Reported Accomplishments of Selected Threat Reduction and Nonproliferation Programs, By Agency, for Fiscal Year 2008

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This annual report summarizes the activities and accomplishments of cooperation threat reduction and nonproliferation programs conducted in the Russian Federation, other former Soviet states, and around the globe by the Departments of Defense, Energy, State and Homeland Security.

Progress reports issued by the aforementioned departments in their annual budget requests to Congress provide the main source of information for this report. Facts and figures gathered from Congressional testimony, press releases, public websites, and other government publications are also included.

In general, this paper applies only through the conclusion of Fiscal Year 2008, as is the practice of most government agencies. However, when information through the conclusion of Calendar Year 2008 and into the early months of 2009 was available, it has been included.

This paper does not report on every cooperative threat reduction program and does not include information on completed or terminated programs. Previous accomplishments reports from PGS, available at these links to the PGS website, provide additional background for some of these programs:

- 2007
- 2006
- 2005
- 2004
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Department of Defense Cooperative Threat Reduction (CTR) Programs

The Department of Defense cooperates with Russia to destroy strategic weapons delivery systems. This program dismantles Intercontinental Ballistic Missiles (ICBMs), Submarine Launched Ballistic Missiles (SLBMs), and their launchers, along with bombers, nuclear-powered missile submarines and nuclear air-to-surface missiles (ASMs). Additionally, it also cooperates with former Soviet states to improve biological security by enhancing site security and supporting peaceful research activities for former WMD experts.

Destruction activities and overall progress are outlined in the following table:

Nunn-Lugar Scorecard

Program	Current Cumulative Reductions to Date	Percent of 2012 Targets	2012 Targets
Warheads Deactivated	7,514	81%	9222
ICBMs Destroyed	752	70%	1,078
ICBM Silos Eliminated	498	77%	645
ICBM Mobile Launchers Destroyed	143	53%	267
Nuclear Carrying Submarines Destroyed	31	88%	35
Submarine Launched ICBMs Eliminated	643	93%	691
SLBM Launchers Eliminated	476	84%	564
Nuclear Air-to-Surface Missiles Destroyed	906	100%	906
Bombers Eliminated	155	100%	155
Nuclear Test Tunnels/Holes Sealed	194	100%	194
Nuclear Weapons Transport Train Shipments	438	70%	620
Nuclear Weapons Storage Site Security Upgrades	24	100%	24
Biological Monitoring Stations Built and Equiped	18	32%	55

(Numbers current as accessed on June 10, 2009)

Strategic Offensive Arms Elimination Program – Russia

DoD supports destruction of strategic weapons delivery systems and associated infrastructure in accordance with applicable Strategic Arms Reduction Treaty (START)

provisions, including the START Conversion or Elimination Protocol. This assistance remains an incentive for Russia to draw down its Soviet-legacy nuclear forces and reduces opportunities for their proliferation or use. Equipment and services are provided to destroy or dismantle intercontinental ballistic missiles, ICBM silo launchers, road-mobile launchers, submarine-launched ballistic missiles, SLBM launchers, reactor cores of strategic nuclear-powered ballistic missile submarines (SSBNs), and WMD infrastructure.

FY 2008 accomplishments included:

Solid Propellant ICBM/SLBM and Mobile Launcher Elimination:

- Eliminated 40 SS-25 ICBMS;
- Eliminated 10 SS-N-20 SLBMs;
- Eliminated 30 SS-25 road-mobile launchers and demilitarized 122 support vehicles.

Liquid Propellant IBCM and Silo Elimination:

- Eliminated 16 SS-19 ICBMs;
- Decommissioned and dismantled six SS-18 ICBM silo launchers and one Launch Control Center (LCC);
- Decommissioned 30, dismantled 33, and eliminated 22 SS-19 ICBM silo launchers and LCCs;
- Conducted repairs at the liquid propellant ICBM elimination facility.

SLBM Launcher Elimination/SSBN Dismantlement:

- Completed Typhoon 724 dismantlement, including elimination of 20 SLBM launchers.

Strategic Nuclear Arms Elimination Program (SNAE):

- Stored 160 SS-24 solid rocket motors (SRMs);
- Transported SRMs to the propellant removal facility;
- Continued assisting with maintenance and repair of SRM storage buildings.

Chemical Weapons Destruction Facility (CWDF) Program

DoD is assisting Russia with safe, secure, and environmentally sound destruction of the most proliferable portion of its chemical weapons nerve-agent stockpile and related chemical weapons production facilities. The Shchuch'ye CWDF project supports this effort.

A major accomplishment for FY 2008 includes the completion the project and the completion of contract closeout activities.

Nuclear Weapons Storage Security Program

This program supports proliferation prevention by enhancing the security systems of nuclear weapons storage sites using DoD nuclear security standards as a basis for design.

Accomplishments in FY 2008 include:

- Continued construction and installation of equipment for comprehensive security upgrades at the last eight sites identified by Ministry of Defense (MOD);
- Initial sustainment including training, maintenance, spares, and depot support for site security enhancements;
- Provided electrical and heating infrastructure upgrades for the Russian Far East Training Center (FETC);
- Provided hardware and software technological refresh for the existing Automated Inventory Control and Management System (AICMS), central, regional, and field facilities, training on the AICMS system, and one year of warranty support for AICMS;
- Provided logistical support for CTR Program-provided equipment; and
- Provided contractor administrative and advisory support.

Nuclear Weapons Transportation Security Program

This program supports proliferation prevention by enhancing the security and safety of nuclear weapons during shipment.

Accomplishments in FY 2008 include:

- Transported approximately 53 trainloads of deactivated nuclear warheads (1,000 to 1,500) from deployed locations to enhanced security storage sites and to dismantlement facilities;
- Procured 17 additional cargo railcars;
- Retrofitted five DoD provided guard railcars with Railcar Consist Security System;
- Provided maintenance/certification for MOD nuclear weapons transport railcars; and
- Provided logistical support for CTR Program-provided equipment.

Biological Threat Reduction Program (BTRP)

The BTRP objectives are to prevent proliferation of BW-related materials, technologies, and expertise and combat bioterrorism. DoD consolidates and secures dangerous pathogen collections into Central Reference Laboratories (CRLs). It also improves the safety of biological facilities and enhances states' ability to detect and respond to a bioterror attack. This program works with scientists having BW expertise and eliminates or secures former BW facilities. This program promotes sustained transparency and the formation of strategic partnerships in the war on bioterrorism.

Accomplishments in FY 2008 include:

- Provided funding support for 11 Cooperative Biological Research (CBR) projects;
- Initiated assessment of Armenia BTR Program (BTRP) requirements, provided additional travel support to develop a CBR program and implement projects in Armenia;
- Provided training, workshops, travel, and management oversight for BTRP projects;
- Continued development and implementation of Electronic Integrated Disease Surveillance System (EIDSS), a computerized disease surveillance and reporting system, in Azerbaijan and Georgia;
- Initiated implementation of EIDSS in Kazakhstan;
- Continued construction and outfitting of Secured Pathogen Repositories to include:
    - One Central Reference Laboratory (CRL) in Georgia;
    - Completed the design adaptation and manage the initiation of construction of one CRL in Azerbaijan;
    - Completed two repository upgrades in Russia; and
    - Began renovation of an interim CRL in Ukraine.
- Established seven Zonal Diagnostic Laboratories (ZDLs) (two in Kazakhstan, one in Azerbaijan, three in Ukraine and one in Georgia);
- Sustained 19 ZDLs and trained associated scientists;
- Continued five Biosafety & Biosecurity projects in Russia; and
- Provided technical, contractor administrative, and advisory contractor support services.

WMD Proliferation Prevention Initiative Program (WMD-PPI)

WMD-PPI addresses the vulnerability of selected non-Russian FSU states' borders to smuggling of WMD and related components. WMD-PPI expands the program's traditional focus, WMD "at their source," to address WMD "on the move." Currently, WMD-PPI assists Azerbaijan, Kazakhstan, Ukraine, and Uzbekistan to develop functional, self-sustaining, multiagency capabilities to prevent the proliferation of WMD-related materials, components, and technologies across their borders. Additionally, DoD works with recipient states to include commitments in CTR governing agreements for reporting WMD detections made with U. S. Government-provided assistance to the U.S. embassies in-country.

FY 2008 accomplishments in specific countries include:

- Ukraine: Enhanced WMD detection and interdiction capabilities along the Moldova/Transnistria border, expanded the land border surveillance network, project assessments, and upgrades to additional international and state ports of entry and inland clearing stations; increased WMD detection and interdiction capability on the maritime border in the Black Sea and Sea of Azov; repaired and upgraded mission critical vessels; expand the maritime surveillance network; and assessed the Chornobyl Exclusion Zone;

- Azerbaijan: Upgraded WMD detection and interdiction capabilities along its maritime borders on the Caspian Sea and expand the maritime surveillance network;
- Kazakhstan: Installed additional security measures at the former Semipalatinsk test site.

Department of Energy National Nuclear Security Administration (NNSA) Programs

International Nuclear Materials Protection and Cooperation

The International Nuclear Materials Protection and Cooperation (INMP&C) program prevents nuclear terrorism by working in Russia and other regions of concern to secure and eliminate nuclear weapons and weapons-usable material and install detection equipment at international crossing points to prevent the illegal transfer of nuclear material. This program seeks to assist the Obama administration goal to secure all nuclear weapons materials at vulnerable sites within four years.

Major FY 2008 achievements of the INMP&C program include:

- Completion of Materials Protection Control and Accounting (MPC&A) upgrades at a cumulative total of 65 of 73 Russian warhead sites;
- Completion of MPC&A upgrades at a cumulative total of 181 of 229 buildings containing weapons-usable material in Russia, other former Soviet states, and the Baltics;
- Downblended a total of 10.7 metric tons (MT) of HEU to LEU;
- Enacted 11 additional MPC&A regulations in Russia;
- Placed a cumulative total of 92 MPC&A regulations in the development phase for Russia and other FSU countries; and
- Installed radiation detection equipment at a cumulative total of 232 Second Line of Defense (SLD) sites and 19 Megaports.

Within INMP&C there are seven subprograms:

- Navy Complex: This program improves security by installing improved security systems at Russian Navy nuclear warhead sites, HEU fuel storage facilities, and shipyards where nuclear materials are present. There are 50 sites covered by this program: 39 Russian Navy nuclear warhead sites and 11 Russian Navy fuel/nuclear material storage sites. Comprehensive upgrades were completed at all 11 Navy fuel and other nuclear material storage sites in FY 2004, however, sustainability and training will continue for seven of these sites.

- Strategic Rocket Forces: This program element improves security of Russian warheads by installing improved security systems at Strategic Rocket Forces (SRF) and 12th Main Directorate nuclear warhead sites. A total of 25 SRF sites (at 11 bases) and nine 12th Main Directorate sites have received MPC&A upgrades. Improvements include rapid upgrades and/or a comprehensive

upgrades phase, and a sustainability program, which assures the systems will remain effective after the installation of upgrades is complete.

- Rosatom Weapons Complex: The Civilian Nuclear Sites program improved security at 32 civilian nuclear sites (19 Russian and 13 sites outside of Russia). This program improves the security of nuclear weapons and materials at seven Rosatom nuclear sites. This protects the nuclear weapons, uranium enrichment, and material storage which occurs there.

- Material Consolidation and Conversion: In FY 2008, INMP&C down-blended a total of 10.7 metric tons (MT) of HEU to LEU. This program works to improve the long-term security of weapons-usable nuclear material in Russia. MMC works by collecting non-weapons highly enriched uranium (HEU) and plutonium into fewer, more secure locations as well as downblending weapons-usable HEU to non-weapons-usable low enriched uranium (LEU).

- Second Line of Defense: This program prevents the illegal trafficking of nuclear materials by securing international borders and the global maritime shipping system. This is primarily done by cooperating with foreign governments.

    - The SLD Core Program: In FY 2008 NNSA installed radiation detection equipment at a cumulative total of 232 SLD sites. This program strengthens the capability of foreign governments to intercept illicit nuclear trafficking across international borders and through the global maritime shipping system. This is done by deploying detection equipment to scan commercial cargo, passenger vehicles, and pedestrians regardless of direction or destination. Up to approximately 600 sites in 32 countries are now scheduled to receive detection equipment installations, including approximately 170 sites in Russia.

    - SLD Megaports Initiative: In FY 2008 NNSA installed radiation detection equipment at a cumulative total of 19 Megaports. The primary goal of the Megaports Initiative is to scan as much container traffic for radiation as possible, with minimal impact to port operations. This program provides radiation detection equipment to key international seaports to screen cargo containers for nuclear and other radioactive materials. Under this initiative, NNSA plans to implement this program in up to 100 international seaports by the end of 2015.

Global Threat Reduction Initiative (GTRI)

The Global Threat Reduction Initiative (GTRI) mission is to reduce and protect vulnerable nuclear and radiological materials located at civilian sites worldwide, and directly supports President Obama's goal to accelerate efforts to secure and remove all vulnerable nuclear material from the most vulnerable sites within four years.

Major FY 2008 Achievements of GTRI include:

- Bringing to 62 the number of research reactors shutdown or converted from use of HEU fuel to LEU fuel;
- Removing 1,948 kilograms of HEU and plutonium, enough material to make more than 75 crude nuclear bombs;
- Removing 18,656 radiological sources in the United States containing more than 715,000 curies of material;
- Helping secure 514 nuclear and radiological buildings worldwide;
- Converting the following reactors from HEU to LEU:
    - Argentina's RA-6 reactor in Bariloche;
    - The WWR-M reactor at the Kiev Institute of Nuclear Research in Ukraine;
    - Washington State University's research reactor ;
    - The Oregon State University reactor;
- GTRI has significantly increased the number of shipments to return Russian-origin research reactor fuel, including:
    - Fourteen kilograms from Latvia in May 2008;
    - Six and a half kilograms from Bulgaria in August 2008; and
    - Almost 155 kilograms from Hungary in October 2008.

The above accomplishments were achieved via GTRI's three sub-projects:

- HEU Reactor Conversion: This program helps convert domestic and international civilian research reactors and isotope production facilities from HEU to LEU. This includes working with Mo-99 producers to convert their existing operations to use LEU targets and developing new LEU-based Mo-99 production capabilities in the United States.
- Nuclear and Radiological Material Removal: This subprogram supports the removal and disposal of excess nuclear and radiological material from civilian sites worldwide including:
    - Russian-origin nuclear material removal;
    - U.S.-origin nuclear material removal;
    - Gap nuclear material removal;
    - Emerging Threats nuclear material removal;
    - International radiological material removal; and
    - Domestic radiological material removal.
- Nuclear and Radiological Material Protection: This subprogram works to secure nuclear and radiological material worldwide from theft and sabotage. This subprogram includes:
    - Providing safe and secure long-term storage of approximately 3,000 kilograms of weapons-grade plutonium and 10,000 kilograms of HEU in spent fuel from the shutdown BN-350 fast breeder reactor in Kazakhstan;
    - Working in cooperation with foreign counterparts and agencies to install security upgrades vulnerable nuclear and radiological materials located at civilian sites outside the United States; and
    - Working to install security upgrades on high-priority nuclear and radiological materials located at civilian sites within the United States.

Nonproliferation and International Security (NIS)

The Nonproliferation and International Security (NIS) program seeks to prevent and counter the proliferation of weapons of mass destruction. This is done by supporting WMD stockpile reduction, encouraging strong export control systems, creating peaceful WMD expertise transfers, and improving international safeguards.

Major FY 2008 achievements of the NIS program include:

- Concluded negotiations of 123 Agreements with India and Russia;
- Concluded Nuclear Suppliers Group (NSG)-India policy accommodation;
- Completed Operation McCall to repackage and remove 550 metric tons of uranium ore from Iraq;
- Reviewed approximately 2,900 foreign WMD/missile procurements for sanctionable activity or diplomatic/interdiction response;
- Reviewed 7,241 export licenses/requests for proliferation risk, recommending denial of 197;
- Brought the Proliferation Trade Control Directory on-line;
- Recruited over 50 students through safeguards internships;
- Partnered with six countries to develop safeguards systems concepts;
- Led interagency in UNSCR 1540 implementation spanning safeguards, export control; physical protection, and border security;
- Completed first-ever threat assessment of WMD expertise proliferation risk, providing comprehensive analytic basis to realign scientist engagement in Russia/Former Soviet Union (FSU);
- Trained 273 officials on physical protection from 62 countries;
- Provided WMD awareness training for 1,511 officials in FY 2008 and assisted with 150 DHS and Department of Justice investigations;
- Conducted Commodity Identification Training in 31 countries;
- Trained over 1,000 foreign nationals in nuclear safeguards applications;
- Engaged with 14 countries, Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials (ABACC) and European Atomic Energy Community (EURATOM) on safeguards implementation and technology evaluation, and infrastructure for peaceful uses;
- Hosted two regional infrastructure workshops for countries interested in pursuing nuclear power;
- Trained 300 foreign experts in safeguards; and
- Secured partnership between the National Nuclear Security Administration (NNSA) and the Department of Defense (DoD) on Middle East/South Asia border security.

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The above accomplishments were achieved through NIS' four sub-programs:

- Dismantlement and Transparency (D&T)

  The Dismantlement and Transparency (D&T) subprogram works to reduce proliferation by providing political and technical support for nonproliferation and arms control agreements. In addition, the program monitoring equipment to ensure foreign nuclear dismantling is taking place. D&T accomplishes its goals through the following miniprograms:
  - HEU Transparency Implementation;
  - Warhead Dismantlement and Fissile Missile Transparency; and
  - Nuclear Noncompliance Verification.

- Global Security Engagement and Cooperation (GSEC)

  The Office of Global Security Engagement and Cooperation works with international partners to strengthen export control systems, assist foreign countries in meeting their NPT obligations, deal with regional security challenges and to transition WMD scientific communities to peaceful pursuits. The office has five miniprograms though which it accomplishes its mission:
  - Confidence Building Measures;
  - International Nuclear Safeguards and Engagement Program;
  - International Nonproliferation Export Control;
  - Cooperative Border Security Program; and
  - Global Initiatives for Proliferation Prevention.

- International Regimes and Agreements (IRA)

  The Office of International Regimes and Agreements (IRA) seeks to strengthen the nonproliferation regime by reinforcing and enhancing IAEA safeguards. It attempts to raise barriers to proliferation while ensuring U.S. compliance with its nonproliferation and licensing obligations. IRA has six main miniprograms.
  - Interdiction/Enforcement;
  - Global Regimes,
  - Nuclear Safeguards;
  - Export Control Licensing Operations; and
  - International Nuclear Security.

- Treaties and Agreements

  This Nonproliferation and International Security subprogram supports the enforcement of security measures for nonproliferation agreements. Additionally, the program provides for unexpected responses on unanticipated U.S. national security needs.

Elimination of Weapons-Grade Plutonium Production (EWGPP)

FY 2010 is expected to be the final year of funding for the EWGPP program. The program to shutdown three plutonium-producing reactors will be complete in FY 2011 when the last of the three reactors is shut down. Three subprograms make unique contributions to EWGPP.

- Seversk Plutonium Production Elimination: This project enabled the shutdown of two of the last three weapons-grade plutonium production reactors by providing heat and electricity through refurbishment of an existing 1950s fossil-fueled facility. The two reactors at Seversk were shut down more than six months early (April and June 2008). In FY 2009, remaining activities, including final documentation and outstanding invoices, will ender completion.

- Zheleznogorsk Plutonium Production Elimination: This project will enable the shutdown of the last weapons-grade plutonium production reactor by constructing a replacement fossil-fueled facility. By the end of FY 2009, the project is expected to be 70 percent complete, and in FY 2010, the project will complete a coal plant construction to supply hot water to Zheleznogorsk. By the end of FY 2010, the project will be 98.4 percent complete.

- Program Shutdown Oversight: This program works to ensure that three weapons-grade plutonium production reactors shutdown as fossil fuel plants are constructed. Reactors ADE-4 and ADE-5 at Seversk were shut down more than six months ahead of schedule, and the shutdown schedule for Reactor ADE-2 at Zheleznogorsk has been approved.

Russian Surplus Fissile Materials Disposition (FMD)

The goal of this program is to eliminate surplus Russian plutonium and surplus United States (U.S.) plutonium and highly enriched uranium. Within the Fissile Materials Disposition (FMD) Program, there are two subprograms responsible for these accomplishments.

FY 2008 Major achievements of the FMD program include:

- NNSA completed 100 percent of the MOX facility foundation and installed over 40,000 cubic yards of reinforced concrete and over 6,000 tons of rebar;
- Construction of 6 of the 16 auxiliary MOX buildings was also completed;
- NNSA completed 100 percent of the design of the Waste Solidification Building;
- NNSA completed down-blending of the 100th MT of surplus U.S. HEU in FY 2008;
- The HEU Disposition program began down-blending 17.4 MT of surplus U.S. HEU for the Reliable Fuel Supply, and enough LEU for a commercial reactor core reload is already available;

- The Savannah River Site completed the disposition of another 17 MT of surplus U.S. HEU under the TVA Off-Spec agreement;
- In the first quarter of FY 2008, the Secretary of Energy and the Director of Rosatom signed a joint statement for a technically and financially credible Russian plutonium disposition plan;
- In May 2008, the United States and Russia began negotiations on amendments to the September 2000 Plutonium Management and Disposition Agreement (PMDA) to reflect the revised program.

The goal of the U.S. Plutonium Disposition program is disposition of at least 34 metric tons (MT) of U.S. surplus weapon-grade plutonium. Two key U.S. facilities will be built at the Savannah River Site (SRS) in South Carolina to accomplish this goal: a Mixed Oxide (MOX) Fuel Fabrication Facility (MFFF) to fabricate plutonium oxide into MOX fuel for irradiation in domestic reactors, and a Waste Solidification Building (WSB) to handle waste from the MFFF and pit disassembly operations.

NNSA is also responsible for disposing of surplus U.S. highly enriched uranium (HEU) by down-blending it into low enriched uranium (LEU). Once down-blended, the material can no longer be used for nuclear weapons. The program seeks to recover the economic value of the material by using the resulting LEU as nuclear reactor fuel. Five separate disposition activities and projects currently implemented include:

- H-Canyon Enriched Uranium (EU) Disposition;
- Off-Specification HEU Blend-Down;
- the 12 MT HEU Blend-Down;
- Reliable Fuel Supply; and
- Research Reactor Fuel.

Department of State Programs

Nonproliferation, Anti-Terrorism, Demining and Related Programs (NADR)

NADR provides funding for security programs which work to reduce regional and transnational threats. There are three programs within NADR that deal with nonproliferation and global security of WMD material and expertise. Along with the programs outlined below, NADR also makes a voluntary contribution to the IAEA (in FY 2008 totaling $51.1 million), and provides funding to the Comprehensive Nuclear Test Ban Treaty International Monitoring System (totaling $26.3 million in FY 2008).

- Nonproliferation and Disarmament Fund

  The Nonproliferation and Disarmament Fund (NDF) works to halt the spread of WMDs and their delivery systems, and advanced conventional weapons to terrorists and others. Projects are designed to deal with unanticipated threats may, and also to destroy existing weapons. Funding for NDF in FY 2008 totaled $33.7 million.

NDF's mandate emphasized maintaining readiness for fast and flexible responses dangerous situations. For this reason, NDF resources are not committed to any project or region in advance, unlike traditional State Department or other U.S. nonproliferation assistance programs. Its mission includes efforts to:

- Halt the proliferation of nuclear, biological, and chemical weapons and their delivery systems
- Destroy or neutralize existing WMDs, and their delivery systems;
- Facilitate the detection and interdiction of WMD by tracking, controlling, and securing dangerous materials;
- Limit the spread of advanced conventional weapons; and
- Buttress U.S. diplomatic efforts to promote disarmament activities.

- Weapons of Mass Destruction Terrorism Program

  The Weapons of Mass Destruction Terrorism (WMDT) program, first authorized in FY 2009, will improve international capabilities to prevent, prepare for, and respond to, a WMD terrorist attack.

- Export Control and Related Border Security Program

  The main focus of the Export Control and Related Border Security (EXBS) Program is to prevent the proliferation of WMD, delivery systems, and other advanced conventional weapons. By assisting partners improve their border controls, this program prevents states and terrorists from acquiring WMDs. This program also seeks to improve other nations' legal frameworks, licensing processes, interagency cooperation and other enforcement capabilities. This program focuses chiefly on proliferation-sensitive nations.

- Global Threat Reduction Program

  The Global Threat Reduction Program (GTR) (formerly the Nonproliferation of WMD Expertise program) seeks to combat proliferation of WMD expertise, materials, and equipment by redirecting WMD scientists, engineers and technicians, assisting security upgrades at biological and chemical agent facilities; and preventing nuclear smuggling. The program received $56.9 million in FY 2008 in funding. Six areas that deal with the engagement and redirection of expertise are funded under this program.

  - Science Centers:
    - The International Science and Technology Center (ISTC) in Moscow and the Science and Technology Center (STCU) in Kiev engages researchers in nuclear, missile, chemical and biological institutions in collaboration with Western counterparts. Projects seek to achieve long-term nonproliferation impact and move priority institutions closer to self-sustainability. These resources are used to engage former weapons scientists and technical team

members in peaceful science projects. Accomplishments in FY 2008 by the Science Center projects include:

- New project funding for 79 projects in the amount of $26.2 million USD, of which ISTC Partners provided $6.7 million USD for 21 projects;
- Addition of 29 new Partner organizations, to the existing 380 Partners, who have provided $244.1million USD in project funding since program's inception.

- Bio-Chem Redirect Program: The Bio-Chem Redirect Program transitions biological and chemical weapons scientists and experts from FSU states to peaceful research projects dealing with global public health, crop and livestock health and environmental monitoring and remediation.

- Bio Industry Initiative: The Bio Industry Initiative (BII) seeks to reconfigure former biological weapons production facilities in the former Soviet Union for non-weapon uses and to combat both regional and global disease by engaging former weapons scientist in accelerated drug and vaccine production.

- Iraq Scientist Engagement Program: This program set up a center of science and technology in Iraq to focus on WMD scientist redirection. The priorities of this program include expanding the number of scientists engaged (currently 140+) and increasing sustainability. Recent successes of the program in 2008 include:
  - The implementation of Certified Energy Managers Training, (Istanbul);
  - Implementation of Radiation Safety Training, (Amman);
  - IEEE General Meeting with Follow-on Training, (USA); and
  - The implementation of Professional Workshop Development, (Istanbul).

- The Libya Scientist Engagement Program: This program aims to engage and transfer Libya's nuclear, chemical and missile experts into civilian careers to enhance Libya's economic development. This program supports the establishment of a nuclear medicine center in Libya, which is intended to help the redirection process of technical personnel.

- Biosecurity Engagement Program (BEP): This program aims to improve pathogen security, facility biosecurity and scientist engagement countries and regions where emerging bioscience sections, highly infections disease outbreaks, and terrorist threats coexist. This program focuses on pathogen security and biosafety projects, training to promote effective laboratory practices, and surveillance and diagnostics that strengthen infectious disease detection and response.

Department of Homeland Security Programs

DHS Nuclear Weapons Security Programs
There are three programs with in DHS which work to prevent and reduce the risk of a nuclear attack on the United States.

- Domestic Nuclear Detection
  The Domestic Nuclear Detection Office (DNDO) is the lead agency in DHS and works across the Department to combat the nuclear attack threat. This program improves the capability to detect and report unauthorized attempts to import, possess, store, develop, or transport radiological or nuclear material. The Department has integrated all nuclear detection research, development, test, evaluation, and operational support into a single office.

  This program accomplished the following in FY 2008:
  - Fifteen Graduate Fellowship and academic research awards granted in nuclear forensics-related specialties;
  - Eight states and urban areas were provided with an effective Preventive Radiological/Nuclear Detection program;
  - 97% of cargo, by volume, passed through fixed radiation portal monitors at land and sea ports of entry;
  - 90.3% percent of cargo, by weight, passed through radiation detection systems upon entering the United States.

- Ports, Waterways and Coastal Security
  This program manages and reduces terror-related risk in the U.S. Maritime. The Coast Guard's International Port Security (IPS) program employs effective anti-terrorism measures in foreign ports and ensures arriving vessels go though necessary security checks. The IPS Program has conducted visits in over 500 ports in more than 135 countries. This program in FY 2008 imposed conditions of entry on vessels arriving from seven specified countries determined to have inadequate security standards.

- Customs and Border Control
  This program seeks to improve the targeting, screening, and apprehension of high-risk international cargo and travelers to prevent terrorist attacks at through border security inspections and trade facilitation at ports of entry.

Accomplishments for this program in FY 2008 include:

- 99.9% compliance rate was achieved for Customs-Trade Partnership Against Terrorism (C-TPAT) members with the established C-TPAT security guidelines;
- 99.9% foreign cargo examinations were successfully resolved in cooperation with the Container Security Initiative;
- 95.1% of requested cargo examinations conducted at foreign ports of origin were successfully made in cooperation with host nations under the Container Security Initiative (CSI);
- 86.1% of worldwide U.S.-destined containers were successfully processed through Container Security Initiative (CSI) ports.

DHS Biological and Chemical Security Programs

There are six programs which work to prevent and reduce the risk of a biological or chemical attack on the United States. These are listed below with their major accomplishments.

- Medical and Biodefense Programs

  This program with in the DHS Office of Health Affairs works to bolster the national biodefense readiness by enhancing the national architecture to rapidly detect, characterize, and respond effectively to a large-scale biological event.

  The major accomplishments of this program in FY 2008 include:

  - Seven federal agencies have now agreed to provide information to the National Biosurveillance Integration Center (NBIC), which will use this information enhance national security against a biological and chemical attack;
  - 33 biological monitoring units were successfully deployed in high-risk indoor facilities within BioWatch jurisdictions.

- Chemical and Biological

  This program works to improve the understanding, technologies, and systems necessary to protect against possible biological and chemical attacks on the U.S. population, agriculture, or infrastructure. This program, within the Science and Technology directorate, protects against possible biological attacks, focusing on preventing the most catastrophic attacks including aerosolized anthrax and smallpox.

  A major accomplishment of this program in FY 2008 was the 58% completion of an effective restoration technology, which has the ability to restore key infrastructure to normal operation after a chemical attack.

  This program works through six areas:

- The Systems Studies and Decision Support Tools Project conducts system studies and net assessments to identify and assess effective measures for deterrence, detection, and mitigation of biological terrorism acts against the U.S. population and infrastructure.

- The Threat Awareness Project works to identify threats posed by biological weapons, anticipate future threats, and conduct threat and risk assessments to guide prioritization of the Nation's biodefense investments;

- Surveillance and Detection Research and Development and Detection Operations develops next-generation detectors for biological threat agents, including fully autonomous detection capabilities for the third generation BioWatch system.

- DHS Forensics Project area operates the National BioForensics and Analysis Center (NBFAC) and conducts bioforensics research in support of criminal investigative cases, with the ultimate goal of attribution, apprehension, and prosecution of the perpetrator.

- Response and Restoration efforts provide advanced planning, develops concepts-of-operation, and funds exercises and training for responding to and recovering from a large-scale biological attack.

- Laboratory Facilities
  This program within the Science and Technology directorate works to improve the Nation's core of productive science, technology, and engineering laboratories, organizations, and institutions, which can develop the knowledge and technology required to secure our homeland through science and technology. A major accomplishment of this program in FY 2008 was a 93 % success rate for general program goals which improve their protection from a biological attack.

- Ports, Waterways and Coastal Security (U.S. Coast Guard)
  This program works to manage terror-related risk in the U.S. Maritime Domain to an acceptable level. 2008 accomplishments include the achievement of a 69% critical infrastructure visit rate.

- Explosives
  This program within the Science and Technology directorate works to improve explosive countermeasure technologies and procedures to prevent attacks on critical infrastructure, key assets, and the public through science and technology. The major accomplishments of this program in FY 2008 include:
  - Three new or improved technologies were made available for transition to the customers at a Technology Readiness Level (TRL) 6 or above;
  - 77% of explosives program milestones that are met, as established in the fiscal year's budget execution plan.

- Aviation Security (TSA):
  This program within the Transportation and Security Administration works to reduce the probability of a successful terrorist or other criminal attack to the air transportation system by improved aviation security. A major accomplishment of this program in FY2008 includes achieving the classified set level of baggage security screening assessment results set for FY 2008.

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