

## SECTION 2. NUCLEAR SECURITY

(discretionary dollars in thousands)

	FY 2007 Current Op. Plan	FY 2008 Current Approp.	FY 2009 Congressional Request	FY 2009 vs. FY 2008	
				\$	%
<b>National Security</b>					
Weapons.....	6,258,583	6,297,466	6,618,079	+320,613	+5.1%
Defense Nuclear Nonproliferation.....	1,824,202	1,335,996	1,247,048	-88,948	-6.7%
Naval Reactors.....	781,800	774,686	828,054	+53,368	+6.9%
Office of the Administrator.....	358,291	402,137	404,081	+1,944	+0.5%
<b>Total, National Nuclear Security Administration.....</b>	<b>9,222,876</b>	<b>8,810,285</b>	<b>9,097,262</b>	<b>+286,977</b>	<b>+3.3%</b>

### **Nuclear Security Strategic Theme:** Ensuring America's nuclear security

**Goal 2.1 Nuclear Deterrent** – Transform the nation’s nuclear weapons stockpile and supporting infrastructure to be more responsive to the threats of the 21st Century

**Goal 2.2 Weapons of Mass Destruction** – Prevent the acquisition of nuclear and radiological materials for use in weapons of mass destruction and in other acts of terrorism

**Goal 2.3 Nuclear Propulsion Plants** – Provide safe, militarily effective nuclear propulsion plants to the U.S. Navy

## Section 2. Nuclear Security

### Weapons Activities – NNSA

	(discretionary dollars in thousands)				
	FY 2007 Current Op. Plan	FY 2008 Current Approp.	FY 2009 Congressional Request	FY 2009 vs. FY 2008	
				\$	%
<b>Weapons Activities</b>					
Directed stockpile work.....	1,430,192	1,401,252	1,675,715	+274,463	+19.6%
Science campaign.....	267,758	287,624	323,070	+35,446	+12.3%
Engineering campaign.....	161,736	169,548	142,742	-26,806	-15.8%
Inertial confinement fusion and high yield campaign.....	489,706	470,206	421,242	-48,964	-10.4%
Advanced simulation and computing campaign.....	611,253	574,537	561,742	-12,795	-2.2%
Pit manufacturing and certification campaign.....	242,392	213,831	—	-213,831	-100.0%
Readiness campaign.....	201,713	158,088	183,037	+24,949	+15.8%
Readiness in technical base & facilities.....	1,613,241	1,637,381	1,720,523	+83,142	+5.1%
Secure transportation asset.....	209,537	211,523	221,072	+9,549	+4.5%
Nuclear weapons incident response.....	133,514	158,655	221,936	+63,281	+39.9%
Facilities and infrastructure recapitalization program.....	169,383	179,991	169,549	-10,442	-5.8%
Environmental projects and operations.....	—	8,592	40,587	+31,995	+372.4%
Transformation disposition.....	—	—	77,391	+77,391	N/A
Safeguards and security.....	761,158	899,520	859,839	-39,681	-4.4%
Congressionally directed projects.....	—	47,232	—	-47,232	-100.0%
Subtotal, Weapons Activities.....	6,291,583	6,417,980	6,618,445	+200,465	+3.1%
Use of prior year balances and other adjustments.....	-33,000	-120,514	-366	+120,148	+99.7%
<b>Total, Weapons Activities.....</b>	<b>6,258,583</b>	<b>6,297,466</b>	<b>6,618,079</b>	<b>+320,613</b>	<b>+5.1%</b>

#### PROGRAM DESCRIPTION

One of the statutory missions of the National Nuclear Security Administration (NNSA) is to maintain and enhance the safety, security, and reliability of the U.S. 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.

The **Weapons Activities request for FY 2009 is \$6.6 billion**, an increase of \$320.6 million or 5.1 percent above the FY 2008 funding level. The FY 2009 request allows for continued support to meet the needs of the stockpile, stockpile surveillance, annual assessment, and Life Extension Programs. The main components of the **Weapons Activities** budget request are Directed Stockpile Work; Campaigns; Readiness in Technical Base and Facilities; Secure Transportation Asset; Nuclear Weapons Incident Response; Facilities and Infrastructure Recapitalization Program; Environmental Projects and Operations; and Safeguards and Security. Program Direction activities, except for Secure Transportation Asset, are funded in the Office of the Administrator account.

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

**Campaigns** are focused on scientific and technical efforts essential for the certification, maintenance and life extension of the stockpile. The program has allowed NNSA to maintain the moratorium on underground testing, and move to "science-based" certification and assessments for stewardship by relying on experiments, modeling, simulation, surveillance

and historical underground nuclear testing experience. The **Science and Engineering Campaigns** are focused to provide the basic scientific understanding and the technologies required for the Directed Stockpile Work and the completion of new scientific and experimental facilities. In the **Inertial Confinement Fusion Ignition and High Yield Campaign**, the **National Ignition Facility** will focus on the 2010 ignition goal. The **Advanced Simulation and Computing Campaign** will continue to improve capabilities through development of faster computational platforms in partnership with private industry, and with state of the art techniques for calculations, modeling and simulation, and analysis of highly complex weapons physics information. The **Readiness Campaign** is technology-based efforts to reestablish and enhance manufacturing and other capabilities needed to meet planned weapon component production.

**Readiness in Technical Base and Facilities (RTBF)** supports the underlying physical infrastructure and operational readiness required to conduct weapons activities at the eight NNSA sites: three national weapons laboratories, four production sites, and the Nevada Test Site. \$1.7 billion is allocated annually to ensure that principal government owned, contractor operated facilities are operational, safe, secure, compliant with regulatory requirements, and able to sustain a defined level of readiness to execute tasks identified in the Campaigns and Directed Stockpile Work.

**Secure Transportation Asset** provides for the safe, secure movement of nuclear weapons, special nuclear materials, and weapon components between military locations and nuclear complex facilities within the United States. Program direction funds, principally for the courier workforce, are also included within this activity.

**Nuclear Weapons Incident Response (NWIR)** funding provides for emergency management and response activities that ensure a central point of contact and integrated response to emergencies requiring DOE assistance. It also includes program funding for Render Safe Research and Development, National Technical Nuclear Forensics (NTNF) Stabilization and Implementation, International Emergency Management and Cooperation and Nuclear Counter Terrorism.

**Facilities and Infrastructure Recapitalization Program (FIRP)** is designed to restore, rebuild, and revitalize the physical infrastructure of the nuclear weapons complex. The FIRP program addresses an integrated, prioritized list of maintenance and infrastructure projects, separate from 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. The program is supported by the **Nuclear Posture Review**, which calls for a modernized infrastructure by upgrading key facilities with a dedicated refurbishment program.

The **Environmental Projects and Operations Program** reduces risks to human health and the environment at NNSA sites and adjacent areas, by operating and maintaining environmental cleanup systems installed by the Office of Environmental Management, and performing long-term environmental activities and analyses that assures compliance with federal, state, and local requirements.

**Transformation Disposition** is proposed as a new program for FY 2009 to eliminate over 10 million square feet of excess facilities across the Weapons complex. The program supports the complex transformation vision. The program will capitalize upon the management expertise and proven performance in facility disposition built through the Facilities and Infrastructure Recapitalization Program.

**Safeguards and Security** provides funding for all **Defense Nuclear Security** physical and personnel security, and **Cyber Security** activities at the NNSA landlord sites, specifically, the three national weapons laboratories, the Nevada Test Site, and the four production plant

sites. Funding for security investigations of management and operations contractors at NNSA landlord sites is included in the DOE Security program request.

## *PROGRAM HIGHLIGHTS*

The FY 2009 request continues significant efforts to meet priorities to leverage science and to promote national security. Key focus areas include:

In January, 2008, NNSA announced a *preferred alternative* for the future nuclear weapons complex infrastructure that identifies the proposed major facilities, and consolidations of missions, capabilities, and special nuclear materials. The FY 2009 budget includes funding to pursue a program consistent with the preferred alternative for **Complex Transformation**, to be promulgated through a Record of Decision in 2008. Major elements found in the FY 2009 request are:

- Consolidation of Category I & II special nuclear materials from seven to five sites by 2012
- Designating Technical Area-55 at Los Alamos National Laboratory as the center for plutonium research and development and production. The Chemistry and Metallurgy Research Replacement-Nuclear Facility would be built to support production at this site.
- Y-12 National Security Complex at Oak Ridge, TN, remains the uranium R&D and production center. The FY 2009 request includes \$96 million for design of a Uranium Processing Facility at Y-12.
- Pantex Plant at Amarillo, TX, remains the weapons assembly/disassembly center. Non-destructive surveillance would be consolidated at Pantex and SNM would be consolidated leading to the proposed elimination of the Zone 4 security area.
- Tonopah Test Range (TTR), NV, would cease operations and NNSA would conduct flight testing at Department of Defense facilities.
- Major environmental testing would be consolidated at Sandia National Laboratories (SNL) in New Mexico, and high-consequence testing would be consolidated at the Nevada Test Site (NTS).
- Tritium experimental operations will be consolidated at the Savannah River Site.
- Missions and capabilities across the Complex would be consolidated to facilitate elimination of numerous buildings and structures from Weapons Activity budgets.
- Pantex Plant at Amarillo, Texas, remains the weapons assembly/disassembly center. Non-destructive surveillance

The Consolidated Appropriations Act, 2008, did not contain funding for the **Reliable Replacement Warhead (RRW)**. The FY 2009 request, continues work related to the Reliable Replacement Warhead (RRW) concept and design in three areas: within Directed Stockpile Work, \$10 million is included in FY 2009 to enable maturation of the design in order to address questions raised by the JASON Advisory Group review; in the Science Campaign, the Advanced Certification program will continue efforts begun in FY 2008 at the direction of the Congress to review, evaluate and implement key recommendations from the JASON Advisory Group RRW study regarding approaches to establishing an accredited warhead certification plan without nuclear testing, and within Enhanced Surety, evaluation of surety options for possible future systems, whether LEPs or RRW systems

The **Pit Manufacturing and Certification Campaign** is concluded with the successful manufacturing and certification of the W88 pit. Therefore, for FY 2009 the Pit Manufacturing related activities are consolidated within the direct stockpile work stockpile

services program and Pit Certification activities are relocated within the Science Campaign.

**Nuclear Weapons Incident Response** receives two functional transfers, the **International Emergency Management and Cooperation** program from Defense Nuclear Nonproliferation and **Nuclear Counterterrorism** activities formerly funded within Directed Stockpile Work.

The FY 2009 request includes funding for the **Pit Disassembly and Conversation Facility** and related activities following the Consolidated Appropriation Act, 2008, which funded the project within the Weapons Activities account.

**Cyber Security** funding increases by 22 percent to continue urgent, high priority actions to address problem areas at the laboratories, and to continue systematic revitalization of the cyber security infrastructure. The Safeguards and Security Defense Nuclear Security will be direct-funded starting in FY 2009, eliminating the offset to the appropriation.

*SIGNIFICANT FUNDING CHANGES – FY 2008 to FY 2009 Request (\$ in millions)*

**Weapons Activities (FY 2008 \$6,297.5; FY 2009 \$6,618.1) .....+\$320.6**  
FY 2009 request is 5.1 percent above the FY 2008. This funding will meet ongoing needs of the stockpile, stockpile surveillance, annual assessment, and Life Extension Programs as supported by the Nuclear Posture Review. Funding is consistent with planned program funding levels in the NNSA's Future Years Nuclear Security Program.

**Directed Stockpile Work (FY 2008 \$1,401.3; FY 2009 \$1,675.7) .....+\$274.5**  
FY 2009 request is 19.6 percent above the FY 2008 level and is to ensure that the nuclear warheads and bombs in the U.S. nuclear weapons stockpile are safe, secure, and reliable. The Directed Stockpile Work effort has been coordinated with the Department of Defense.

**Life Extension Programs for the B61 and W76 (FY 2008 \$234.1 \$; FY 2009 \$211.4).** FY 2009 request is -\$22.7 or 9.7 percent below the FY 2008 level. Life Extension Programs (LEP) for the B61 and W76 develop solutions to extend the life of the two warheads and correct potential technical issues. The reduction is a result of the B61 LEP completion scheduled during FY 2009.

**Stockpile Systems (FY 2008 \$340.1; FY 2009 \$338.7).** FY 2009 request is -\$1.4 or 0.4 percent below the FY 2008 level. The program provides each weapon-type routine maintenance; periodic repair; replacement of limited life components; support for the annual assessment process; resolution and timely closure of significant finding investigations; and surveillance to assure continued safety, security, and reliability. The decrease is a result of decreased work on the W80, and W87 Stockpile Systems partially offset by an increase in the B61 radar/programmer refurbishment.

**Reliable Replacement Warhead (FY 2008 \$0; FY 2009 \$10.0).** The funds in the FY 2009 request are to proceed with the maturation of Reliable Replacement Warhead (RRW) design concepts to address questions raised by the JASON review of RRW feasibility study activities and documenting the Phase 2A RRW work that has been completed through FY 2007 to support future administration decisions on options for our nuclear weapons stockpile.

**Weapons Dismantlement and Disposition (FY 2008 \$134.7; FY 2009 \$183.7).** FY 2009 request is \$49.0 or 36.4 percent above the FY 2008 level. This program provides for the dismantlement, characterization of

components, disposal of retired warhead systems, surveillance of retired stockpile systems, and the Pit Disassembly and Conversion Facility (PDCF). The increase reflects required Operations and Maintenance funding for Pit Disassembly and Conversion to support the continuation of ARIES testing and demonstration at the Los Alamos National Laboratory (LANL); operating support and construction funding for the Waste Solidification Building; storage of surplus plutonium at Pantex and LANL; and increased Weapons Dismantlement and Disposition activities at Pantex and Y-12.

**Stockpile Services** (FY 2008 \$692.4; FY 2009 \$931.9). FY 2009 request is \$244.6 or 34.6 percent above the FY 2008 level. The program supports production activities; research and development; certification; weapon safety and security efforts; stockpile management and technology; and responsive infrastructure. The increase is a result of the transfer of the Pit Manufacturing and Certification Campaign to DSW, fabrication of advanced production of components and the Kansas City Plant, and R&D to support Quantified Margins and Uncertainties (QMU).

**Campaigns** (FY 2008 \$1,873.8; FY 2009 \$1,631.8) .....-\$242.0  
FY 2009 request is 12.9 percent below the FY 2008 level.

**Science Campaign** (FY 2008 \$287.6; FY 2009 \$323.1). FY 2009 request is \$35.4 or 12.3 percent above the FY 2008 level. It develops improved capabilities to assess the safety, reliability, and performance of the nuclear package portion of weapons without further underground testing. It retains readiness to conduct underground nuclear testing if directed by the President and develops essential scientific capabilities and infrastructure. The increase is a result of a shift in Dynamic Plutonium Experiments and Advanced Certification Work from the pit certification program and increases in the Test Readiness program.

**Engineering Campaign** (FY 2008 \$169.5; FY 2009 \$142.7). FY 2009 request is -\$26.8 or 15.8 percent below the FY 2008 level. It develops capabilities to assess and improve the safety, reliability, and performance of the non-nuclear and nuclear explosive package engineering components in nuclear weapons without further underground testing. The decrease is a result of the funding completion of the MESA and Ion Beam construction projects.

**Inertial Confinement Fusion Ignition and High Yield Campaign** (FY 2008 \$470.2; FY 2009 \$421.2). FY 2009 request is -\$49.0 or 10.4 percent below the FY 2008 level. This program develops laboratory capabilities to create and measure extreme conditions of temperature, pressure, and radiation approaching those in a nuclear explosion and conducts weapons related research. It supports NIF diagnostics and cryogenic target systems; provides for ignition target design and fabrication; ICF experimental support activities; operation of the Z accelerator at Sandia; and short-pulse high-intensity laser activities. The decrease is a result of the NIF reduction consistent with the approved project baseline offset by an increase of funds for Z from a transfer from RTBF.

**Advanced Simulation and Computing Campaign** (FY 2008 \$574.5; FY 2009 \$561.7). FY 2009 request is -\$12.8 or 2.2 percent below the FY 2008 level. It provides leading edge, high end simulation capabilities to meet weapons assessment and certification requirements, including weapon codes, weapons science, platforms, and computer facilities. The decrease reflects the continuation of computing consolidation for the weapons complex

and the consolidation of effort on integrated codes consistent with the ASC Code Strategy.

**Pit Manufacturing and Certification Campaign** (FY 2008 \$213.8; FY 2009 \$0). All Pit Manufacturing and Certification Campaign activities are being realigned to Directed Stockpile Work (DSW) and the Science Campaign.

**Readiness Campaign** (FY 2008 \$158.1; FY 2009 \$183.0). FY 2009 request is \$24.9 or 15.8 percent above the FY 2008 level. This program has the responsibility for developing or reestablishing new manufacturing processes and technologies for qualifying weapon components for reuse. The increase is a result of completion of Stockpile Readiness and Nonnuclear Readiness efforts that were deferred from FY 2008 because of higher priority work and for an increase in the cost of uranium fuel to load the reactor used to irradiate tritium source rods.

**Readiness in Technical Base and Facilities**

(FY 2008 \$1,637.4; FY 2009 \$1,720.5)..... +\$83.1  
FY 2009 request is 5.1 percent above the FY 2008 level and is comprised of Operations and Maintenance activities and Construction projects.

**Operations of Facilities** (FY 2008 \$1,154.5; FY 2009 \$1,212.9). FY 2009 request is \$58.4 or 5.1 percent above the FY 2008 level. It provides increased funds above FY 2008 for the operation, physical infrastructure, and on-going maintenance of facilities for activities conducted in the Campaigns and Directed Stockpile Work. Approximately \$298 is requested for the Los Alamos National Laboratory (+4.6%), \$216.9 for the Y-12 complex (-3%), \$127.8 for the Sandia National Laboratory (-17%), \$122.3 for the Kansas City Plant (+44%), \$85.2 for the Lawrence Livermore National Laboratory (-5%), \$104.4 for the Pantex Plant (-8%), \$108.1 for the Savannah River Site (+26%), \$92.2 for the Nevada Test Site (+42%), and \$57.8 for Institutional Site Support (+7%).

**Program Readiness** (FY 2008 \$70.1; FY 2009 \$73.8). FY 2009 request is \$3.7 or 5.3 percent above the FY 2008 level. It includes selected activities that support more than one NNSA facility, Campaign or Directed Stockpile Work activity including manufacturing process capabilities required to support the stockpile; and critical skill needs. Nevada Test Site (NTS) readiness activities provide logistical support for laboratory staff permanently located in Nevada and the NTS Equipment Revitalization Program. Additional efforts are related to offsite monitoring, weather, cultural resources, hydrology and geology, legacy compliance for environmental issues and the Borehole Management Program. Increases from FY 2008 is provided for a increase in work at the DAF and to address microelectronics in support of next generation technology, systems material, and tool and process optimization in support of future electrical and optical designs.

**Material Recycle and Recovery** (FY 2008 \$71.6; FY 2009 \$72.5). FY 2009 request is \$0.9 or 1.3 percent above the FY 2008 level. It provides for the recycle and recovery of plutonium, enriched uranium, and tritium from fabrication and assembly operations, limited life components, and dismantlement of weapons and components. Also funded are the Central Scrap Management Office and the Precious Metals Business Center located at Y-12 National Security Complex.

**Containers** (FY 2008 \$21.8; FY 2009 \$23.4). FY 2009 request is \$1.6 or 7.5 percent above the FY 2008 level. It includes research, development, design, certification, testing and evaluation for shipping containers not directly associated with the life extension programs in DSW. The increase allows for expediting of material consolidation.

**Storage** (FY 2008 \$34.5; FY 2009 \$29.8). FY 2009 request is -\$4.6 or 13.4 percent below the FY 2008 level. It provides for storage of surplus pits, highly enriched uranium, and other weapons and nuclear materials in compliance with DOE/NNSA requirements. The decrease reflects the transition into operations at HEUMF at Y-12.

**Construction** (FY 2008 \$285.0; FY 2009 \$308.0). FY 2009 request is \$23.0 or 8.1 percent above the FY 2008 level. It supports line item project construction and project engineering design activities from FY 2001-2008. Funding provides for continuation of all ongoing projects. In the request there is one new line item construction project, Test Capabilities Revitalization, Phase 2 (\$3.2) at Sandia National Laboratory.

**Secure Transportation Asset** (FY 2008 \$211.5; FY 2009 \$221.1) ..... +\$9.6  
FY 2009 request is 4.5 percent above the FY 2008 level. Funding provides personnel, equipment, and training for the scheduling and secure transport services for the nuclear weapons complex and to meet the Secretary's Environmental Management commitments for closing former sites. The increase is for salaries and benefits for additional personnel as STA staffing increases from 585 to 647 FTEs, for general site support to all STA Federal Agents, and for the procurement of escort vehicles required to meet projected workload.

**Nuclear Weapons Incident Response** (FY 2008 \$158.6; FY 2009 \$221.9) .... +\$63.3  
FY 2009 request is 39.9 percent above FY 2008. Funding provides for emergency management and response activities that ensure a central point of contact and integrated response to emergencies requiring DOE assistance, including the Nuclear Emergency Support Team (FY 2008 \$89.8; FY 2009 \$90.8), which responds to nuclear terrorist threats. The increase is for two new programs; **Nuclear Counterterrorism** (\$51.8), which was transferred from Directed Stockpile Work, provides for collaborative efforts with the Department of Homeland Security and the intelligence community for improvised nuclear device concepts and; **International Emergency Management and Cooperation** (\$4.7), which was transferred from the Office of Defense Nuclear Nonproliferation, provides technical assistance, conducts training, and develops programs to strengthen and harmonize emergency management systems worldwide.

**Facilities and Infrastructure Recapitalization**  
(FY 2008 \$180.0; FY 2009 \$169.5) ..... -\$10.4  
FY 2009 request is 5.8 percent below FY 2008 and provides for recapitalization, infrastructure planning and construction of the nuclear weapons complex. The decrease is due to the planned completion of the Facility Disposition program which is scheduled to meet its goal of 3,000,000 gross feet in FY 2008. In FY 2009 there are no new line item construction projects.

**Environmental Projects and Operations**  
(FY 2008 \$8.6; FY 2009 \$40.6) ..... +\$32.0  
The increase is needed to add the Livermore National Laboratory Site 300 and the Pantex Plant to the Long-Term Stewardship program and to continue compliance with regulatory requirements at the Kansas City Plant (KCP), the Lawrence



Livermore National Laboratory (LLNL) Main Site and the Sandia National Laboratories (SNL).

**Transformation Disposition** (FY 2008 \$0.0; FY 2009 \$77.4).....+\$77.4  
This is a new program to eliminate excess facilities through demolition, transfer, or sale in support of NNSA's strategic goal to eliminate excess real property.

**Safeguards and Security** (FY 2008 \$899.5; FY 2009 \$859.8) .....-\$39.7  
FY 2009 request is 4.4 percent below FY 2008. (The FY 2008 amount was a net safeguards and security estimate reflecting adjustment for an annual security charge for reimbursable work. That adjustment has been dropped in FY 2009.) The Safeguards and Security program, which employs a comprehensive and robust security posture designed to protect national security assets at NNSA sites and facilities, consists of two separate control levels: Defense Nuclear Security and Cyber Security.

**Defense Nuclear Security** funding of \$737.3 is a decrease of \$61.9 or 7.7 percent below the FY 2008 level. Funding supports the hiring and training of protective force personnel; physical security system upgrades; materials control and accountability; application of emerging technologies; and physical security at NNSA sites. The decrease is a result of completion of one-time upgrades to existing physical security systems, reduced program management costs associated with the implementation of the 2005 DBT requirements, and the end of funding the Material Security and Consolidation Project (-\$14.7) at the Idaho National Laboratory (INL).

**Cyber Security** funding of \$122.5 is an increase of \$22.2 or 22.2 percent above FY 2008 levels. Funding sustains NNSA's information infrastructure and upgrades elements to counter cyber threats from external and internal attacks using the latest available technology. The increase is for additional information infrastructure at landlord sites and support for the Enterprise Secure Computing program that provides enterprise level classified computing infrastructure for the NNSA complex.

**Congressionally Directed Projects** (FY 2008 \$47.2; FY 2009 \$0) .....-\$47.2  
No funds are requested.

## Section 2. Nuclear Security

### Defense Nuclear Nonproliferation – NNSA

	(discretionary dollars in thousands)				
	FY 2007 Current Op. Plan	FY 2008 Current Approp.	FY 2009 Congressional Request	FY 2009 vs. FY 2008	
				\$	%
<b>Defense Nuclear Nonproliferation</b>					
Nonproliferation and verification R&D.....	265,197	387,196	275,091	-112,105	-29.0%
Nonproliferation and international security.....	128,911	149,993	140,467	-9,526	-6.4%
International nuclear materials protection and cooperation.....	597,646	624,482	429,694	-194,788	-31.2%
Elimination of weapons-grade plutonium production program.....	231,152	179,940	141,299	-38,641	-21.5%
Fissile materials disposition.....	470,062	66,235	41,774	-24,461	-36.9%
Global threat reduction initiative.....	131,234	193,225	219,641	+26,416	+13.7%
International nuclear fuel bank.....	—	49,545	—	-49,545	-100.0%
Congressionally directed projects.....	—	7,380	—	-7,380	-100.0%
Subtotal, Defense Nuclear Nonproliferation.....	1,824,202	1,657,996	1,247,966	-410,030	-24.7%
Use of prior year balances and other adjustments.....	—	-322,000	-918	+321,082	+99.7%
<b>Total, Defense Nuclear Nonproliferation.....</b>	<b>1,824,202</b>	<b>1,335,996</b>	<b>1,247,048</b>	<b>-88,948</b>	<b>-6.7%</b>

#### PROGRAM DESCRIPTION

NNSA's **Defense Nuclear Nonproliferation (NN)** appropriation provides funding for six programs which together provide policy and technical leadership to limit or prevent the spread of materials, technology, and expertise relating to weapons of mass destruction; advance technologies that detect the proliferation of weapons of mass destruction worldwide; and eliminate or secure inventories of surplus materials and infrastructure usable for nuclear weapons. It addresses the danger that hostile nations or terrorist groups may acquire weapons of mass destruction or weapons-usable material, dual-use production technology, or weapons of mass destruction expertise. The total **request** for the program in **FY 2009** is **\$1.25 billion**, and work will be done in the following major areas.

**Nonproliferation and Verification Research and Development** performs research, development, testing, and evaluation leading to prototype demonstrations and detection systems that strengthen the U.S. response to threats to national security and world peace posed by the proliferation of nuclear weapons and the diversion of special nuclear material. The program interfaces directly with operational agencies to provide innovative systems and technologies to meet their nonproliferation, counter-proliferation, and counter-terrorism mission responsibilities.

**Nonproliferation and International Security** strengthens the global nonproliferation regime by limiting sensitive exports, supporting international safeguards, partnering with foreign governments to implement proliferation control measures, monitoring nuclear reductions, and providing policy and technical analysis that advance U.S. nonproliferation initiatives and interests.

**International Nuclear Materials Protection and Cooperation** works to prevent nuclear terrorism by working in Russia and other regions of concern to secure and eliminate vulnerable nuclear weapons and weapons-usable material under the Material Protection, Control and Accounting (MPC&A) Program; and installing detection equipment at border crossings, major international seaports, and Megaports to prevent and detect the illicit transfer of nuclear material under the Second Line of Defense (SLD) Program.

**Elimination of Weapons-Grade Plutonium Production** works with the Russian Federation to shut down the last three weapons-grade plutonium production reactors, thus ending weapons-grade plutonium production in Russia by replacing the reactors with fossil-fueled

power plants to provide of heat and electricity to the cities of Seversk and Zheleznogorsk in Siberia.

**Fissile Materials Disposition** conducts activities in the United States to dispose of surplus weapons-grade fissile materials and supports disposal of Russian surplus weapon-grade plutonium.

The **Global Threat Reduction Initiative** mission is to reduce and protect vulnerable nuclear and radiological materials located at civilian sites worldwide. The program works to minimize the use of HEU in civilian nuclear applications worldwide by converting research reactors and targets used in the production of medical isotopes to suitable LEU fuels and targets; eliminates stockpiles of Russian-origin fresh and spent nuclear fuel and U.S.-origin spent nuclear fuel in foreign research reactors through repatriation of such material to Russia and the United States, respectively; addresses the removal of vulnerable material worldwide, including material not covered by previously existing programs; prevents proliferation of nuclear weapons by securing the weapons-grade plutonium in the spent fuel from the BN-350 fast-breeder reactor in Aktau, Kazakhstan; identifies, recovers, and stores, on an interim-basis, certain domestic radioactive sealed sources, and other radiological materials that pose a security risk to the United State and/or world community; and reduces the international threat by securing radiological materials that could be used in a radiological dispersal device (RDD) or "dirty bomb."

#### *PROGRAM HIGHLIGHTS*

The FY 2009 request includes \$41.8 million for **Fissile Materials Disposition**, to support continued effort to dispose of surplus U.S. HEU including its use within the Reliable Fuel Supply Program. The Consolidated Appropriations Act, 2008, (P.L. 110-161) funded the Mixed Oxide Fuel Fabrication Facility project within the Nuclear Energy Program , and the related Pit Disassembly and Conversion Facility/Waste Solidification Building projects within Weapons Activities. These projects are nevertheless vital to the nation's nuclear nonproliferation efforts as they provide the means to dispose of U.S. plutonium declared excess to our national defense needs.

Under the MPC&A Program, **International Nuclear Materials Protection and Cooperation** (IMPC) has secured hundreds of nuclear warheads at approximately 88 percent of the Russian warhead sites of concern, including all 39 Russian Navy nuclear sites, and all 25 Strategic Rocket Forces sites. Work is underway at the balance of the warhead and material sites, most of which will be completed on an accelerated basis by the end of 2008 under the Bratislava Initiative. Under the SLD program, a total of 117 sites in Russia have been equipped with radiation detection equipment to date. The United States and Russia agreed to equip all of Russia's border crossings with radiation detection equipment for a total of 350 sites by the end of 2011, which will be funded approximately evenly between NNSA and the Federal Customs Service of Russia. Radiation detection equipment is also currently operational at ports in 12 countries. Various stages of implementation are underway at ports in 16 other locations.

For the MPC&A Program, the FY2009 request supports selective new security upgrades to buildings and areas that were added to the cooperation after the Bratislava Summit. Significant efforts will be directed towards implementing a comprehensive MPC&A sustainability effort to ensure that U.S.-funded upgrades can be maintained by Russia. For the SLD Program, the FY 2009 request provides for the installation of radiation detection equipment at an additional 49 foreign sites in 14 countries and at 9 additional Megaports.

The **Global Threat Reduction Initiative (GTRI)** addresses the global nature of the threat and to focus resources on high value, near term risk reduction activities. GTRI was

specifically highlighted in the President's March 2006 National Security Strategy of the United States of America and is an important element of the Global Initiative to Combat Nuclear Terrorism. GTRI is serving to implement part of the Bratislava Summit Statement on Nuclear Security Cooperation between the United States and the Russian Federation. In accordance with this agreement GTRI developed and is implementing an aggressive, prioritized work schedule to complete all shipments of Russian origin spent HEU fuel stored outside reactor cores by the end of 2010.

The FY 2009 budget includes \$113.5 million for activities identified at the Bratislava summit including \$59.3 million for security upgrades at Russian nuclear warhead sites, \$39.2 million for Russia-origin fuel return, and \$15 million for reactor conversions.

**Elimination of Weapons-Grade Plutonium Production** will continue support for the construction of fossil-fueled power plant located in Zheleznogorsk, Russia, so that heat and electricity from plutonium-producing reactors can be replaced and plutonium production eliminated. The FY 2009 funding will enable NNSA to maintain a schedule that allows completion of the Zheleznogorsk project in 2010. The Seversk project is scheduled for completion by the end of December 2008.

The **Global Partnership** against the Spread of Weapons and Materials of Mass Destruction, formed at the Kananaskis Summit in June 2002 recommitted the G8 nations (U.S., Canada, France, Germany, Italy, Japan, Russia, and the United Kingdom) to address nonproliferation, disarmament, counter-terrorism, and nuclear safety issues. The G8 countries have pledged \$20 billion over 10 years to support cooperative efforts and have invited other similarly motivated countries to participate in this partnership. President Bush has committed the U.S. to provide \$10 billion over 10 years to be matched by \$10 billion from the other members, confirming that proliferation concerns are of the highest government priority; and that this program's work is of paramount importance for the security of the nation and the world. The FY 2009 request provides \$485.6 million toward the total U.S. commitment to the Global Partnership.

*SIGNIFICANT FUNDING CHANGES – FY 2008 to 2009 Request (\$ in millions)*

**Defense Nuclear Nonproliferation (FY 2008 \$1,336.0; FY 2009 \$1,247.0).....-\$88.9**  
 FY 2009 request is \$88.9 million or 6.7 percent below the FY 2008 funding.

**Nonproliferation and Verification R&D (FY 2008 \$387.2; FY 2009 \$275.1).....-\$112.1**  
 FY 2009 request continues research programs in Proliferation Detection, and Nuclear Detonation Detection.

**Proliferation Detection (FY 2008 \$224.4; FY 2009 \$145.4) .....-\$79.0**  
 Decrease from FY08 reflects an increase above FY07 levels and return to projected baseline budget for FY09.

**Nuclear Detonation Detection (FY 2008 \$132.5; FY 2009 \$116.5) .....-\$16.0**  
 Decrease from FY08 reflects an increase above FY07 levels and return to projected baseline budget for FY09.

**Supporting Activities (FY 2008 \$5.5; FY 2009 \$0) .....-\$5.5**  
 Decrease due to the transfer of previously funding activities to the proliferation detection and nuclear detonation detection programs.

**Physical Sciences Facility at Pacific Northwest National Laboratory**  
 (FY 2008 \$24.8; FY 2009 \$13.2).....-\$11.6

Decrease reflects NNSA scheduled support for the construction project funded jointly with the Office of Science and the Department of Homeland Security.

**Nonproliferation and International Security** (FY 2008 150.0; FY 2009 \$140.5) ..... -\$9.5  
FY 2009 request includes:

**Dismantlement and Transparency** (FY 2008 \$45.7; FY 2009 \$42.0) ..... -\$3.7  
Decrease reflects programmatic efficiencies and supports planned activities to reduce or eliminate proliferation concerns by promoting transparent arms reductions.

**Global Security Engagement and Cooperation**  
(FY 2008 \$50.9; FY 2009 \$47.4) ..... -\$3.5  
Decrease results from completion of Global Initiatives for Proliferation Prevention activities.

**International Regimes and Agreements** (FY 2008 \$44.4; FY 2009 \$35.3) ..... -\$9.1  
Decrease in funding for Export Control Licensing Operations, International Nuclear Security, Interdiction/Enforcement, Export Control Multi-lateral, and Global Regimes.

**Treaties and Agreements** (FY 2008 \$3.9; FY 2009 \$15.8) ..... +\$11.9  
Increase supports a new Next Generation Safeguards Initiative (NGSI) which aims to strengthen international safeguards and revitalize the U.S. technical base and provide technical and policy support to denuclearization and energy assistance working group discussions with North Korea.

**International Emergency Management and Cooperation**  
(FY 2008 \$5.0; FY 2009 \$0) ..... -\$5.0  
Decrease reflects the transfer of the program to the Office of Emergency Operations.  
FY 2009 funding of \$5.0 is requested within the Weapons Activities account.

**International Nuclear Materials Protection and Cooperation**  
(FY 2008 \$624.5; FY 2009 \$429.7) ..... -\$194.8

**Navy Complex** (FY 2008 \$13.3; FY 2009 \$16.4) ..... +\$3.1  
Increase will provide additional site sustainability support needed for sites with completed MPC&A upgrades.

**Strategic Rocket Forces** (FY 2008 \$121.9; FY 2009 \$53.6) ..... -\$68.3  
Decrease reflects completion of comprehensive MPC&A upgrades to Nine 12<sup>th</sup> Main Directorate sites in 2008.

**Rosatom Weapons Complex** (FY 2008 \$79.1; FY 2009 \$32.3) ..... -\$46.8  
Decrease reflects completion of MPC&A upgrades under the Bratislava Agreement.

**Civilian Nuclear Sites** (FY 2008 \$54.2; FY 2009 \$34.5) ..... -\$19.7  
Decrease due to the completion of MPC&A upgrades under the Bratislava Agreement and the completion of the majority of cooperative efforts with countries outside of Russia and the Former Soviet States.

**Material Consolidation and Conversion** (FY 2008 \$19.5; FY 2009 \$20.9) ..... +\$1.4  
Increase due to a higher projected availability of excess HEU to be downblended to LEU.

**National Programs and Sustainability** (FY 2008 \$69.6; FY 2009 \$59.3) ..... -\$10.3  
Decrease reflects the completion of most transportation and protective force upgrades to Russian sites.

**Second Line of Defense (SLD)** (FY 2008 \$266.9; FY 2009 \$212.7) .....-\$54.2  
SLD, includes the **Megaports Program** (FY 2008 \$130.8, FY 2009 \$134.1).  
Decrease in the Core program reflects the completion of accelerated installations in  
FY 2008.

**Elimination of Weapons-Grade Plutonium Production**  
(FY 2008 \$179.9; FY 2009 \$141.3) .....-\$38.6  
Decrease reflects zero funding requested for Seversk as the project approaches its December  
2008 completion; and a decreased funding for the Zheleznogorsk Project as it moves toward  
the December 2010 completion date for plutonium production reactor shutdown.

**Fissile Materials Disposition** (FY 2008 \$66.2; FY 2009 \$41.7) .....-\$24.5  
Funding supports the elimination of surplus fissile materials. In FY 2008, Congress  
transferred the funding for the U.S. MOX Fuel Fabrication Facility and supporting activities to  
the Nuclear Energy account. In FY 2009 \$487.0 is requested within the Other Defense  
Activities account under the Nuclear Energy Program for the U.S. MOX Fuel Fabrication  
Facility and supporting activities and \$119.0 for Pit Disassembly and Conversion is funded in  
Weapons Activities.

**U.S. Surplus Fissile Materials Disposition**  
(FY 2008 \$66.2; FY 2009 \$40.7) .....-\$25.5  
The decrease reflects the completion of packaging, sampling and handling activities  
associated with the 17 MT Reliable Fuel Supply project.

**Russian Surplus Fissile Materials Disposition**  
(FY 2008 \$0.0; FY 2009 \$1.0) .....+\$1.0  
FY 2009 funding is requested for technical support activities.

**Global Threat Reduction Initiative** (FY 2008 \$193.2; FY 2009 \$219.6) .....+\$26.4  
Increase is to accelerate high value near term threat reduction components of this work in keeping  
with Presidential direction and associated DOE initiatives.

**HEU Reactor Conversion** (FY 2008 \$33.8; FY 2009 \$49.3) .....+\$15.5  
Increase will support 8 additional reactor conversions, accelerate development of a  
new high density LEU and complete preliminary design work for a new fuel  
fabrication capability.

**Nuclear and Radiological Material Removal**  
(FY 2008 \$67.8; FY 2009 \$116.6) .....+\$48.8  
Increase reflects the estimated cost of returning Russian-origin HEU spent fuel from  
five countries, returning U.S. origin HEU from four countries, removing additional  
nuclear materials from other countries worldwide, and removing 80 Russian radio  
isotopic thermoelectric generators from the Russian Federation.

**Nuclear and Radiological Material Protection**  
(FY 2008 \$91.6; FY 2009 \$53.7) .....-\$37.9  
The decrease reflects the procurement in FY 2008 of the 100-ton casks needed to secure  
the HEU in spent fuel from the shutdown of the Bn-350 fast breeder reactor in  
Kazakhstan.

**International Nuclear Fuel Bank Program** (FY 2008 \$49.5; FY 2009 \$0) .....-\$49.5  
The International Nuclear Fuel Bank was established in FY 2008 at the direction of Congress, no  
additional funds are required.

**Congressionally Directed Projects** (FY 2008 \$7.4; FY 2009 \$0) .....-\$7.4  
No funds are requested to continue congressionally directed projects.

**Rescission of Prior-Year Balances** (FY 2008 -\$322.0; FY 2009 \$0).....+\$322.0  
The Consolidated Appropriation Act, 2008, (P.L. 110-161) included the rescission of balances associated with the Mixed Oxide Fuel Fabrication Facility and the Russian Surplus Fissile Materials Disposition program.

Section 2. Nuclear Security

Office of the Administrator – NNSA

	(discretionary dollars in thousands)				
	FY 2007 Current Op. Plan	FY 2008 Current Approp.	FY 2009 Congressional Request	FY 2009 vs. FY 2008	
				\$	%
<b>Office of the Administrator</b>					
Office of the administrator.....	358,291	379,997	404,081	+24,084	+6.3%
Congressionally directed projects.....	—	22,140	—	-22,140	-100.0%
<b>Total, Office of the Administrator.....</b>	<b>358,291</b>	<b>402,137</b>	<b>404,081</b>	<b>+1,944</b>	<b>+0.5%</b>

*PROGRAM DESCRIPTION*

The National Nuclear Security Administrator (NNSA) **Office of the Administrator** account provides the corporate direction, federal personnel, and resources necessary to plan, manage, and oversee the operation of the NNSA under the direction of DOE’s Under Secretary for Nuclear Security. The workforce is comprised of a highly educated and skilled cadre of federal managers overseeing the operations of the defense mission activities and performing many specialized duties including leading emergency response teams and safeguards and security oversight. The Naval Reactors and Secure Transportation Asset programs retain separately funded program direction accounts.

The organizational structure implemented in FY 2006 relies on eight site offices reporting directly to the Deputy Administrator for Defense Programs. The federal site offices that oversee NNSA contractor operations are located at Lawrence Livermore, Los Alamos, and Sandia National Laboratories; Pantex and Kansas City plants; Y-12 National Security Complex; Savannah River Site; and the Nevada Test Site. The NNSA Service Center in Albuquerque provides procurement, human resources, and other support to the site offices. The **FY 2009 request** for this program is **\$404.1 million**.

*PROGRAM HIGHLIGHTS*

The NNSA supports the **President’s Management Agenda** with a more robust and effective NNSA organization through improved human capital and financial management. The FY 2009 request supports the following efforts: applying advanced science and nuclear technology to the Nation’s defense; transforming the U.S. nuclear weapons stockpile and supporting infrastructure to be more responsive to the threats of the 21<sup>st</sup> Century; providing technical leadership to limit or prevent the spread of materials, technology, and expertise relating to weapons of mass destruction; and providing support for its Future Leaders Program and Historically Black College and Universities (HBCUs).

*SIGNIFICANT FUNDING CHANGES – FY 2008 to 2009 Request (\$ in millions)*

**Total Office of the Administrator (FY 2008 \$402.1; FY 2009 \$404.1) ..... +\$2.0**

**Program Direction (FY 2008 \$380.0; FY 2009 \$404.1) ..... +\$24.1**

The FY 2009 request supports salaries and benefits and cost of living adjustments for 1,942 FTEs, which reflects an increase of 95 FTEs from the FY 2008 level of 1,847 FTEs, to meet increased requirements in Defense Nuclear Nonproliferation and Emergency Operations program goals, as well as to address NNSA workforce planning skill mix issues.



**Congressionally Directed Projects (FY 2008 \$22.1; FY 2009 \$0).....-\$22.1**

The decrease reflects the shift of the HBCU program from the Congressionally Directed line item to the various appropriation accounts within the NNSA. In FY 2009, the Office of the Administrator appropriation will provide funding of \$3.6 million to support HBCU activities (\$2.5 million Massie Chairs of Excellence and \$1.1 million HBCU). Additionally, the NNSA program will fund up to \$1 million of HBCU efforts in FY 2009 in multiple research areas directly supporting program activities.

## Section 2. Nuclear Security

### Naval Reactors

	(discretionary dollars in thousands)				
	FY 2007 Current Op. Plan	FY 2008 Current Approp.	FY 2009 Congressional Request	FY 2009 vs. FY 2008	
				\$	%
<b>Naval Reactors</b>					
Naval reactors development .....	750,420	742,283	793,600	+51,317	+6.9%
Program direction .....	31,380	32,403	34,454	+2,051	+6.3%
<b>Total, Naval Reactors.....</b>	<b>781,800</b>	<b>774,686</b>	<b>828,054</b>	<b>+53,368</b>	<b>+6.9%</b>

#### PROGRAM DESCRIPTION

The **Naval Reactors (NR)** program has responsibility for all naval nuclear propulsion work, beginning with reactor technology development, continuing through design, construction, testing, operation, maintenance, and ultimately, reactor plant disposal. The total **request** for the program in **FY 2009** is **\$828.1 million**.

The program's efforts ensure the safe and reliable operation of reactor plants in nuclear-powered submarines and aircraft carriers, which comprise 40 percent of the Navy's combatants. The program's long-term development work ensures that nuclear propulsion technology can meet requirements to maintain and upgrade current capabilities, as well as meet future threats to U.S. security.

The NR program also fulfills the Navy's needs for new reactors to meet evolving national defense requirements. Recent and ongoing work includes the development and delivery of the next-generation reactor for the Navy's new VIRGINIA-class submarine and the design and development of a new reactor for the CVN 21-class aircraft carrier. These new plants will be more affordable and have improved power capabilities, increased endurance, and added dependability compared to current plants.

#### PROGRAM HIGHLIGHTS

The FY 2009 request provides \$828.1 million for Naval Reactors; an increase of \$53.4 million above the FY 2008 funding level. Funding supports continuing efforts to ensure the safety and reliability of the 103 operating naval reactor plants, develop new reactor plants for the VIRGINIA-class submarine and CVN 21-class aircraft carrier programs, and continue environmental stewardship and oversight of facilities.

#### SIGNIFICANT FUNDING CHANGES – FY 2008 to 2009 Request (\$ in millions)

**Naval Reactors Development (FY 2008 \$774.7; FY 2009 \$828.1).....+\$53.4**  
Increase in Operations and Maintenance and overall increase in construction funding, as follows:

**Operations and Maintenance (FY 2008 \$732.4; FY 2009 \$771.6) .....+\$39.2**  
Increases in Evaluation and Servicing and ATR Operations and Test Support are partially offset by a decrease in Plant Technology, Reactor Technology and Analysis, Materials Development and Verification, and Facility Operations, as follows:

**Plant Technology** (FY 2008 \$107.0; FY 2009 \$104.0).....-\$3.0  
Decrease due to completion of instrumentation and control design efforts and Reactor Protection Systems Performance Analysis for A1B; and completion of automated primary chemistry equipment installation for CVN77.

**Reactor Technology and Analysis** (FY 2008 \$206.0; FY 2008 \$204.4)...-\$1.6  
Reduction reflects reduced operation of the Large Component Testing Facility.

**Materials Development and Verification**  
(FY 2008 \$106.9; FY 2009 \$106.1) .....-\$0.8  
Decrease due to completion of Ceramics Development Laboratory stabilization effort, testing of the Alloy 690 and efforts related to beginning operations of the Materials Development Facility.

**Evaluation and Servicing** (FY 2008 \$203.8; FY 2009 \$264.3) ..... +\$60.5  
Increase reflects shift in resources to support production dry storage and spent nuclear fuel processing including increased maintenance and assessment of the Expended Core Facility.

**Advance Test Reactor (ATR) Operations and Test Support**  
(FY 2008 \$56.4; FY 2009 \$60.3) ..... +\$3.9  
Increase to support continued operations and maintenance of the Advanced Test Reactor.

**Facility Operations** (FY 2008 \$52.4; FY 2009 \$32.5) .....-\$19.9  
Reduction reflects a shift in priorities to provide additional resources in support of the Expended Core Facility operations and reduction in high performance computing and general plant project requirements.

**Construction** (FY 2008 \$9.9; FY 2009 \$22.0) .....+\$12.1  
Increase supports beginning construction of Materials Research and Technology Complex design at the Bettis Atomic Power Laboratory (+\$12.4); design and construction of a Production Support Complex at the Naval Reactors Facility, Idaho (+\$8.3); and project engineering and design for future projects (+\$1.0). Funding increase are offset by the completion of the Shipping and Receiving and Warehouse Complex at the Bettis Atomic Power Laboratory (-\$8.9) and project engineering and design for current projects (-\$.7)

**Program Direction** (FY 2008 \$32.4; FY 2009 \$34.5) .....+\$2.1  
Increase reflects salary increases for inflation and achievement of the FY 2009 target of 209 FTEs, and increased travel requirements for the management and oversight of the NR program.