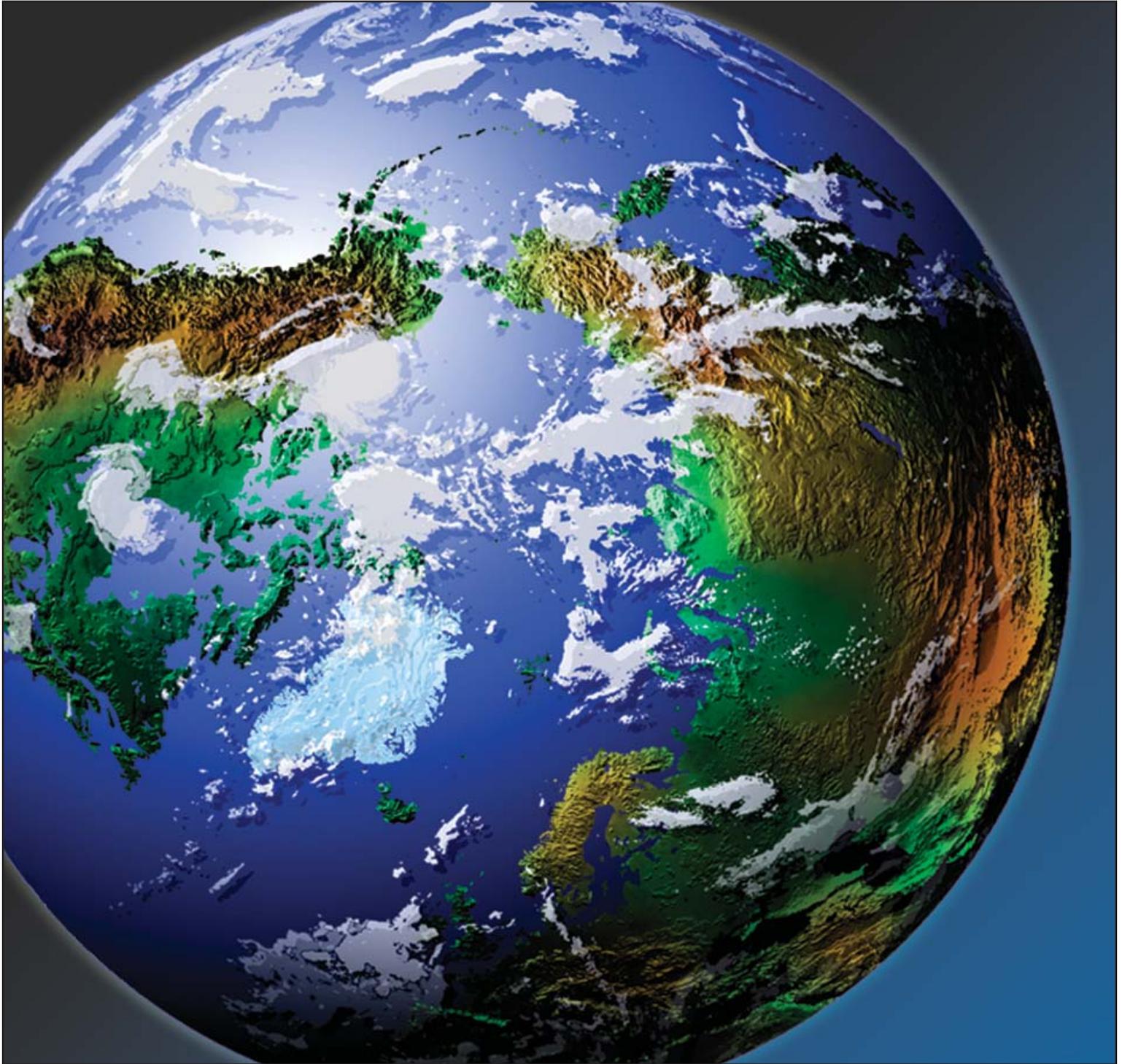




National Nuclear Security Administration  
Office of Defense Nuclear  
Nonproliferation



*Detect, Secure, and Dispose of  
Dangerous Nuclear Material*

## **Securing Nuclear and Radiological Materials Worldwide**

- Completed Material Protection, Control & Accounting upgrades at 93% of Russian nuclear material and warhead sites of concern.
- Converted 57 reactors in 32 countries from high-enriched uranium (HEU) to low-enriched uranium (LEU) (an additional 6 shutdown).
- Returned over 765 kgs of Russian-origin HEU; over 1,200 kgs of U.S. HEU; and over 146 kgs of other HEU material.
- Secured more than 545 buildings worldwide with high priority nuclear and radiological materials; recovered over 20,900 radiological sources domestically.

## **Detecting and Deterring Illicit International Nuclear Transfers**

- Equipped 160 Russian border crossings with radiation detection equipment with Russia equipping an approximately equal number.
- Beyond Russia, completed radiation detection equipment installation at 20 ports with work underway at 25 additional ports world-wide; operational at 60 border crossings (land, rail, air and feeder ports) in 13 countries.
- Reviewed 7,380 export licenses/requests for proliferation risk last year resulting in denial of 197.

## **Strengthening International Nonproliferation Efforts And Regimes**

- Repacked and removed 550 MT of uranium dioxide and 4,000 curies of radiological sources from the Tuwaitha Nuclear Research Complex in Iraq.
- Launched the Next Generation Safeguards Initiative to strengthen nuclear safeguards applied by the IAEA; strengthened the Nuclear Suppliers Group export control guidelines and control lists.
- Recently completed "123 Agreements" for peaceful nuclear cooperation with India and Turkey.
- Overseeing disablement activities at North Korean nuclear facilities; worked to dismantle Libya's WMD program.
- Engaged thousands of former WMD scientists at over 200 facilities and institutes in the FSU, Iraq and Libya, redirecting their expertise to peaceful purposes.
- Trained over 8,300 domestic export enforcement officials in WMD awareness and over 11,600 international export control officials on WMD identification and strategic trade controls since 9/11; trained over 350 foreign officials annually on physical protection of nuclear materials and facilities, and trained over 1,300 foreign technical personnel on nuclear safeguards and nuclear infrastructure development.
- Trained over 1,100 Russian and FSU personnel in the physical protection and material control and accounting of nuclear materials at three Rosatom training facilities.

## **Eliminating Weapons-Usable Material**

- Monitored downblending of over 352 MT of former Soviet weapons-origin HEU (enough for more than 14,000 nuclear weapons) for use in U.S. power plants, providing 10% of U.S. electricity.
- Downblended over 108 MT (enough for approximately 2,376 nuclear weapons) of surplus U.S. HEU into LEU for use as nuclear reactor fuel, with an additional 12 MT packaged and shipped for downblending (total of over 120 MT). Downblended over 11 MT of Russian civilian HEU to LEU.
- Downblending an additional 17.4 MT of HEU for the Reliable Fuel Supply initiative.
- Working to dispose of at least 68 MT of U.S. and Russian weapons-grade plutonium by converting it into mixed-oxide (MOX) fuel for commercial nuclear power reactors. Continuing construction of the U.S. MOX Fuel Fabrication Facility.
- Ended 43 years of weapons-grade plutonium production in Seversk by shutting down two reactors. Completed 53% of the Zheleznogorsk fossil fuel plant to replace the last reactor, and end all weapons-grade plutonium production in Russia.
- Monitoring safe storage of over 9 MT of Russian weapons-grade plutonium (nearly 1,125 warheads) to ensure its non-military use.

## **Research and Development**

- Advanced the state-of-the-art in timely and accurate analysis of nuclear proliferation related materials.
- Developed novel materials to significantly improve detection of illicit nuclear materials.
- Delivered ground and space based systems to detect nuclear detonations.
- Transferred 40 advanced safeguards technologies to strengthen IAEA safeguards; began 85 ongoing nuclear safeguards R&D projects in 15 countries.



# DEFENSE NUCLEAR NONPROLIFERATION GLOBAL PROGRAMS



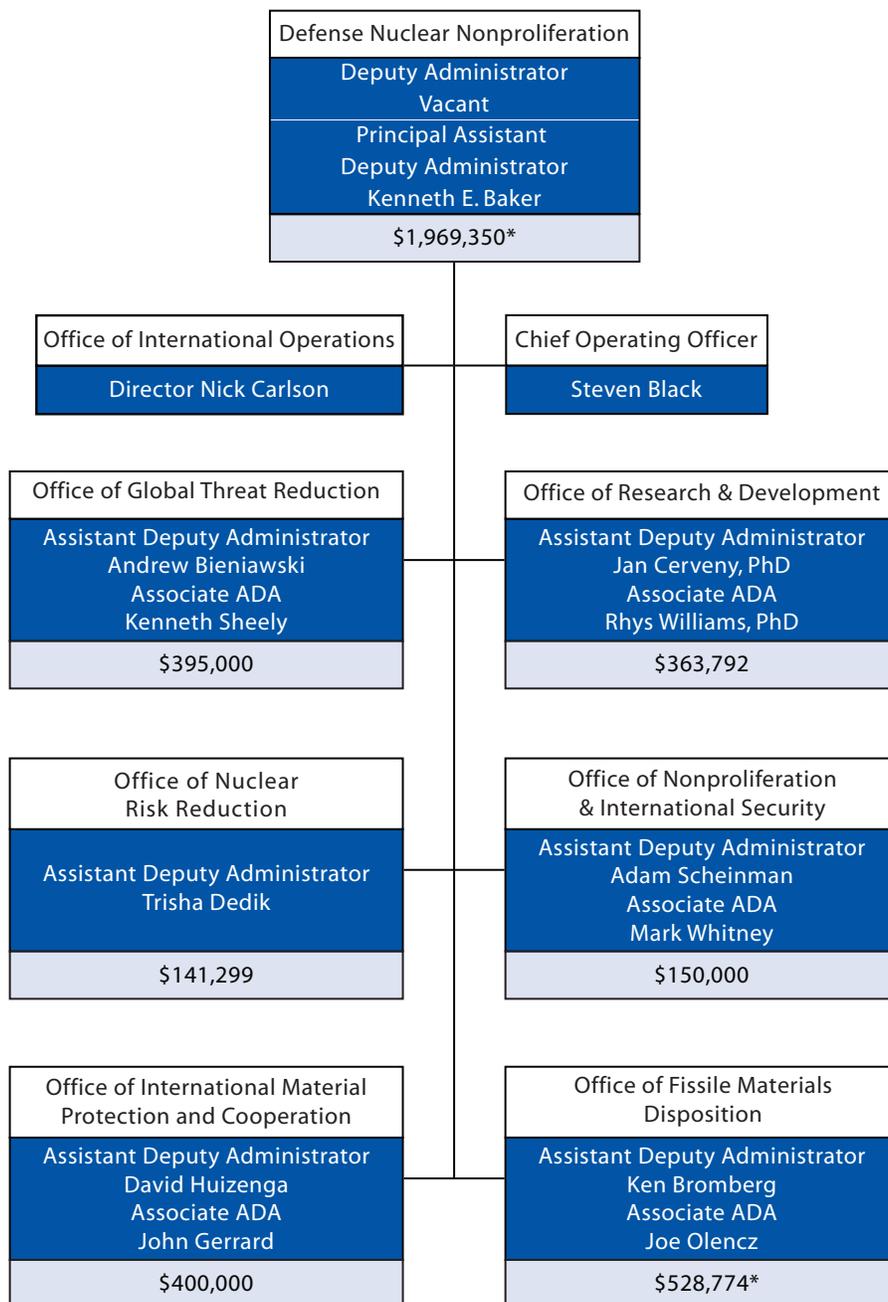
- Afghanistan
- Albania
- Algeria
- Argentina
- Armenia
- Australia
- Austria
- Azerbaijan
- Bahamas
- Bangladesh
- Belarus
- Belgium
- Bolivia
- Brazil
- Bosnia & Herz.
- Bulgaria
- Burkina Faso
- Cambodia
- Canada
- Chile
- China
- Colombia
- Dem. Rep. Congo
- Costa Rica
- Cote D'Ivoire
- Croatia
- Cyprus
- Czech Rep.
- Denmark
- Djibouti
- Dominican Rep.
- Ecuador
- Egypt
- El Salvador
- Estonia
- Ethiopia
- France
- Gabon
- Georgia
- Germany
- Ghana
- Greece
- Guatemala
- Honduras
- Hungary
- India
- Indonesia
- Iraq
- Israel
- Italy
- Jamaica
- Japan
- Jordan
- Kazakhstan
- Kenya
- Kuwait
- Kyrgyzstan
- Laos
- Latvia

- Lebanon
- Libya
- Lithuania
- Luxembourg
- Macedonia
- Malaysia
- Malta
- Mauritius
- Mexico
- Moldova
- Mongolia
- Montenegro
- Morocco
- Namibia
- Nepal
- Netherlands
- Nicaragua
- Nigeria
- North Korea
- Oman
- Pakistan
- Panama
- Papua New Guinea
- Paraguay
- Peru
- Philippines
- Poland
- Portugal
- Qatar
- Romania
- Russia
- Saudi Arabia
- Senegal
- Serbia
- Singapore
- Slovakia
- Slovenia
- South Africa
- South Korea
- Spain
- Sri Lanka
- Sweden
- Switzerland
- Syria
- Tajikistan
- Tanzania
- Thailand
- Tunisia
- Turkey
- Turkmenistan
- Uganda
- Ukraine
- UAE(Dubai)
- United Kingdom
- United States
- Uruguay
- Uzbekistan
- Venezuela
- Vietnam
- Yemen

Plutonium Producing Reactor Shutdown (1)	Convert HEU Fueled Research Reactors (41)
Global Initiatives for Proliferation Prevention (8)	Protect Nuclear/Radiological Materials (77)
Confidence Building Measures and Engagement (12)	Remove Nuclear/Radiological Materials (45)
Warhead Dismantlement and Transparency (5)	Second Line of Defense (23)
Highly Enriched Uranium Purchase Agreement (1)	Megaports (31)
International Nuclear Safeguards and Engagement Program (18)	Civilian Site Security (8)
International Nonproliferation Export Control Program (66)	Russian Ministry of Defense Site Security (1)
Physical Protection (51)	Rosatom Nuclear Materials Security (1)
Nuclear Noncompliance Verification (9)	Plutonium Disposition (2)
Cooperative Border Security Program (2)	International Operations (10) (#) = number of countries

## Scope of Commitment

- Nearly \$2 billion budget in FY09.
- Engaging over 100 countries and the International Atomic Energy Agency (IAEA), through 19 programmatic activities.
- Contributed \$50 million to the IAEA to facilitate the creation of an international nuclear fuel bank.
- Over \$49 million in international contributions from seven countries.
- Three Service to America Award winners.



Budget figures in the \$1,000s - FY09 Appropriation

\* Includes \$487,000 appropriated for the MOX program in the Nuclear Energy account.

## Contact Information



U.S. Department of Energy  
 National Nuclear Security Administration  
 Office of Defense Nuclear Nonproliferation  
 1000 Independence Ave., SW  
 Washington, D.C. 20585  
 (202) 586-0645

[http://nnsa.energy.gov/nuclear\\_nonproliferation](http://nnsa.energy.gov/nuclear_nonproliferation)