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; one fixed wing aircraft for replacement only; and the purchase of not to exceed six passenger motor vehicles, of which four shall be for replacement only, including not to exceed two buses; $6,378,000,000, to remain available until expended.

Note.—A regular 2003 appropriation for this account had not been enacted at the time the budget was prepared; therefore, this account is operating under a continuing resolution (P.L. 107–229, as amended). The amounts included for 2003 in this budget reflect the Administration's 2003 policy proposals.

Explanation of Change

Changes from the language proposed in FY 2003 consist of the addition of purchase authority for one fixed wing aircraft and changes to the proposed motor vehicle and funding amounts.

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, security, and reliability of the United States nuclear weapons 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 weapons stockpile, funded within the Weapons Activities appropriation. This appropriation also provides for recapitalization of the physical infrastructure of the nuclear weapons complex; 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.

Policy Framework

The Nuclear Posture Review (NPR), completed by the Secretary of Defense in consultation with the Secretary of Energy, and transmitted to Congress in January 2002, reaffirmed that nuclear weapons, for the foreseeable future, will remain a key element of U.S. national security strategy. The NPR also cited the need for an R&D and industrial infrastructure to develop, manufacture, and maintain nuclear offensive forces and defensive systems. In response to this national policy guidance, the NNSA will continue to maintain the ability to certify the safety and reliability of the U.S. nuclear stockpile without nuclear testing through an aggressive science-based Stockpile Stewardship Program, with special emphasis on revitalizing laboratory and production complex infrastructure. The NNSA will also maintain the capability to conduct an underground nuclear test, should it be necessary. The NPR also called for a stable, adequately-funded Future Years Nuclear Security Program (FYNSP) to accomplish these goals.

Goals and 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: Provide a capability for the safe transport of nuclear weapons, components, and material that will meet projected DOE, DoD and other customer requirements.

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 NNSA personnel information and assets against attacks/espionage and respond to worldwide incidents involving nuclear or radiological weapons/materials.

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 sub-element.

Strategy

The science-based Stockpile Stewardship Program (SSP) was established in 1993 by the President and the Congress with the goal of maintaining high confidence in the stockpile absent underground nuclear testing. A wide range of activities designed to maintain the safety, security, and reliability of the stockpile are carried out by both federal and Management & Operating (M&O) contractor employees to meet this goal.

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 experimental and computational tools, together with validated models, the NNSA will determine if a technical need exists for underground nuclear testing to provide this assessment. The annual certification and ongoing stockpile work is supported by research and development in hydrodynamics, engineering science, materials science, high-energy-density physics, and simulation and computing.

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 to increase scientific and technical understanding of the stockpile and its military effectiveness. Production capabilities are being reestablished or developed for warhead maintenance and refurbishment, including the capability to manufacture and certify nuclear weapon primaries (pits); provide a reliable source of tritium; and provide high explosives, secondaries and nonnuclear components. In addition, the ability to conduct underground nuclear testing, if necessary, is maintained to meet the 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 SSP, the NNSA is providing challenging and rewarding work in a safe and secure environment in concert with recruitment and retention initiatives. University programs with relevance to stockpile science are increasing in importance as part of the long-term effort to develop the next generation of scientists and engineers for stockpile stewardship.

The NNSA must also provide, manage, and maintain the physical infrastructure and facilities required to conduct its nuclear security business. The NNSA continues to make 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. Integrated Safety Management practices are incorporated into all of our activities to protect workers, the public, and the environment.

The NNSA is responsible for the safeguards and security at all NNSA landlord sites. The physical security, personnel security, and cyber security programs are designed to ensure operations at NNSA facilities meet security standards; protect personnel, 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 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, Secure Transportation Asset, and Safeguards and Security.

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 lifetimes, and certify that the stockpile remains safe and reliable. Under the direction and oversight of NNSA Federal employees, approximately 28,000 M&O contractor 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. The Nuclear Posture Review reaffirmed the agreements reached with the Nuclear Weapons Council (NWC) in early FY 2001 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, budgets for Directed Stockpile Work accelerated sharply as these life extension activities were initiated. Annual reports on the reliability and surety of the stockpile are major deliverables of DSW.

Activities in **Campaigns** are essential to allow the NNSA to move to "science-based" judgments for stewardship, utilizing experiments, simulations, and surveillance data in place of nuclear testing. The 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, and if necessary, enhance the effectiveness of the stockpile and the program for many years into the future. The Science, Inertial Confinement Fusion Ignition and High Yield, and Advanced Simulation and Computing Campaigns provide validated computational tools that are used to assess and certify weapon performance and provide laboratory experiments and data for unique physics and materials phenomena relevant to weapon performance and simulation. Technical areas covered within the campaigns include hydrodynamics, material properties, high energy density physics, advanced computing, microstructures and microsystems, advanced radiography, and

nuclear weapons effects. The Engineering Campaigns perform engineering analyses and provide modern engineering prototype 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 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 possible future pit manufacturing needs. The Readiness Campaigns are technology-based efforts designed to reestablish or enhance manufacturing capabilities needed for the future production of weapon components, including some needed for the near-term life extension programs, and tritium.

The Stockpile Stewardship Program develops and maintains the world-class scientific, engineering, and manufacturing capabilities needed to sustain 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. RTBF also funds underground nuclear test readiness activities. **Construction** projects not specific to an individual campaign are also included in this budget category.

The **Facilities and Infrastructure Recapitalization Program (FIRP)** is a capital renewal and sustainability program designed to restore, rebuild, and revitalize the physical infrastructure of the nuclear weapons complex. FIRP addresses an integrated, prioritized list of maintenance and infrastructure projects, separate from the base maintenance and infrastructure efforts under RTBF, which will significantly increase the operational efficiency and effectiveness of the NNSA sites. It preferentially targets deferred maintenance and footprint reduction. FIRP funds activities at all NNSA sites.

The **Secure Transportation Asset (STA)**, a Department of Energy (DOE) asset managed and operated by the NNSA Office of Secure Transportation, is a network of specially modified transport vehicles, special agents and other personnel, and specialized infrastructure, which provide for the safe and secure movement of weapons, weapon components and selected materials for the DOE, Department of Defense (DoD), and other customers, within the continental United States.

Safeguards and Security (S&S) activities 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. Security Investigations and Security Charge for Reimbursable Work in Work For Others are funded outside of the Weapons Activities appropriation. Security investigations by the Office of Personnel Management and the Federal Bureau of Investigation are budgeted for by the Office of Security. Safeguards and security costs associated with Work For Others program activities are included in the 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.

Table 1
Weapons Activities Account Summary

(dollars in thousands)

	FY 2002 Comparable Appropriation [a]	FY 2003 Request [b]	FY 2004 Request	Change %
Operations and Maintenance	5,001,583	5,256,037	5,802,107	10.4%
Construction	582,967	618,791	604,878	-2.2%
Subtotal	5,584,550	5,874,828	6,406,985	9.1%
Security Charge for Reimbursable Work	-28,985	-28,985	-28,985	0.0%
Use of Prior Year Balances	-13,387	0	0	0.0%
Total, Weapons Activities	**5,542,178**	**5,845,843**	**6,378,000**	**9.1%**

The FY 2003 Request column includes comparability adjustments for consistency with the FY 2004 Request.

Table 2
Weapons Activities
Program Funding Summary

(dollars in thousands)

	FY 2002 Comparable Appropriation [a]	FY 2003 Request [b]	FY 2004 Request	% Change
Directed Stockpile Work	1,108,787	1,300,948	1,364,786	4.9%
Campaigns	2,189,256	2,166,146	2,395,455	10.6%
Readiness in Technical Base and Facilities	1,376,814	1,502,279	1,613,471	7.4%
Facilities & Infrastructure Recapitalization Program	196,550	242,512	265,123	9.3%
Secure Transportation Asset	158,707	152,989	182,400	19.2%
Safeguards and Security	554,436	509,954	585,750	14.9%
Subtotal	5,584,550	5,874,828	6,406,985	9.1%
Security Charge for Reimbursable Work	-28,985	-28,985	-28,985	0.0%
Use of Prior Year Balances	-13,387	0	0	0.0%
Total, Weapons Activities	**5,542,178**	**5,845,843**	**6,378,000**	**9.1%**

The FY 2003 Request column includes comparability adjustments for consistency with the FY 2004 Request.

[a] Includes enacted Supplemental Appropriations and Rescission, approved reprogrammings, and comparability adjustments. Details are shown at the individual program levels.

[b] Details of comparability adjustments are shown at the individual program levels.

FY 2004 Budget Request

The **FY 2004 Budget Request** for the **Weapons Activities** appropriation account is $6.378 billion, a 9.1 percent increase over the comparable FY 2003 Congressional Request of $5.846 billion. This Request supports the requirements of the Stockpile Stewardship Program as defined by Presidential Directives, Department of Defense requirements, and the Nuclear Posture Review. There are no transfers from the Weapons Activities account to the Department of Homeland Security.

This request will:

- **complete**, by March 2004, the Annual (FY 2003) Stockpile Certification and Report to the President, and subsequently, to the Congress;
- **support** the scheduled refurbishment workload, including the ongoing B61, W76, W80, W87 refurbishments, as reaffirmed by the Nuclear Posture Review;
- **support** all directive scheduled activities in support of alterations, modifications, and limited life component replacements for the current stockpile; and scheduled surveillance, evaluation, and dismantlement activities;
- **support** preconceptual and concept definition studies and feasibility and cost studies for the Advanced Concepts Initiative, including the Robust Nuclear Earth Penetrator study, approved by the Nuclear Weapons Council (subject to submission of the Secretary of Defense Report in accordance with P.L. 107-314, Bob Stump National Defense Authorization Act for FY 2003);
- **support** planned schedules for development of experimental and computational tools and related facilities and technologies, necessary to support continued certification of the refurbished weapons and aging weapons components without underground nuclear testing, including final system delivery and checkout of 200-teraOPS class computer by FY 2008, and completion of the Microsystems and Engineering Sciences Applications (MESA) Complex in FY 2010 and the Dual-Axis Radiographic Hydrotest Facility in FY 2004;
- **support** construction of the National Ignition Facility according to the September 2000 project baseline and **initiate** experimental activities;
- **resume** studies and technology development of multi-axis, multi-time radiography and **define** requirements for an advanced radiography facility;
- **continue** the subcritical experiments schedule;
- **maintain** the ability to conduct underground nuclear testing, if necessary, and **begin** the transition to an 18-month readiness posture, consistent with the Nuclear Posture Review (NPR) and the Administration's directives upon enactment of the final FY 2003 appropriation;
- **support** manufacture of a certifiable W88 pit in 2003, and continue to develop the capability to certify a pit by 2007; **continue** conceptual design for a modern pit facility;
- **begin** irradiation of tritium-producing, burnable absorption rods in Tennessee Valley Authority's (TVA's) Watts Ba reactor, leading to the production of tritium by FY 2007;

- **support** construction of the Tritium Extraction Facility consistent with the revised project baseline, which increases the Total Project Cost (TPC) from $401 million to $506 million and delays project completion from mid FY 2006 to late FY 2007;
- **maintain** warm-standby readiness for all necessary infrastructure at all current facilities and sites;
- **revitalize** the complex consistent with the NPR, including an integrated complex-wide construction program;
- **initiate** nine new line-item construction projects (further details can be found in the RTBF Construction section and the individual construction projects data sheets);
- **renew and sustain** facilities and infrastructure through a recapitalization program to address issues that are not included in base maintenance and infrastructure efforts;
- **provide** safe transportation of nuclear warheads, weapon components and other Departmental materials;
- **support** Nuclear Weapons Incident Response national assets; and
- **continue** the safeguard and security of our nuclear facilities, materials and information; **protect** employees in a post 9/11 environment; **initiate** a modest R&D program to develop S&S technologies; and **continue** the cyber security program.

Additional details can be found in the Detailed Budget Justifications that follow.

No prior year balances are expected to be available to finance the FY 2004 Request.

Table 3

Detailed Program Funding Summary

(dollars in thousands)

	FY 2002 Comparable Appropriation	FY 2003 Request	FY 2004 Request	Change $	Change %
Directed Stockpile Work					
Stockpile R&D	312,514	425,669	433,150	7,481	1.8%
Stockpile Maintenance	347,543	411,200	405,746	-5,454	-1.3%
Stockpile Evaluation	170,444	186,061	202,885	16,824	9.0%
Dismantlement/Disposal	23,752	24,801	37,722	12,921	52.1%
Field Engineering, Training & Manuals	6,270	6,893	7,170	277	4.0%
Production Support	248,264	246,324	278,113	31,789	12.9%
Total, DSW	**1,108,787**	**1,300,948**	**1,364,786**	**63,838**	**4.9%**
Campaigns					
Science Campaigns					
Primary Certification	50,572	47,159	65,849	18,690	39.6%
Dynamic Materials Properties	90,032	87,594	82,251	-5,343	-6.1%
Advanced Radiography	75,577	52,925	65,985	13,060	24.7%
Sec Certif & Nuclear Systems Margins	40,885	46,746	55,463	8,717	18.6%
Subtotal, Science Campaigns	**257,066**	**234,424**	**269,548**	**35,124**	**15.0%**
Engineering Campaigns					
Enhanced Surety	32,086	37,713	37,974	261	0.7%
Weapons System Engineering Certification	25,595	27,007	28,238	1,231	4.6%
Nuclear Survivability	21,902	23,394	23,977	583	2.5%
Enhanced Surveillance	73,280	77,155	94,781	17,626	22.8%
Advanced Design & Production Technologies	68,225	74,141	79,917	5,776	7.8%
Engineering Campaign Construction	67,100	79,200	66,300	-12,900	-16.3%
Subtotal, Engineering Campaigns	**288,188**	**318,610**	**331,187**	**12,577**	**3.9%**
Inertial Confinement Fusion Ignition & High Yield	**506,773**	**452,837**	**466,769**	**13,932**	**3.1%**
Advanced Simulation & Computing	**703,833**	**724,862**	**750,626**	**25,764**	**3.6%**
Pit Manufacturing and Certification	**248,961**	**235,964**	**320,228**	**84,264**	**35.7%**
Readiness Campaigns					
Stockpile Readiness	26,318	38,659	55,158	16,499	42.7%
High Explosives Readiness	6,688	12,093	29,649	17,556	145.2%
Nonnuclear Readiness	17,768	22,398	37,397	14,999	67.0%

	FY 2002 Comparable Appropriation	FY 2003 Request	FY 2004 Request	Change $	Change %
Materials Readiness	1,172	0	0	0	0.0%
Tritium Readiness	132,489	126,299	134,893	8,594	6.8%
Subtotal, Readiness Campaigns	**184,435**	**199,449**	**257,097**	**57,648**	**28.9%**
Total, Campaigns	**2,189,256**	**2,166,146**	**2,395,455**	**229,309**	**10.6%**
Readiness in Technical Base & Facilities					
Operations of Facilities	896,254	933,893	972,773	38,880	4.2%
Program Readiness	97,973	120,411	131,093	10,682	8.9%
Special Projects	35,896	37,744	42,975	5,231	13.9%
Material Recycle and Recovery	92,826	98,816	76,189	-22,627	-22.9%
Containers	9,957	17,721	16,006	-1,715	-9.7%
Storage	7,652	14,593	11,365	-3,228	-22.1%
Nuclear Weapons Incident Response	102,138	83,755	89,694	5,939	7.1%
Construction	134,118	195,346	273,376	78,030	39.9%
Total, Readiness in Technical Base & Facilities	**1,376,814**	**1,502,279**	**1,613,471**	**111,192**	**7.4%**
Facilities & Infrastructure Recapitalization Program					
Operations & Maintenance	196,550	242,512	261,404	18,892	7.8%
Construction	0	0	3,719	3,719	0.0%
Total, Facilities & Infrastructure Recapitalization Program	**196,550**	**242,512**	**265,123**	**22,611**	**9.3%**
Secure Transportation Asset					
Operations and Equipment	114,497	100,863	123,605	22,742	22.5%
Program Direction	44,210	52,126	58,795	6,669	12.8%
Total, Secure Transportation Asset	**158,707**	**152,989**	**182,400**	**29,411**	**19.2%**
Safeguards and Security					
Operations and Maintenance	544,836	501,054	582,067	81,013	16.2%
Construction	9,600	8,900	3,683	-5,217	-58.6%
Total, Safeguards and Security	**554,436**	**509,954**	**585,750**	**75,796**	**14.9%**
SUBTOTAL	**5,584,550**	**5,874,828**	**6,406,985**	**532,157**	**9.1%**
Use of Prior Year Balances	-13,387	0	0	0	0.0%
Security Charge for Reimbursable Work	-28,985	-28,985	-28,985	0	0.0%
Total, Weapons Activities	**5,542,178**	**5,845,843**	**6,378,000**	**532,157**	**9.1%**

The FY 2003 Request column includes comparability adjustments for consistency with the FY 2004 Request.

Table 4

FY 2004 Construction Project Summary

(dollars in thousands)

Project	Name	Site	TEC	Prior Years	FY 2004
04-D-101	Test Capabilities Revitalization, Phase I	SNL	40,940 [a]	0	36,450
04-D-102	Exterior Communications Infrastructure Modernization	SNL	22,500 [a]	0	20,000
04-D-103	Project Engineering and Design	VL	3,500	0	2,000
04-D-104	National Security Sciences Building	LANL	95,000	0	50,000
04-D-125	Chemistry and Metallurgy Research Facility Replacement	LANL	500,000 [a]	0	20,500
04-D-126	Building 12-44 Production Cells Upgrade	PX	11,380 [a]	0	8,780
04-D-127	Cleaning and Loading Modifications,	SRS	37,000 [a]	0	2,750
04-D-128	TA-18 Mission Relocation Project	LANL	111,000 [a]	0	8,820
04-D-203	FIRP Project Engineering and Design	VL	6,421	0	3,719
03-D-101	Sandia Underground Reactor Facility	SNL	3,206 [a]	3,206 [b]	0
03-D-103	Project Engineering and Design	VL	23,209	11,139 [b]	10,570
03-D-121	Gas Transfer Capacity Expansion	KC	30,200 [a]	4,000	15,300
03-D-122	Purification Facility	Y-12	37,977 [a]	37,977 [b]	0
03-D-123	SNM Component Requalification Facility	PX	15,341 [a]	7,713 [b]	7,628
02-D-103	Project Engineering and Design	VL	45,528	30,048 [b]	10,950
02-D-105	Engineering Technology Complex Upgrade	LLNL	26,700 [a]	16,924	9,776
02-D-107	Electrical Power Systems Safety, Communications and Bus Upgrades	NV	16,531 [a]	13,644	2,887
01-D-101	Distributed Information Systems Laboratory	SNL	36,300	24,000	12,300
01-D-103	Project Engineering and Design	VL	55,122	41,522 [b]	1,600
01-D-108	Microsystems and Engineering Sciences Applications	SNL	462,500 [a]	162,956	61,800
01-D-124	Highly Enriched Uranium Materials Facility	Y-12	184,000	42,710	45,000
01-D-126	Weapons Evaluation Test Laboratory	SNL	22,181	19,343	2,838
00-D-103	Terascale Simulation Facility	LLNL	92,117	63,889	25,000
99-D-104	Protection of Real Property (Roof Reconstruction - PH II)	LLNL	19,886	16,386	3,500
99-D-127	SMRI-Kansas City Plant	KC	120,420	106,249	12,475
99-D-132	Nuclear Materials Safeguards and Security Upgrades Project	LANL	61,143	57,460	3,683
98-D-125	Tritium Extraction Facility	SRS	408,065	274,650	75,000
96-D-102	Stockpile Stewardship Facility Revitalization PH VI	SNL	71,277	69,725	1,552
96-D-111	National Ignition Facility	LLNL	2,094,897	1,554,758	150,000
	TOTAL				**604,878**

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

[b] Reflects planned reallocations, if necessary, by reprogramming after enactment of the FY 2003 appropriation. Currently known reallocations are described in the individual project data sheets.

Weapons Systems Cost Data

The Weapons Activities budget will be supplemented with a classified annex that will contain the Selected Acquisition Reports, a weapon systems funding table for FY 2002 - FY 2004, narrative supporting the enduring stockpile, and a section describing the implementation of the transition in FY 2004 to manage and budget by weapon system.

Providing budget and cost by weapon systems has been requested by Congress and, for the FY 2004 budget, the four life extension programs (B61, W76, W80, and W87) will be reported in Selected Acquisition Reports. The Selected Acquisition Report will be developed in a format consistent with those submitted by the DoD, and will be certified by the Nuclear Weapons Council to be in the correct format. NNSA's commitment includes providing performance measures, schedules, and deliverables for warheads undergoing life extensions.

The classified annex will include a multi-year funding table and a narrative description for the enduring stockpile systems. Managing and budgeting by weapon system will improve management focus and allow better traceability and visibility into weapon systems budget and cost.

NNSA established a team to review the management and budgeting by weapon systems. As a result of their effort, a major portion of the budget will be distributed as part of the life extension programs and enduring weapon systems based on the first user concept or other appropriate allocation. The development of and pathforward pilot for FY 2004 is underway and will be used to assist the NNSA in modifying management and accounting systems for full implementation in FY 2005, consistent with language in the House Report 107-681 accompanying H.R. 5431, Energy & Water Development Appropriations Act, FY 2003. This pilot will allow the NNSA to fully identify and address potential issues associated with managing, budgeting, and reporting by weapon system in time to prepare for the FY 2005 budget submission to Congress.

Planned Changes to FY 2003

NNSA is currently assessing several issues, including potential impacts from the FY 2003 Continuing Resolutions and the final outcome of the FY 2003 appropriation, which may impact the construction project funding profiles included in this Request. The currently known planned reallocations, which net to zero, are noted in the affected construction project data sheets. These potential changes may be proposed as reprogramming actions after enactment of the FY 2003 appropriation.

Administrative Control of Funds Level

The NNSA requests that the limited reprogramming authority and the internal reprogramming authority provided in the FY 2002 Energy and Water Development Appropriations Act, Public Law, 107-66, be continued to 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.

Funding by Site

Site funding estimates are included in Table 5. This table has been reconfigured to reflect the NNSA re-engineering/reorganization decisions of December 2002.

Table 5
Weapons Activities
Site Funding Estimates

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	$ Change	% Change
Chicago Operations Office					
Argonne National Laboratory	1,174	803	1,059	256	31.9%
Brookhaven National Laboratory	1,195	765	621	-144	-18.8%
Chicago Operations Office	2,050	31,900	27,638	-4,262	-13.4%
Subtotal, Chicago Operations Office	4,419	33,468	29,318	-4,150	-12.4%
Idaho Operations Office					
INEEL	1,624	0	0	0	0.0%
Idaho Operation Office	445	345	601	256	74.2%
Idaho Operations Office	2,069	345	601	256	74.2%
Kansas City Site Office					
Kansas City Plant	356,530	380,294	395,323	15,029	4.0%
Livermore Site Office					
Lawrence Livermore National Laboratory	960,781	944,459	941,437	-3,022	-0.3%
Los Alamos Site Office					
Los Alamos National Laboratory	1,156,044	1,196,723	1,312,831	116,108	9.7%
Nevada Site Office					
Bechtel Nevada	80,606	70,857	84,659	13,802	19.5%
Nevada Test Site	217,854	221,608	218,817	-2,791	-1.3%
Nevada Site Office	298,460	292,465	303,476	11,011	3.8%
NNSA Service Center					
General Atomics (GA)	7,558	8,695	10,899	2,204	25.3%
Naval Research Laboratory	21,287	10,000	10,467	467	4.7%
NNSA Service Center - AL	26,567	19,281	19,141	-140	-0.7%
NNSA Service Center - OAK	5,954	3,295	3,591	296	9.0%
University of Rochester	34,693	36,400	40,132	3,732	10.3%
Subtotal, NNSA Service Center	96,059	77,671	84,230	6,559	8.4%

	FY 2002	FY 2003	FY 2004	$ Change	% Change
Oak Ridge Operations Office					
Y-12 National Security Complex	577,790	627,314	670,581	43,267	6.9%
OR Science & Technology Institute	149	149	140	-9	-6.0%
ORISE	9,327	9,216	8,242	-974	-10.6%
Oak Ridge National Laboratory	7,581	7,059	6,783	-276	-3.9%
Oak Ridge Site Office	2,931	5,664	6,399	735	13.0%
Subtotal, Oak Ridge Operations Office	597,778	649,402	692,145	42,743	6.6%
Pantex Site Office					
Pantex Plant	363,000	370,495	424,132	53,637	14.5%
Richland Operations Office					
Pacific Northwest National Laboratory	3,623	13,225	12,105	-1,120	-8.5%
Richland Operations Office	376	320	576	256	80.0%
Richland Operations Office	3,999	13,545	12,681	-864	-6.4%
Sandia Site Office					
Sandia National Laboratories	1,008,225	1,127,374	1,215,307	87,933	7.8%
Savannah River Operations Office					
Savannah River Site Office	5,116	307	563	256	83.4%
Savannah River Site	238,278	246,697	244,545	-2,152	-0.9%
Subtotal, Savannah River Operations Office	243,394	247,004	245,108	-1,896	-0.8%
Washington Headquarters	493,792	541,583	750,396	208,813	38.6%
Subtotal, Weapons Activities	**5,584,550**	**5,874,828**	**6,406,985**	**532,157**	**9.1%**
Use of Prior Year Balances	-13,387	0	0	0	0.0%
Security Charge for Reimbursable Work	-28,985	-28,985	-28,985	0	0.0%
TOTAL WEAPONS ACTIVITIES	**5,542,178**	**5,845,843**	**6,378,000**	**532,157**	**9.1%**

Table 6

M&O Contractor Employment

(whole numbers)

	FY 2002 Actual	FY 2003 Projected	FY 2004 Projected
Weapons Activities			
Kansas City Plant	2,509	2,506	2,541
Los Alamos National Laboratory	4,949	5,450	5,450
Pantex Plant	3,067	3,123	3,123
Sandia National Laboratories	4,330	4,445	4,445
Nevada	1,982	2,142	2,154
Oak Ridge Y-12 National Security Complex	3,891	3,865	3,865
Lawrence Livermore National Laboratory	4,692	4,831	4,882
Savannah River Site	1,521	1,728	1,576
Total, M&O Contractors	**26,941**	**28,090**	**28,036**

Institutional General Plant Projects

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	$ Change	% Change
Lawrence Livermore National Laboratory	0	9,360	9,830	470	5.02%
Los Alamos National Laboratory	0	10,000	10,000	0	0.00%
Sandia National Laboratories	6,875	12,118	9,400	-2,718	-22.43%
Total, Institutional General Plant Projects	**6,875**	**31,478**	**29,230**	**-2,248**	**-7.14%**

Future-Years Nuclear Security Program (FYNSP) The funding profile for FY 2005 through FY 2008 for the Weapons Activities appropriation will be included in NNSA's **Future-Years Nuclear Security Program (FYNSP)**. The supporting narrative for the FYNSP will be provided separately to Congress.

Table 7

Outyear Funding Summary

(dollars in millions)

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008
Directed Stockpile Work					
Stockpile R&D	433	427	440	473	504
Stockpile Maintenance	406	424	473	499	701
Stockpile Evaluation	203	200	204	203	238
Dismantlement/Disposal	38	44	31	27	29
Production Support	278	261	269	284	287
Field Engineering, Training & Manuals	7	7	8	9	9
Total, DSW	**1,365**	**1,363**	**1,425**	**1,495**	**1,768**
Campaigns					
Primary Certification	66	67	70	72	75
Dynamic Materials Properties	82	90	90	87	93
Advanced Radiography	66	69	64	71	76
Sec Certif & Nuclear Systems Margins	56	68	74	75	87
Subtotal, Science Campaigns	**270**	**294**	**298**	**305**	**331**
Enhanced Surety	38	38	39	41	44
Weapons System Engineering Certification	28	29	30	31	33
Nuclear Survivability	24	25	25	26	28
Enhanced Surveillance	95	103	110	115	121
Advanced Design & Production Technologies	80	91	94	93	103
Engineering Campaign Construction	66	68	70	12	73
Subtotal, Engineering Campaigns	**331**	**354**	**368**	**318**	**402**
Inertial Confinement Fusion Ignition and High Yield	**467**	**488**	**510**	**517**	**425**
Advanced Simulation & Computing	**751**	**786**	**820**	**848**	**873**
Pit Manufacturing and Certification	**320**	**363**	**328**	**320**	**162**
Stockpile Readiness	55	74	89	107	109
High Explosives Readiness	30	35	32	24	37

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008
Nonnuclear Readiness	37	38	39	34	49
Tritium Readiness	135	95	83	70	92
Subtotal, Readiness Campaigns	**257**	**242**	**243**	**235**	**287**
Total, Campaigns	**2,396**	**2,527**	**2,567**	**2,543**	**2,480**
Readiness in Technical Base & Facilities					
Operations of Facilities	973	996	1,071	1,128	1,098
Program Readiness	131	136	139	137	147
Special Projects	43	44	45	47	50
Material Recycle and Recovery	76	86	58	76	120
Containers	16	18	18	19	21
Storage	11	15	15	16	20
Nuclear Weapons Incident Response	90	93	93	93	92
Construction	273	306	394	521	452
Total, Readiness in Technical Base & Facilities	**1,613**	**1,694**	**1,833**	**2,037**	**2,000**
Facilities & Infrastructure Recapitalization Program	**265**	**332**	**383**	**434**	**485**
Secure Transportation Asset	**182**	**177**	**181**	**186**	**197**
Safeguards and Security	**557**	**568**	**572**	**582**	**588**
TOTAL, Weapons Activities	**6,378**	**6,661**	**6,961**	**7,277**	**7,518**

Program Comparabilities

Comparability adjustments to the FY 2004 Request for the Weapons Activities appropriation include:

Funding for the subcritical experiments for the W88 has been moved from DSW to the Pit Manufacturing and Certification Campaign to allow the campaign manager to better integrate these activities.

Funding has been moved from RTBF to Production Support within DSW to ensure more consistent reporting of the production support activities across the complex.

Funding within the Stockpile Readiness Campaign, which supports the design, planning and acquisition activities for the line-item construction projects needed to revitalize the Y-12 Plant's long-term readiness posture, has been moved to RTBF.

Funding for high energy density physics university grants has been moved from Secondary Certification and Nuclear Systems Margins Campaign to Dynamic Materials Properties Campaign to consolidate most funding for high-energy-density physics university grants in one place.

Funding for Other Project Costs for project 01-D-108, MESA has been moved from RTBF Operations of Facilities to Engineering Campaigns to more closely align these activities with the project and

programmatic work it supports, consistent with NNSA policy to fund major programmatic line-item construction projects within the applicable Campaign area.

The Comparability Tables which follow provide the specific funding moved to create the comparable budget request. Details are included in the appropriate budget narratives.

Comparability Matrix

FY 2002 Funding

(dollars in thousands)

FY 2003 Structure	FY 2004 Structure									
	Stock. Maint.	Stock. Eval.	Dismantle-ment and Disposal	Prod. Spt.	Engr. Campaigns Const. Activities	ICF Campaign	Pit Campaign	Ops. of Fac.	Non-NNSA	Total
Stockpile Maintenance . .			410	1,382						1,792
Stockpile Evaluation				15,193						15,193
Production Support	10,325	5,377								15,702
Stockpile R&D .							44,500			44,500
Secondary Cert. & Nuc. Sys. Margins Campaign						1,400				1,400
Stockpile Readiness Campaign								19,765		19,765
Operations of Facilities				28,100	3,600				13,391	45,091
Program Readiness				81,857				10,575		92,432
Nuclear Weapons Incident Response									7,185	7,185
RTBF Construction . .					63,500					63,500
Secure Transportation Asset									2,204	2,204
Total	10,325	5,377	410	126,532	67,100	1,400	44,500	30,340	22,780	308,764

Comparability Matrix

FY 2003 Funding

(dollars in thousands)

FY 2003 Structure	FY 2004 Structure									
	Stock. Maint.	Stock. Eval.	Dismantle-ment and Disposal	Prod. Spt.	Engr. Campaigns Const. Activities	ICF Campaign	Pit Campaign	Ops. of Fac.	Non-NNSA	Total
Stockpile Maintenance . .			423	1,425						1,848
Stockpile Evaluation				15,663						15,663
Production Support	11,891	4,540								16,431
Stockpile R&D .							41,480			41,480
Secondary Cert. & Nuc. Sys. Margins Campaign						1,044				1,044
Stockpile Readiness Campaign								22,368		22,368
Operations of Facilities				28,615	4,200				13,912	46,727
Program Readiness				79,346				8,332		87,678
Nuclear Weapons Incident Response									7,245	7,245
RTBF Construction . .					75,000					75,000
Secure Transportation Asset									2,379	2,379
Total	11,891	4,540	423	125,049	79,200	1,044	41,480	30,700	23,536	317,863

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 are the Lawrence Livermore National Laboratory in California and Los Alamos National Laboratory in New Mexico, both operated by the University of California; and the Sandia National Laboratories in California and New Mexico, operated by Lockheed Martin Corporation. The four production facilities include the 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 in Oak Ridge, Tennessee, operated by BWXT Y-12; and the Savannah River Site in Aiken, South Carolina, operated by Westinghouse. The Nevada Test Site, located 65 miles northwest of Las Vegas, Nevada, is operated by Bechtel/Nevada, Inc. Funding is also provided to the University of Rochester, the Naval Research Laboratory, and General Atomics through the Inertial Confinement Fusion Ignition and High Yield 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 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, 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 test site, Site 300, located on eight square miles approximately 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, 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 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.

New projects are underway to prepare LLNL's capabilities for its critical responsibilities to assist the NNSA in maintaining the nuclear deterrent without nuclear testing. The National Ignition Facility (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 (TSF) began in FY 2000; construction started in FY 2002. The TSF will house the 100 TeraOPS supercomputer, which will enable three-dimensional simulations of weapons physics.

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, security, and reliability 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 (LANSCE) 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 accelerator will be complete in mid-FY 2003. In addition, the Strategic Computing Complex, which is housing the next generation 30 TeraOPS ASC supercomputer, was completed in FY 2002.

A small capacity plutonium pit manufacturing capability is being established 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 October 1992, no nuclear tests have been conducted by the United States. The NTS remains the site

for experiments, such as those containing plutonium or large amounts of high explosives, that cannot be conducted at other sites. For example, there have been 18 subcritical and hundreds of high explosive experiments conducted at the NTS since 1997.

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. The NNSA expects to commence transitioning to an 18-month test readiness posture upon completion of the final FY 2003 legislative action.

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.

Capability, capacity, infrastructure, workforce, and facility issues associated with high explosives manufacturing and weapons assembly/disassembly are being addressed through the High Explosives Manufacturing and Weapons Assembly/Disassembly Campaign.

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 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 are being constructed at SNL to provide new research facilities for the development and implementation of high

performance distributed information systems through secure networks. The Microsystems and Engineering Sciences Applications (MESA) Complex is a 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 near Augusta, Georgia. 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 nonproliferation 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 under construction at SRS to extract new tritium which will be created by the Tennessee Valley Authority's light-water reactors starting in November 2003 and shipped to the site in fourth quarter of FY 2005.

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 and RTBF, 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 take place at the **Oak Ridge National Laboratory**. Inertial confinement fusion research is conducted at the **Naval Research Laboratory**, through the use of its krypton-fluoride Nike laser. This research will contribute to demonstrating direct-drive ignition at the National Ignition Facility. The **University of Rochester's** Laboratory for Laser Energetics in Rochester, New York, operates the 60-beam laser, OMEGA, which is the NNSA's primary facility 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. **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 Office of Secure Transportation within the NNSA, 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 across the nation; 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.

Acronym List

ACI	Advanced Concepts Initiative
ACRR	Annular Core Research Reactor
ADAPT	Advance Design and Production Technologies
AF&F	Arming, Fuzing and Firing
AGEX	Above Ground Experiment
AGT	Above Ground Test (as opposed to UGT)
AHF	Advanced Hydrotest Facility
Alts	Alterations
AMS	Aerial Measuring System
APR	Annual Performance Review
ARAC	Atmospheric Release Advisory Capability
ARG	Accident Response Group
ASC	Advanced Simulation and Computing Campaign
ASCI	Accelerated Strategic Computing Initiative
AT	Armored Tractors
Be	Beryllium
BEEF	Big Explosive Experimental Facility
CD	Critical Decision
CEV	Conventional Escort Vehicle
Cf	Californium
CFF	Contained Firing Facility
CMR	Chemistry and Metallurgy Research
COTS	Commercial Off The Shelf
CSA	Canned Subassembly
CTBT	Comprehensive Test Ban Treaty
DAF	Device Assembly Facility
DARHT	Dual-Axis Radiography Hydrodynamic Test
D&D	Decontamination and Decommissioning
D&I	Disassembly and Inspection
DISL	Distributed Information Systems Laboratory
DNFSB	Defense Nuclear Facilities Safety Board
DoD	Department of Defense
DOE	Department of Energy
DP	Defense Programs
DRAAG	Design Review and Acceptance Group
DSW	Directed Stockpile Work
EDU	Engineering Demonstration Unit
EIS	Environmental Impact Statement
ENDS	Enhanced Nuclear Detonation Safety
EV	Escort Vehicle
FFC	Federal Facilities Council
FIMS	Facilities and Information Management System
FIRP	Facilities and Infrastructure Recapitalization Program
ES&H	Environment, Safety & Health
ESP	Enhanced Surveillance Program

FPU	First Production Unit
FRMAC	Federal Radiological Monitoring and Assessment Capability
FRP	Fire Resistant Pit
FSED	Full Scale Engineering Development
FTU	Flight Test Unit
FTE	Full-Time Equivalents
FXR	Flash X-Ray
FYNSP	Future Years Nuclear Security Program
GIDEP	Government Industries Data Exchange Program
GLCM	Ground-Launched Cruise Missile
GTS	Gas Transfer System
HAR	Hazard Analysis Report
HE	High Explosive
HEAF	High Explosive Application Facility
HEMWAD	High Explosives Manufacturing and Weapons Assembly/Disassembly
HEU	Highly Enriched Uranium
HVAC	Heating, Ventilation and Air Conditioning
ICBM	Intercontinental Ballistic Missile
ICF	Inertial Confinement Fusion
ICPP	Integrated Construction Program Plan
IHE	Insensitive High Explosive
IWAP	Integrated Weapons Activity Plan
JASPER	Joint Actinide Shock Physics Experimental Research Facility
JCEL	Joint Computational Engineering Laboratory
JTA	Joint Test Assembly
KCP	Kansas City Plant
LANL	Los Alamos National Laboratory
LANSCE	Los Alamos Neutron Science Center
LEP	Life Extension Program
LIGA	(Based on German words for lithography, electro-forming, and molding - A process for making small pieces)
LLC	Limited Life Component
LLCE	Limited Life Component Exchange
LLNL	Lawrence Livermore National Laboratory
MDL	Microelectronics Development Laboratory
MESA	Microsystems and Engineering Sciences Applications Complex
MNS	Master Nuclear Schedule
M&O	Management and Operating
Mods	Modifications
MOX	Mixed Oxide
MPF	Modern Pit Facility
MRR	Materials Recycle and Recovery
MTE	Major Technical Element
NCCT	Nevada Center for Counterterrorism
NCSP	Nuclear Criticality Safety Program
NDE	Non Destructive Evaluation

NEP	Nuclear Explosive Package
NEPA	National Environmental Policy Act
NES	Nuclear Explosive Safety
NESS	Nuclear Explosive Safety Study
NEST	Nuclear Emergency Search Team
NG	Neutron Generator
NIF	National Ignition Facility
NNSA	National Nuclear Security Administration
NPR	Nuclear Posture Review
NTS	Nevada Test Site
NWC	Nuclear Weapons Council
NWIG	Nuclear Weapons Information Group
NWSSG	Nuclear Weapon System Safety Group
NWSSTP	Nuclear Weapons Subsystem Test Plan
O&M	Operations and Maintenance
OMB	Office of Management and Budget
ORNL	Oak Ridge National Laboratory
OST	Office of Secure Transportation
PART	Program Assessment Rating Tool
PAL	Permissive Action Links
PCD	Program Control Document
PE&D	Project Engineering and Design
Phase 6.1	Concept Assessment
Phase 6.2	Feasibility Study and Option Down Select
Phase 6.2a	Definition and Cost Study
Phase 6.3	Design and Production Development
Phase 6.4	Production Qualification
Phase 6.5	First Production
Phase 6.6	Full Scale Refurbishment
PHERMEX	Pulsed High-Energy Radiation Machine Emitting X-Ray
POG	Project Officers Group
P&PD	Production and Planning Directive
PSE	Problem Solving Environment
PSPG	Program Strategic Performance Goals
PX	Pantex Plant
QER	Quality Engineering Release
QWAG	Quality Assurance Working Group
RAP	Radiological Assistance Program
R&D	Research and Development
RNEP	Robust Nuclear Earth Penetrator
RTBF	Readiness in Technical Base and Facilities
RV	Reentry Vehicle
SBSS	Science-based Stockpile Stewardship
SCE	Subcritical Experiments
SECOM	Secure Communications
SFI	Significant Finding Investigation

SFT	Stockpile Flight Test
SGT	SafeGuard Transporter
SLT	Stockpile Laboratory Tests
SLBM	Submarine-launched Ballistic Missile
SNL	Sandia National Laboratories
SNM	Special Nuclear Material
SPR	Sandia Pulsed Reactor
SRC	Stockpile Readiness Campaign
SRF	Special Response Force
SRS	Savannah River Site
SRT	Search Response Team
SS-21	Seamless Safety for the 21st Century
SSP	Stockpile Stewardship Program
SST	Safe Secure Transporter
STA	Secure Transportation Asset
START	Strategic Arms Reduction Treaty
STS	Stockpile-to-Target Sequence
SWPP	SLBM Warhead Protection Program
TECC	Transportation Emergency Control Center
TEF	Tritium Extraction Facility
TSFF	Tritium Science Fabrication Facility
TSTC	Transportation Safeguards Training Center
TeraOPS	Trillion of Operations Per Second
TVA	Tennessee Valley Authority
USEC	US Enrichment Corporation
UGT	Underground Testing
UR	Unsatisfactory Reports
VIEWS	Visual Interactive Environment for Weapon Simulation
WETF	Weapons Engineering Tritium Facilities
WMD	Weapon of Mass Destruction
WNR	Weapons Neutron Research Facility
WR	War Reserve
WSRC	Westinghouse Savannah River Company
Y-12	Y-12 National Security Complex
Z	Z Accelerator