computing, and Engineering Campaigns activities are essential for certification and life extension of the stockpile. They are designed to allow the NNSA to move to "science-based" judgements for stewardship, utilizing experiments, simulations, and surveillance information in place of nuclear testing. The Science, High Energy Density Physics, and Advanced Simulation and Computing Campaigns provide validated

computational tools that are used to certify a weapon performance and provide laboratory experiments and data for unique high energy density physics and materials phenomena relevant to weapon performance and simulation. Technical areas covered within the campaigns include material properties, high energy density physics, advanced computing, microstructures and microsystems, advanced radiography and nuclear weapons effects. The Engineering Campaigns provide modern engineering devices for control of nuclear weapons functions and the ability to refurbish the stockpile to the schedule negotiated with the DoD. These refurbishments encompass both the maintenance of the stockpile in a state of readiness beyond the original design life, and the development of bringing safety and security technologies and concepts to maturity for use in refurbished weapons. The Pit Manufacturing and Certification Campaign is focused on the near-term development of manufacturing processes and a certification methodology applicable to the W88 pit, with a long range goal of reestablishing the capability to manufacture all pit types within the stockpile; and a plan to design and construct a Modern Pit Facility to support future pit manufacturing needs. The Readiness Campaigns are technology-based efforts designed to maintain and enhance manufacturing and other capabilities needed for the future production of weapon components including some needed for the near-term life extension programs.

The Stockpile Stewardship Program develops and maintains the world-class scientific, engineering, and manufacturing capabilities needed to achieve weapons certification for the long term. Over one fourth of the financial resources in the Weapons Activities appropriation account are devoted to operating key defense facilities funded by the **Readiness in Technical Base and Facilities (RTBF)** activities. Activities funded in RTBF are essential to ensure operations of the facilities required for certification and ensure the vitality of the NNSA national security enterprise. Funding provides for operation and maintenance of these facilities, with a goal of a consistent readiness level. **Construction** projects not specific to an individual campaign are also included in this budget category.

Facilities and Infrastructure Recapitalization Program (FIRP) is a direct-funded recapitalization program which will fund an integrated, prioritized list of maintenance and infrastructure activities outside of base maintenance and infrastructure efforts to significantly increase the operational efficiency and effectiveness of the NNSA sites. FIRP activities are intended to increase the operational effectiveness of all of the sites and will recognize NNSA's landlord responsibilities at these multi-user sites: the Lawrence Livermore, Los Alamos, and Sandia National Laboratories; the Nevada Test Site, including the North Las Vegas Facility; the Kansas City, Pantex, and Y-12 National Security Complex and the Savannah River Site Tritium Facilities. As currently defined, FIRP is limited to Operations and Maintenance funding, which includes capital equipment and general plant projects; however, the program may include infrastructure line item construction projects in the outyears.

The NNSA also provides funding for the **Secure Transportation Asset**, the Departments' network of specially modified transport vehicles, special agents and other personnel and specialized infrastructure for the safe and secure movement of weapons, weapon components and other hazardous materials within the continental United States.

Consistent with the FY 2001 appropriations act, funding for **Weapons Safeguards and Security (S&S)** activities is requested as a separate budget category. Weapons Safeguards & Security will provide the necessary physical, personnel, and cyber security to prevent the theft, loss, or unauthorized use of nuclear weapons, nuclear weapons components, or special nuclear materials, as well as classified and unclassified information and assets throughout the NNSA complex. There are two areas of critical importance to the S&S mission that are funded outside of the Weapons Activities appropriation: **Security Investigations** and

Security Charge for Reimbursable Work in Work For Others. The Department has determined that the NNSA is responsible for funding clearance processing, pre-screening, visitor control, and security training for current employees, new hires, and visitors having access to NNSA sites. However, the actual reimbursement for security investigations to the Office of Personnel Management and the Federal Bureau of Investigation is included in the budget for the Office of Security and Emergency Operations. Safeguards and security costs associated with Work For Others program activities are included in the Weapons S&S budget request and are offset by a bottom line reduction to the Weapons Activities appropriation called “Security Charge for Reimbursable Work.” The budget authority for this portion of the program, as well as the actual offsetting collections, is requested in the Cost of Work for Others program in the Departmental Administration budget request.

FY 2003 Budget Request

The **FY 2003 Budget Request for Weapons Activities** is \$5.869 billion, a 5.5% increase over the FY 2002 comparable appropriation of \$5.563 billion. The FY 2002 comparable appropriation includes \$131 million provided in the FY 2002 Emergency Supplemental Appropriations Act. The FY 2003 Weapons Safeguards and Security (S&S) budget request addresses highest priority S&S requirements needed to protect the nuclear weapons complex. However, the NNSA may need to revisit the funding levels for certain programs within Weapons Safeguards and Security to accommodate emerging issues such as the ongoing costs from the FY 2002 Emergency Supplemental Appropriations Act, the implementation of a new Design Basis Threat (DBT), enhanced site protection strategies, and priority decisions coming from the NNSA Combating Terrorism Task Force.

The NNSA’s **Future-Years Nuclear Security Program (FYNSP)** funding profile for FY 2003 through FY 2007 is included in the NNSA Executive Summary and also in Table 6 in this document. Beyond FY 2003, the Administration will work with the Department of Defense to provide resources to meet NNSA’s requirements outlined in the Nuclear Posture Review. The supporting narrative for the FYNSP will be provided separately from this budget request.

The **FY 2003 Budget Request** supports the requirements of the Stockpile Stewardship Program as defined by Presidential Directives, Department of Defense requirements, and the recently completed Nuclear Posture Review.

This request will:

- C **support** all scheduled alterations, modifications, and limited life component replacements for the current stockpile; and scheduled surveillance, evaluation and dismantlement activities;
- C **support** the scheduled refurbishment workload, including the ongoing W76, W80, and W87 refurbishments, and the new B61-7/11 refurbishment when approved by the Nuclear Weapons Council;
- C **support** an advanced concept initiative, a Phase 6.2/6.2A Study for the Robust Nuclear Earth Penetrator, which will also maintain weapons design capability;
- C **support** planned schedules for development of experimental and computational tools, including related facilities and technologies, necessary to support continued certification of the refurbished weapons and aging weapons components without underground nuclear testing;

- C **maintain** the ability to conduct underground nuclear testing, if necessary, consistent with the current 24-36 month policy requirement, and implement the recommendation from the study as requested by the Nuclear Posture Review to refine test scenarios and evaluate the cost/benefit tradeoffs to sustain the optimum test readiness that best supports the New Triad.
- C **support** manufacture of a certifiable W88 pit in 2003, and continue to develop the capability to certify a pit by 2009, with a goal of achieving an earlier date of 2007;
- C **support** assessment of manufacturing concepts for a Modern Pit Facility;
- C **maintain** warm-standby readiness for all necessary infrastructure at all current facilities and sites;
- C **increase** facilities and infrastructure recapitalization efforts to address issues that are not included in base maintenance and infrastructure efforts;
- C **address** critical skills concerns in Management & Operations contractor employment levels;
- C **provide** safe transportation of nuclear warheads, weapons components and other Departmental materials, and **support** Nuclear Weapons Incident Response national assets;
- C **develop and implement** the highest pay-off engineered solutions to enhance security of nuclear weapons undergoing NNSA over-the-road transportation as part of the Transportation Container Enhancement Program (TCEP);
- C **address** highest priority safeguards and security requirements, and **continue** the cyber security program; and
- C **continue to support** the National Center for Counterterrorism in support of national security needs.

Specifically, within the FY 2003 request of \$1,234.5 million for *Direct Stockpile Work (DSW)*, the growth is driven by the development and production engineering for the life extension programs, increased assessment and certification activities (hydrotests), and additional Stockpile Evaluation activities consistent with results for a program review of the Stockpile Evaluation Program. The NNSA will continue full-scale refurbishment of the W87, including structural retrofits and incorporation of a new gas transfer system. When the Nuclear Weapons Council approves the initiation of development engineering for the B61-7/11, we will focus on canned subassembly aging concerns, and, in parallel, perform a non-destructive evaluation program on the canned-subassembly, as a risk mitigation effort for the B61-7/11. The W80 is currently undergoing a development and production engineering study to extend weapon life, add advanced reservoir technology and enhance surety. The W76 is currently undergoing development engineering to extend warhead life, refurbish the primary and secondary, add a new arming, fuzing and firing system, and add advanced reservoir technology. Production engineering activities are planned to begin in FY 2003 for both the W76 and the W80. The Phase 6.2/6.2A study for the Robust Nuclear Earth Penetrator is supported within this request.

The FY 2003 request of \$2,067.8 million for *Campaigns* continues to support the development of experimental and computational tools needed to support continued certification and life extension of the stockpile. Specifically, the High Energy Density Physics Campaign supports the high energy density physics experimental program and supports the National Ignition Facility project, which is scheduled to be completed at the end of FY 2008, with experimental operations in support of stockpile stewardship scheduled to begin in

2004. The Advanced Simulation and Computing Campaign will continue to develop high fidelity simulation tools and models required for certification of the stockpile, will improve our computing hardware capability at the laboratories during the five year period, and supports the commitment to a 100 teraOPS capability by 2005. The Pit Manufacturing and Certification Campaign supports the manufacture of the first W88 “certifiable” pit in FY 2003.

The FY 2003 request of \$1,688.2 million for ***Readiness in Technical Base and Facilities (RTBF)*** will provide for the applicable share of the operational cost of NNSA facilities and other infrastructure which are required by programs funded within the Weapons Activities account. RTBF also includes supporting activities under Program Readiness, Special Projects, Material Recycle and Recovery, Containers, Storage, Nuclear Weapons Incident Response, and Construction. Funding for the National Center for Counterterrorism is included as a separate activity within Operations of Facilities under RTBF.

As part of the recently completed Nuclear Posture Review (NPR), DoD and the NNSA are directed to work to refine test scenarios and evaluate cost/benefit tradeoffs to determine, implement and sustain the optimum test readiness time that best supports the New Triad. Within the FY 2002 appropriation, a study is underway to implement that direction from the NPR. The conclusions of that study will lead to a final determination on the specific test readiness posture which be implemented through a National Security Policy Directive. Pending completion of this study and specific policy change, the FY 2003 budget contains \$15 million within Program Readiness to begin to implement that change in FY 2003.

RTBF construction funding supports all ongoing projects, as well as initiating several new line items:

03-D-101, Sandia Underground Reactor Facility (SURF) will provide a modern, secure, underground facility to house the existing Sandia Pulse Reactor at significantly reduced security costs.

03-D-103, Project Engineering and Design, will initiate design for four new subprojects: a new Chemistry and Metallurgy Research (CMR) Building Replacement at Los Alamos National Laboratory; Building 12-64 Production Bays Upgrade at Pantex; and the Energetic Materials Processing Center at Site 300 and the Tritium Facility Modernization project, both at the Lawrence Livermore National Laboratory.

03-D-121, Gas Transfer Capacity Expansion will provide the Kansas City Plant with the required resources to support new designs in reservoir production in addition to the existing production schedules.

03-D-122, Purification Prototype Facility will re-establish the wet chemistry process controls and process-prove-in for special nuclear materials production capability at the Y-12 National Security Complex.

03-D-123, Special Nuclear Material Component Requalification Facility will provide the Pantex Plant with Pit Recertification/Requalification capabilities as required for the W76 program and W80 future work.

In response to the direction included in the FY 2002 Energy and Water Development Appropriations Act conference report, the DOE Office of Management, Budget and Evaluation is currently finalizing Departmental reporting methodologies to implement the new congressional requirements concerning the elimination of excess facilities. NNSA will report the elimination of excess facilities for these new construction projects consistent with this guidance.

The FY 2003 request of \$242.5 million for the ***Facilities and Infrastructure Recapitalization Program (FIRP)*** increases the recapitalization efforts initiated with the FY 2001 Emergency Supplemental

Appropriation Act and continued with the FY 2002 Energy and Water Development Appropriations Act. The current plan for this program anticipates annual funding of between \$200 million and \$500 million annually, and is designed to stabilize the infrastructure, and then shift the FIRP funding and business practices back to the base program over about a 10 year period.

For *Secure Transportation Asset*, the FY 2003 request of \$155.4 million provides for the transportation of Departmental materials in a safe, secure manner and maintains the fleet and associated Federal Agent personnel.

The FY 2003 request of \$510.0 million for *Weapons Safeguards & Security* (S&S) addresses highest priority S&S requirements needed to protect the nuclear weapons complex. However, the NNSA may need to revisit the funding levels for certain programs within Weapons Safeguards and Security to accommodate emerging issues such as the ongoing costs from the FY 2002 emergency supplemental, the implementation of a new Design Basis Threat (DBT), enhanced site protection strategies, and priority decisions coming from the NNSA Combating Terrorism Task Force.

Major Changes in FY 2003

Weapons Systems Cost Data

As requested in the FY 2002 Energy and Water Development Appropriation Act conference report, weapons systems cost data for FY 2003 are provided in the Directed Stockpile Work section of this request. In addition, nuclear weapons acquisition costs for weapons systems in Phase 6.3 and beyond (W87, W76 and W80 Life Extension Programs) will be provided in a separate, classified document.

Budget Element Title Changes

This request proposes title changes for three budget elements. The proposed changes are intended to more accurately reflect the work being done in these areas; there is no movement of program activities with these title changes. First, we are proposing to change the name of the **Inertial Confinement Fusion and High Yield** campaign to the **High Energy Density Physics** (HEDP) campaign. During FY 2001, NNSA conducted a major review and submitted a detailed report on the role of high-energy-density-physics and the National Ignition Facility (NIF) in Stockpile Stewardship in response to a Congressional requirement to evaluate full-scale NIF versus possible alternatives. The review concluded that a vigorous HEDP program is an essential component of the Stockpile Stewardship Program. The baseline HEDP program, including completion of the 192 beam NIF, on the approved baseline, meets Stockpile Stewardship Program requirements and provides the appropriate path forward. As a result of this review, the title of this campaign is changed to more accurately reflect the mission of the campaign in relation to the overall goals of Stockpile Stewardship. Also, we are proposing to change the name of the Secondary Readiness campaign to the **Stockpile Readiness** campaign. A 90-Day Study conducted on the Secondary Readiness Campaign concluded that the scope of the campaign is much broader than the current title suggests. The scope, as identified in the Program Plan, supports many aspects of today's stockpile. Consequently, the campaign name is being changed to **Stockpile Readiness** campaign which is more indicative of its scope. Finally, we are proposing to change **Facilities and Infrastructure** to **Facilities and Infrastructure Recapitalization Program** to distinguish the NNSA recapitalization program from other facilities and infrastructure efforts and/or crosscuts within the Department.

Program Shifts

Consistent with the FY 2002 Energy and Water Development Appropriations Act, funding for **Weapons Program Direction** has been transferred to the Office of the Administrator appropriation account. In FY 2003, the funding for the aviation contractor services is being requested in **Secure Transportation Asset**, instead of Special Projects, under **Readiness in Technical Base and Facilities**.

Administrative Control of Funds Level

The FY 2002 Energy and Water Development Appropriation Act provided the following limited reprogramming authority thresholds: Directed Stockpile Work, Science Campaigns, Engineering Campaigns, Inertial Confinement Fusion, Advanced Simulation and Computing, Pit Manufacturing and Certification, Readiness Campaigns, and Readiness in Technical Base and Facilities - Operations and Maintenance. Consistent with Congressional report language, these thresholds are being implemented as an administrative control of funds levels for FY 2002 execution and are providing the needed flexibility to manage these programs. For the FY 2003, the detailed budget justification for Directed Stockpile Work, Campaigns, and Readiness in Technical Base and Facilities is still provided at the lowest level of detail, and cost reporting will also continue at the lower levels. The limited reprogramming authority and the internal reprogramming authority provided in the FY 2002 Energy and Water Development Appropriations Act, Public Law, 107-66, will provide the flexibility to address emerging needs, avoid the need for an excessive number of reprogramming requests, and negate the need for technical amendments throughout the fiscal year. Congressional notification of any changes implemented within the limited reprogramming authority will occur within 30 days of the action.

FY 2001/FY 2002 Emergency Supplemental

On September 18, 2001, the FY 2001 Emergency Supplemental Appropriations Act for Recovery from and Response to Terrorist Attacks on the United States, Public Law 107-38, was enacted. Of the \$40 billion appropriated, NNSA received an additional \$5 million in Weapons Activities, Safeguards and Security O&M, to cover extraordinary costs associated with the enhanced security posture needed to assure continuity of operations during, and immediately after, the September 11th terrorist attacks. These funds are reflected in the FY 2001 Comparable Appropriation column of this budget request. In addition, the FY 2002 Emergency Supplemental, Public Law 101-117, provided \$131 million to enhance the security posture at DOE/NNSA sites, accelerate planned upgrades to the Secure Transportation Asset, and accelerate the deployment of cyber security technologies at all NNSA sites to prevent unauthorized access or disruption of information systems. These funds are reflected in the FY 2002 Adjustments column of this budget request.

Use of Prior Year Balances

No prior year balances are expected to be available to finance the FY 2003 Request.

Tabular Information

Tables displaying the budget request by program and by site are included on the following pages.

Table 1
Weapons Activities Account Summary
(dollars in thousands)

	FY 2001 Comparable Appropriation	FY 2002 Original Appropriation	FY 2002 Adjustments	FY 2002 Comparable Appropriation	FY 2003 Request	Change %
Operations and Maintenance	4,416,396	4,942,787	60,202	5,002,989	5,279,573	5.5%
Construction	577,825	595,436	(5,998)	589,438	618,791	5.0%
Subtotal	4,994,221	5,538,223	54,204	5,592,427	5,898,364	5.5%
Security Charge for Reimbursable Work	(28,923)	(28,985)	0	(28,985)	(28,985)	0.0%
General Reduction	0	(80,000)	80,000	0	0	0.0%
Use of Prior Year Balances	(13,647)	0	0	0	0	0.0%
Total, Weapons Activities	4,951,651	5,429,238	134,204	5,563,442	5,869,379	5.5%

Table 2
Program Funding - Summary

(dollars in thousands)

	FY 2001 Comparable Appropriation	FY 2002 Original Appropriation	FY 2002 Adjustments	FY 2002 Comparable Appropriation	FY 2003 Request	Change %
Directed Stockpile Work	934,393	1,045,814	-1,584	1,044,230	1,234,467	18.2%
Science Campaigns	237,524	269,703	-3,791	265,912	235,468	-11.4%
Engineering Campaigns . . .	240,076	245,225	-23,283	221,942	239,410	7.9%
High Energy Density Physics	428,480	506,443	-1,070	505,373	451,793	-10.6%
Advanced Simulation and Computing	746,478	729,847	-12,208	717,639	724,862	1.0%
Pit Manufacturing and Certification	157,181	219,000	-24,539	194,461	194,484	0.0%
Readiness Campaigns	208,905	196,886	-2,095	194,791	221,817	13.9%
Readiness in Tech Base and Facilities	1,494,559	1,553,124	-18,244	1,534,880	1,688,229	10.0%
Facilities & Infrastructure Recapitalization Program . .	8,700	200,000	-3,200	196,800	242,512	23.2%
Secure Transportation Asset	126,507	123,300	38,218	161,518	155,368	-3.8%
Weapons Safeguards and Security	411,418	448,881	106,000	554,881	509,954	-8.1%
Subtotal	4,994,221	5,538,223	54,204	5,592,427	5,898,364	5.5%
Security Charge for Reimbursable Work	(28,923)	(28,985)	0	(28,985)	(28,985)	0.0%
General Reduction	0	(80,000)	80,000	0	0	0.0%
Use of Prior Year Balances	(13,647)	0	0	0	0	0.0%
Total, Weapons Activities	4,951,651	5,429,238	134,204	5,563,442	5,869,379	5.5%

Table 3
Site Funding Estimates
Total Weapons Activities

(dollars in thousands)

	FY 2001	FY 2002	FY 2003	\$ Change	% Change
Albuquerque Operations Office					
Albuquerque Operations Office	176,805	182,529	171,603	(10,926)	-6.0%
Kansas City Plant	356,648	354,474	379,111	24,637	7.0%
Los Alamos National Laboratory	1,176,487	1,128,606	1,207,910	79,304	7.0%
Pantex Plant	316,792	352,832	366,918	14,086	4.0%
Sandia National Laboratories	887,570	1,001,401	1,134,563	133,162	13.3%
Subtotal, Albuquerque Ops Office	2,914,302	3,019,842	3,260,105	240,263	8.0%
Chicago Operations Office	13,667	2,701	2,384	(317)	-11.7%
Idaho Operations Office	2,000	2,074	0	(2,074)	-100.0%
National Energy Technology National	3,585	0	0	0	0.0%
Nevada Operations Office	265,947	275,237	273,244	(1,993)	-0.7%
Oak Ridge Operations Office					
Y-12 National Security Complex	459,354	563,416	620,600	57,184	10.2%
OR Science & Technology Institute	150	149	149	0	0.0%
Oak Ridge National Laboratory	20,708	20,872	21,180	308	1.5%
Oak Ridge Operations Office	56,182	2,931	5,664	2,733	93.2%
Subtotal, Oak Ridge Operations Office	536,394	587,368	647,593	60,225	10.3%
Oakland Operations Office					
General Atomics	9,785	7,558	8,695	1,137	15.0%
Lawrence Berkeley National Laboratory	5,615	0	0	0	0.0%
Lawrence Livermore National Laboratory	858,871	940,986	943,605	2,619	0.3%
Naval Research Laboratory	24,705	21,287	10,000	(11,287)	-53.0%
Oakland Operations Office	5,881	6,994	7,442	448	6.4%
University of Rochester	33,150	34,693	36,400	1,707	4.9%

	FY 2001	FY 2002	FY 2003	\$ Change	% Change
Subtotal, Oakland Operations Office	938,007	1,011,518	1,006,142	(5,376)	-0.5%
Richland Operations Office					
Pacific Northwest Laboratory	43,090	3,998	0	(3,998)	-100.0%
Subtotal, Richland Operations Office	43,090	3,998	0	(3,998)	-100.0%
Savannah River Operations Office					
Savannah River Operations Office	5,888	4,710	0	(4,710)	-100.0%
Savannah River Site	231,806	237,878	249,622	11,744	4.9%
Subtotal, Savannah River Ops Office	237,694	242,588	249,622	7,034	2.9%
Headquarters	39,535	447,101	459,274	12,173	2.7%
Subtotal	4,994,221	5,592,427	5,898,364	305,937	5.5%
Use of Prior Year Balances	(13,647)	0	0	0	0.0%
Security Charge for Reimbursable Work	(28,923)	(28,985)	(28,985)	(28,985)	0.0%
TOTAL WEAPONS ACTIVITIES	4,951,651	5,563,442	5,869,379	305,937	5.5%

Table 4
Detailed Program Funding Summary

(\$ in Thousands)

	FY 2001	FY 2002	FY 2003	Change \$	Change %
Directed Stockpile Work					
Stockpile R&D	263,470	357,014	467,149	110,135	30.8%
Stockpile Maintenance	335,315	347,963	401,157	53,194	15.3%
Stockpile Evaluation	160,436	174,391	197,184	22,793	13.1%
Dismantlement/Disposal	24,488	26,342	24,378	(1,964)	-7.5%
Field Engineering, Training & Manuals	6,229	6,270	6,893	623	9.9%
Production Support	144,455	132,250	137,706	5,456	4.1%
Total, DSW	934,393	1,044,230	1,234,467	190,237	18.2%
Campaigns					
Primary Certification	45,396	50,848	47,159	(3,689)	-7.3%
Dynamic Materials Properties	66,795	90,282	87,594	(2,688)	-3.0%
Advanced Radiography	83,613	82,343	52,925	(29,418)	-35.7%
Sec Certif & Nuclear Systems Margins	41,720	42,439	47,790	5,351	12.6%
Subtotal, Science Campaigns	237,524	265,912	235,468	(30,444)	-11.4%
Enhanced Surety	30,543	32,197	37,713	5,516	17.1%
Weapons System Engineering Certification	15,330	25,726	27,007	1,281	5.0%
Nuclear Survivability	15,097	21,902	23,394	1,492	6.8%
Enhanced Surveillance	103,148	73,685	77,155	3,470	4.7%
Advanced Design & Production Technologies	75,958	68,432	74,141	5,709	8.3%
Subtotal, Engineering Campaigns	240,076	221,942	239,410	17,468	7.9%
High Energy Density Physics	428,480	505,373	451,793	(53,580)	-10.6%
Advanced Simulation & Computing	746,478	717,639	724,862	7,223	1.0%
Pit Manufacturing and Certification	157,181	194,461	194,484	23	0.0%
Stockpile Readiness	31,087	46,315	61,027	14,712	31.8%
High Explosives Readiness	3,395	6,722	12,093	5,371	79.9%
Nonnuclear Readiness	2,939	17,857	22,398	4,541	25.4%
Materials Readiness	6,163	1,188	0	(1,188)	-100.0%
Tritium Readiness	165,321	122,709	126,299	3,590	2.9%
Subtotal, Readiness Campaigns	208,905	194,791	221,817	27,026	13.9%

	FY 2001	FY 2002	FY 2003	Change \$	Change %
Total, Campaigns	2,018,644	2,100,118	2,067,834	(32,284)	-1.5%
Readiness in Technical Base & Facilities					
Operations of Facilities	882,842	903,221	949,920	46,699	5.2%
Program Readiness	175,131	192,305	208,089	15,784	8.2%
Special Projects	63,942	37,909	37,744	(165)	-0.4%
Material Recycle and Recovery	83,461	94,268	98,816	4,548	4.8%
Containers	22,633	7,990	17,721	9,731	121.8%
Storage	15,618	10,398	14,593	4,195	40.3%
Nuclear Weapons Incident Response	85,774	89,923	91,000	1,077	1.2%
Construction	165,158	198,866	270,346	71,480	35.9%
Total, Readiness in Technical Base & Facilities	1,494,559	1,534,880	1,688,229	153,349	10.0%
Facilities & Infrastructure Recapitalization Program	8,700	196,800	242,512	45,712	23.2%
Secure Transportation Asset					
Program	87,473	114,886	100,863	(14,023)	-12.2%
Program Direction	39,034	46,632	54,505	7,873	16.9%
Total, Secure Transportation Asset	126,507	161,518	155,368	(6,150)	-3.8%
Weapons Safeguards and Security					
Physical Security	368,514	457,281	428,281	(29,000)	-6.3%
Cyber Security	22,194	88,000	72,773	(15,227)	-17.3%
Construction	20,710	9,600	8,900	(700)	-7.3%
Total, Weapons Safeguards and Security	411,418	554,881	509,954	(44,927)	-8.1%
SUBTOTAL	4,994,221	5,592,427	5,898,364	305,937	5.5%
Use of Prior Year Balances	(13,647)	0	0	0	0.0%
Security Charge for Reimbursable Work	(28,923)	(28,985)	(28,985)	0	0.0%
Total, Weapons Activities	4,951,651	5,563,442	5,869,379	305,937	5.5%

Table 5
FY 2003 Construction Project Summary

(\$ in Thousands)

Project	Name	Site	TEC	Prior Years	FY 2003
03-D-101	Sandia Underground Reactor Facility	SNL	28,406 ^a	0	2,000
03-D-103	Project Engineering and Design	VL	63,709	0	15,539
03-D-121	Gas Transfer Capacity Expansion	KC	30,200 ^a	0	4,000
03-D-122	Purification Prototype Facility	Y-12	33,493 ^a	0	20,800
03-D-123	SNM Component Requalification Facility	PX	11,300 ^a	0	3,000
02-D-103	Project Engineering and Design	VL	83,275	22,647	27,245
02-D-105	Engineering Technology Complex Upgrade	LLNL	26,700 ^a	4,674	10,000
02-D-107	Electrical Power Systems Safety, Communications and Bus Upgrades	NV	16,531 ^a	3,451	7,500
01-D-101	Distributed Information Systems Laboratory	SNL	36,300	10,695	13,305
01-D-103	Project Engineering and Design	VL	56,086	38,512	6,164
01-D-107	Atlas Relocation to the Nevada Test Site	NV	16,312 ^a	10,989	4,123
01-D-108	Microsystems and Engineering Sciences Applications	SNL	453,000 ^a	73,000	75,000
01-D-124	Highly Enriched Uranium Materials Facility	Y-12	119,949	17,710	25,000
01-D-126	Weapons Evaluation Test Laboratory	SNL	22,181	10,693	8,650
01-D-800	Sensitive Compartmented Information Facility	LLNL	24,597	14,986	9,611
00-D-103	Terascale Simulation Facility	LLNL	92,117	28,859	35,030
00-D-107	Joint Computational Engineering Laboratory	SNL	28,855	21,855	7,000
99-D-103	Isotope Sciences Facility	LLNL	17,367	13,356	4,011
99-D-104	Protection of Real Property (Roof Reconstruction - PH II)	LLNL	19,886	10,471	5,915
99-D-127	SMRI-Kansas City Plant	KC	120,420	76,349	29,900
99-D-128	SMRI-Pantex Plant	PX	13,218	12,811	407
	Nuclear Materials Safeguards and Security Upgrades			48,560	8,900
99-D-132	Project	LANL	61,143		
98-D-123	SMRI -Tritium Facility Modernization and Consolidation	SRS	113,613	103,132	10,481
98-D-125	Tritium Extraction Facility	SRS	323,000	204,485	70,165
96-D-102	Stockpile Stewardship Facility Revitalization PH VI	SNL	71,725	68,725	1,000
96-D-111	National Ignition Facility	LLNL	2,094,897	1,340,713	214,045
	TOTAL				618,791

^a TEC includes design funding appropriated in Project Engineering and Design (PED) line items (01-D-103, 02-D-103, or 03-D-103).

Table 6
Outyear Funding by Decision Unit - Summary

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Directed Stockpile Work	1,234,467	1,237,437	1,225,188	1,202,356	1,214,114
Campaigns	2,067,834	2,159,324	2,240,194	2,231,773	2,254,914
Readiness in Technical Base & Facilities (RTBF)	1,688,229	1,656,860	1,652,029	1,778,264	1,827,197
Facilities & Infrastructure Recapitalization Program	242,512	268,531	309,065	344,253	379,925
Secure Transportation Asset	155,368	135,773	137,332	137,364	138,431
Safeguards & Security	509,954	540,930	542,942	530,663	527,042
Subtotal, Weapons Activities	5,898,364	5,998,855	6,106,750	6,224,673	6,341,623
Offset for Safeguards and Security Reimbursable	(28,985)	(29,855)	(30,750)	(31,673)	(32,623)
Total, Weapons Activities	5,869,379	5,969,000	6,076,000	6,193,000	6,309,000

Beyond FY 2003, the Administration will work with the Department of Defense to provide resources to meet NNSA's requirements outlined in the Nuclear Posture Review.

Site Descriptions

Stockpile Stewardship activities are conducted predominantly at the three weapons laboratories, four production facilities, and the Nevada Test Site. The three weapons laboratories include: Lawrence Livermore National Laboratory in California and Los Alamos National Laboratory in New Mexico, both operated by the University of California; and Sandia National Laboratories in California and New Mexico, operated by Lockheed Martin. The four production facilities include: Kansas City Plant in Kansas City, Missouri, operated by Honeywell; the Pantex Plant in Amarillo, Texas, operated by BWXT Pantex; the Y-12 National Security Complex-Oak Ridge, Tennessee, operated by BWXT Y-12; and the Savannah River Site in Aiken, South Carolina, operated by Westinghouse. The Nevada Test Site is operated by Bechtel/Nevada, Inc. Funding is also provided to the University of Rochester, the Naval Research Laboratory, and General Atomics through the High Energy Density Physics Campaign.

Kansas City Plant

The Kansas City Plant is located on 141 acres of the Bannister Federal Complex within the city limits of Kansas City, Missouri, about 12 miles south of downtown. The Kansas City Plant is the main facility in the nuclear weapons complex for the manufacture and procurement of nonnuclear components for nuclear weapons, including electrical, electronic, electromechanical, mechanical, plastic, and nonfissionable metal parts. The broad range of components and devices procured from U.S. industry is supported by an extensive system to qualify suppliers and accept products.

The Kansas City Plant provides a broad range of standard industrial processes (e.g., plating, machining, metal deposition, molding, painting, heat treating, and welding), some of which are uniquely tailored to meet special weapon reliability requirements. The Kansas City Plant evaluates components and subsystems removed from the stockpile for reuse or testing. The plant is participating with the other plants and laboratories in the Enhanced Surveillance Campaign to predict component and material lifetimes, critical elements of the Stockpile Life Extension Program, the Advanced Design and Production Technologies Campaign to develop modular, scalable, and environmentally sound manufacturing processes, and the Nonnuclear Readiness Campaign to identify, acquire, and sustain technical capabilities and production capabilities to produce nonnuclear products for DSW.

Lawrence Livermore National Laboratory

The Lawrence Livermore National Laboratory (LLNL), was established as a nuclear weapons design laboratory in 1952. It is located on 1.3 square miles in Livermore, California. It has an auxiliary testing range, Site 300, located on 8 square miles situated about 18 miles east of the main site. LLNL's primary mission is to support DOE's Stockpile Stewardship Program. The laboratory brings to this mission extensive experience in supercomputing and laser technology, as well as a broad range of world-class science and engineering capabilities, including nuclear science and technology and advanced sensors and instrumentation. LLNL also supports high explosive safety and assembly/disassembly operations at the Pantex Plant, and oversight of uranium and case fabrication and processing technology with support from the Y-12 National Security Complex and LANL. LLNL has demonstrated successes in assembling multi-disciplinary approaches, applying expertise in advanced defense technologies, energy, environment, biosciences, and basic science, to complex national issues.

Among the major specialized facilities supporting LLNL's programmatic efforts are the ASCI Blue Pacific and White computer systems for high-fidelity weapon simulation, the High Explosive Applications Facility for energetic materials research, and the Flash X-ray Facility for hydrodynamic tests. The Nova laser, previously used for inertial fusion and weapon physics research, was shut down on May 27, 1999, as planned, to support National Ignition Facility (NIF) operations.

New projects are underway to prepare LLNL's capabilities for its critical responsibilities to maintain the nuclear deterrent without nuclear testing. The NIF has been under construction since June 1997 and conventional construction was completed in FY 2001. The NIF will be the world's largest and most powerful laser facility when completed in FY 2008. Initial stockpile stewardship experiments are planned to begin in FY 2004. Design of the Terascale Simulation Facility began in FY 2000; construction is planned to start in mid-FY 2002.

Los Alamos National Laboratory

The Los Alamos National Laboratory, established as a nuclear weapons design laboratory in 1943, is located on about 28,000 acres adjacent to the town of Los Alamos, New Mexico, which is approximately 25 miles northwest of Santa Fe.

The core competencies at LANL supporting the Stockpile Stewardship Program include theory, modeling and simulation, and high-performance computing to model a broad range of physical, chemical, and biological processes; complex experiments and measurements; nuclear and advanced materials; and nuclear weapons science and technology including the physics of nuclear weapons design and large-scale calculations of weapons phenomena. LANL also possesses unique capabilities in neutron science required for stockpile stewardship and enhanced surveillance, and shares with LLNL and the Sandia National Laboratories (SNL), the responsibility for the safety, reliability, and performance of the Nation's nuclear weapons. Other activities include plutonium fabrication and processing technology development; oversight of tritium reservoir surveillance, testing, and tritium recycle technology; support of high explosive science focused on safety, reliability and performance; detonator development, production, and surveillance; beryllium fabrication; neutron tube target loading, and pit component production and surveillance.

Among the major specialized facilities at LANL are the TA-55 Plutonium Facility for surveillance of plutonium pits and plutonium pit manufacturing, actinide research, and nuclear waste research and the Los Alamos Neutron Science Center user facility for supporting advanced materials science, nuclear science and particle-beam accelerator technology, in addition to weapons surveillance. The first axis of the Dual Axis Radiographic Hydrodynamic Test facility became operational for experimental use in FY 1999; the second axis is currently 80% complete. Generation of the first electrons from the injector are planned for late FY 2002, and production of an electron beam the entire length of the second axis is scheduled for early 2003. In addition, the Strategic Computing Complex will be completed in FY 2002 to house the next generation 30 TeraOps ASC supercomputer.

A plutonium pit manufacturing capability is being reestablished at LANL to replace units destructively tested in the surveillance program and to replace pits in the future should surveillance indicate a problem with a pit.

Nevada Test Site

The Nevada Test Site (NTS), established in 1950, encompasses approximately 867,000 acres in Nye County in southern Nevada, about 65 miles northwest of Las Vegas. Since the U.S. nuclear testing moratorium went into effect in early October 1992, no nuclear tests have been conducted by the United States.

The core mission at the NTS is to maintain the capability to conduct an underground nuclear test within 2-3 years of any such direction by the President. To fulfill this mission, the necessary NTS infrastructure, facilities, and technical personnel are supported through stewardship experiments and exercises, if needed.

Subcritical experiments, sponsored by the nuclear weapons design laboratories (LANL and LLNL), serve a dual purpose of providing experimental data and exercising nuclear testing personnel skills. These experiments are the primary basis of maintaining nuclear test readiness. As indicated earlier in this document, the Nuclear Posture Review requires the DoD and the NNSA to work to refine test scenarios and evaluate cost/benefit tradeoffs in order to determine, implement, and sustain the optimum test readiness time that best supports the Triad.

The Nevada Center for Counterterrorism is a new initiative to provide facilities at the Nevada Test Site for training, exercises, and intelligence support activities in support of emerging national security needs.

Pantex Plant

The Pantex Plant is located on approximately 10,177 acres about 17 miles northeast of Amarillo, Texas. Pantex is the only facility in the complex for quantity assembly/disassembly of nuclear weapons.

Plutonium pits from dismantled weapons are stored at Pantex. The site has been designated as the permanent location for strategic reserve pit storage and the interim storage location for surplus pits resulting from dismantlement activities and the planned closure of the Rocky Flats Site.

Pantex also fabricates high explosives used in nuclear weapons and performs modifications and surveillance of nuclear weapons scheduled to remain in the enduring stockpile.

Starting in 1999, the assembly/disassembly and the high explosives fabrication facilities are being consolidated and modernized to support the future stockpile. This downsizing will involve modifications and consolidations within the existing footprint, yielding a more efficient plant operation.

Sandia National Laboratories

Sandia National Laboratories (SNL) are located on about 18,000 acres on the Kirtland Air Force Base military reservation about 6.5 miles east of downtown Albuquerque, New Mexico, with additional smaller facilities in Livermore, California, and in Tonopah, Nevada.

SNL is responsible for the nonnuclear components and systems engineering for all nuclear weapons, and works with the DoD in the areas of weapon requirements, system design, logistics, surveillance, training, and dismantlement. SNL manufactures certain nonnuclear components including neutron generators and is capable of providing an assured source of radiation hardened electronics. SNL provides unique capabilities in advanced manufacturing technology, microelectronics, and photonics and maintains distinctive competencies in engineered materials and processes, computational and information sciences, engineering sciences, and pulsed-power technology. Distributed Computing and Distance Computing, a component of the Advanced Simulation and Computing campaign, will originate at SNL.

Among the major specialized facilities at SNL are a Microelectronics Development Laboratory, an Advanced Manufacturing Processes Laboratory for rapid prototyping and assessing quality and reliability, a Robotics Manufacturing Science and Engineering Laboratory supporting intelligent and agile manufacturing, pulsed power accelerators for high energy density physics research and for testing and development of defense components, and the Neutron Generator Facility for the production of war-reserve neutron generators.

The Joint Computational Engineering Laboratory and the Distributed Information Systems Laboratory will provide new research facilities to develop and implement high performance distributed information systems through secure networks. Also, the Microsystems and Engineering Sciences Applications (MESA) Complex is a proposed state-of-the-art national complex that will provide for the design, integration, prototyping and fabrication, and qualification of microsystems into weapon components, subsystems, and systems within the stockpile.

Savannah River Site

The Savannah River Site (SRS) occupies approximately 198,000 acres about 12 miles south of Aiken, South Carolina, on the state line with Georgia. Augusta, Georgia is about 16 miles northwest of the site. The primary mission at SRS is now environmental remediation of the former special nuclear materials infrastructure. SRS processes and stores nuclear materials in support of the national defense and nuclear non-proliferation activities, including legacy material disposition. The site also develops and deploys technologies to improve the environment and treat nuclear and hazardous wastes.

SRS is NNSA's center for the supply of tritium to the enduring nuclear weapons stockpile. SRS is the nation's only facility for recycling and reloading of tritium from the weapons stockpile, as well as the unloading and surveillance of tritium reservoirs. A new tritium extraction facility is being constructed at SRS to extract new tritium that will be created by TVA's light-water reactors starting in November 2003. SRS tritium facilities are in the process of being upgraded and consolidated to continue to process the nation's tritium.

Y-12 National Security Complex

The Y-12 National Security Complex is located on about 800 acres of the almost 35,000-acre Oak Ridge Reservation located about 20 miles west of Knoxville, Tennessee. Activities conducted at the Y-12 National Security Complex include manufacturing and reworking nuclear weapon components, dismantling nuclear weapon components returned from the national arsenal, serving as the nation's storehouse of special nuclear materials, and providing special production support to other programs.

Through the Stockpile Readiness Campaign, the Y-12 National Security Complex will be modernized and critical production capability will be restored or replaced to support mission requirements. This involves virtually all new processing, machining and inspection equipment required for the planned Life Extension Program.

All Other Sites

Stockpile Stewardship activities are also conducted at several other sites. Recovery of actinide materials and fabrication of californium sources under the Materials Readiness Campaign take place at the **Oak Ridge National Laboratory**. Inertial fusion research is conducted at the **Naval Research Laboratory**, through the use of its Krypton-fluoride Nike laser. This research will contribute to the direct drive application at the National Ignition Facility and, beginning in FY 2003, does not support development of the Krypton-fluoride

Nike laser for other applications. In addition, the laboratory has strong capabilities in code development and atomic physics. The **University of Rochester's** Laboratory for Laser Energetics in Rochester, New York, operates the 60-beam glass laser, Omega, primarily for research on direct drive laser fusion. In addition, the Omega facility is used to field weapons physics experiments designed by scientists from LLNL and LANL. With the shutdown of the Nova laser at LLNL, Omega is being used more extensively, pending transition to NIF operations. **General Atomics**, located in La Jolla, California, is the current contractor supplying the national laboratories with inertial confinement fusion targets. The Secure Transportation Asset is managed and operated by the **Albuquerque Operations Office**, including allocating the Asset's personnel and physical resources to meet the Department's transportation requirements; hiring, training, and deployment of the nuclear materials couriers; maintaining the transporter fleet of tractors and trailers; and ensuring that the Asset is equipped and managed to meet the Department's requirements for material security and courier and public safety.

**Prior Year Authorizations for Department of Energy Programs
Within the Energy and Water Development Appropriation**

Activity	Title of Authorizing Legislation	Last Year of Authorization	Authorization Level (thousand \$)	Appropriation Level (thousand \$)
Weapons Activities				
Weapons Activities	Public Law 107-107, National Defense Authorization Act, FY 2002, Section 3101(1)	FY 2002	\$5,343,567	\$5,429,238
Directed Stockpile Work	Public Law 107-107, National Defense Authorization Act, FY 2002, Section 3101(1)	FY 2002	\$1,002,274	\$1,045,814
Campaigns	Public Law 107-107, National Defense Authorization Act, FY 2002, Section 3101(1)	FY 2002	\$2,074,473	\$2,167,104
Readiness in Technical Base and Facilities	Public Law 107-107, National Defense Authorization Act, FY 2002, Section 3101(1)	FY 2002	\$1,525,124	\$1,553,124
Facilities and Infrastructure Recapitalization Program	Public Law 107-107, National Defense Authorization Act, FY 2002, Section 3101(1)	FY 2002	\$200,000	\$200,000
Secure Transportation Asset	Public Law 107-107, National Defense Authorization Act, FY 2002, Section 3101(1)	FY 2002	\$121,800	\$148,300 (Includes \$25 million, Public Law 107-117, Emergency Supplemental, FY 2002)

Activity	Title of Authorizing Legislation	Last Year of Authorization	Authorization Level (thousand \$)	Appropriation Level (thousand \$)
Weapons Safeguards and Security	Public Law 107-107, National Defense Authorization Act, FY 2002, Section 3101(1)	FY 2002	\$448,881	\$554,881 (Includes \$106 million Public Law 107-117, Emergency Supplemental, FY 2002)