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Reported Accomplishments of Selected Threat Reduction and Nonproliferation Programs, By Agency, for Fiscal Year 2007

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

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 2007, as is the practice of most government agencies. However, when information through the conclusion of Calendar Year 2007 and into the early months of 2008 was available, it has been included.

This paper does not report on every cooperative threat reduction program and does not include 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:

- 2006
- 2005
- 2004
- 2003
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- <u>2001</u>

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Department of Defense Programs

Strategic Offensive Arms Elimination Program - Russia

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).

Destruction progress is outlined in the following table:

Program	Current Cumulative Reductions	2007 Projection	2012 Reduction Targets
Warheads Deactivated	7292	7,280	9,222
ICBMs Destroyed	708	779	1,078
ICBM Silos Eliminated	496	496	645
ICBM Mobile Launchers Destroyed	131	119	267
Bombers Eliminated	155	155	155
Nuclear ASMs Destroyed	906	906	906
SLBM Launchers Eliminated	456	456	564
SLBMs Eliminated	631	613	691
SSBNs Destroyed	31	31	35
Nuclear Test Tunnels/Holes Sealed	194	194	194
Nuclear Weapons Transport Train Shipments	395	n/a	620
Nuclear Weapons Storage Site Security Upgrades	17	n/a	24
Biological Monitoring Stations Built & Equipped	15	n/a	55

Nunn-Lugar Scorecard

Reduction numbers current as of September 3, 2008; 2007 projections as of December 31, 2006; and 2012 targets as of December 31, 2007

- FY 2007 accomplishments included:
 - <u>Solid Propellant ICBM/SLBM and Mobile Launcher Elimination</u>: This program oversaw the disassembly of eight SS-N-20 missiles and elimination of 18 SS-24 missiles and four SS-24 rail-mobile launchers. Two SS-25 regiments were decommissioned, including the final regiment at Kansk, elements of 46 SS-25 missiles were destroyed and 27 road-mobile launchers were eliminated. A factory designed to burn additional SS-25 Solid Rocket Motors (SRMs) became fully operational and established a new capability to burn SS-24 and SS-25 SRMs with known anomalies. Forty-two launch-associated and special system-support vehicles were demilitarized.
 - <u>Liquid Propellant IBCM and Silo Elimination</u>: Two SS-18 ICBMs and eight SS-19 ICBMS were eliminated, and 22 SS-19 silos were decommissioned. Using CTR-provided equipment, Russia eliminated two SS-19 ICBMs; one SS-N-18 and 11 SS-N-23 SLBMs.
 - <u>SLBM Launcher Elimination/SSBN Dismantlement</u>: This program eliminated 20 SLBM launchers from Typhoon-class SSBN 713 and completed sectioning and preparation of reactor-core components for storage afloat. The Zvezdochka shipyard received a contract to dismantle Typhoon-class SSBN 724 and has towed it to the shipyard.

Chemical Weapons Destruction Program - Russia

Two projects within this program assist Russia in destroying its chemical weapon nerve agents in a safe and environmentally sound manner.

- <u>Chemical Weapons Destruction Facility</u>: DoD, Parsons, and its U.S. subcontractors, Washington Group International and EG&G Technical Services, Inc., transferred all construction packages, minus the boiler house area, to the Federal Agency for Industry (FAI). Parsons also transferred most of the remaining design and some equipment procurement responsibility to FAI, enabling Parsons to reduce its personnel and close its Volgograd office. Parsons continued to manage the boiler house construction, and the Parsons Earned Value Management System was validated.
- <u>Chemical Weapons Production Facility Demilitarization</u>: This program at Novocheboksarsk was completed.

Strategic Nuclear Arms Elimination Program – Ukraine

One active project supports the safe storage of 160 SRMs from dismantled SS-24 ICBMs.

In Ukraine, specific programs and FY 2007 accomplishments included:

• <u>SS-24 Missile Disassembly, Storage and Elimination</u>: In 2006 and 2007, Ukraine used the pilot water-washout plant, previously provided by DoD, to remove

propellant from one third-stage and two second-stage SRMs. DoD supported storage of the remaining 160 SRMs.

Nuclear Weapons Storage Security (NWSS) Program - Russia

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

- <u>Site Security Enhancements</u>: This program is nearing completion of upgrades at four sites and continued detailed design and technical and economic justification documentation, completed deforestation and grading, began technical territory perimeter construction, and obtained construction permits at the final eight sites. Forty armored transport vehicles were procured, with 15 delivered. Failure analysis and trial operations were completed at 11 upgraded sites.
- <u>Far East Training Center</u>: The project completed final design, and initial site preparation began. Additionally, construction and outfitting began after conclusion of a construction contract between Oak Ridge National Laboratory and Eleron.
- <u>Automated Inventory Control and Management System</u>: Test, design, and engineering activities for software and hardware were completed, and procurement of items required to maintain the schedule's critical path began.

Nuclear Weapons Transportation Security Program (NWTS) - Russia

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

- <u>Nuclear Weapons Transportation</u>: Forty-seven rain shipments were supported.
- <u>Railcar Maintenance and Procurement</u>: Scheduled maintenance on 29 cargo railcars was conducted. Design reviews resulted in approved designs for the cargo railcar. Production of the first 19 cargo railcars and two-for-one destruction of old cargo railcars was initiated.

Fissile Material Storage Facility (FMSF)

The fissile material storage facility (FMSF) at Mayak, which was commissioned in December 2003, will help provide safe and environmentally friendly sound storage for weapons grade fissile material. This program currently has one component:

• <u>Fissile Material Storage Facility Transparency Arrangements</u>: In January 2007, the Department of State received Russia's comments on the U.S. Government's proposed FMSF transparency framework. The United States responded in February 2007 with its proposed text. Senator Lugar and former Senator Nunn visited the FMSF during their 15th year CTR anniversary tour in AugustSeptember 2007 and were informed by Federal Atomic Energy Agency officials that Russia thought negotiations could be concluded in 2007.

Biological Threat Reduction Program – FSU

This program contains two subprograms working in former Soviet Union states to prevent the proliferation and use of biological materials and expertise:

- Biosecurity and Biosafety and Threat Agent Reduction and Response: In Russia, • Raytheon Technical Services Corp. (RTSC) provided technical oversight, conducted assessments, and drafted Analyses of Alternatives for biosecurity and/or biosafety upgrades at Golitsino, Pokrov, Vector, and Vladimir. At Golitsino, biosafety upgrades at the laboratory space, site security upgrades, and greenhouse upgrades were completed. Additional equipment and materials are being procured, and construction at Pokrov, Vector, and Vladimir has begun. A Pathogen Asset Control System was installed at Vladimir. In Baku, Azerbaijan, RTSC and Bechtel National Inc. completed biosecurity upgrades to secure the national pathogen repository at the Anti-Plague Station and completed renovation of the interim diagnostic laboratory at the Republican Veterinary Laboratory. Agreement was reached on the location, general design, and construction schedule for the CRL. In Ukraine, a project to establish a Zonal Diagnostic Laboratory (ZDL) at the Central Sanitary-Epidemiologic Station in Kiev continued, and plans for a ZDL at the Oblast Sanitary-Epidemiologic Station in Odessa commenced. Planning, design, and renovations began at the Ukrainian Research and Anti-Plague Institute in Odessa to establish the interim human CRL. In Tbilisi, Georgia, BNI completed construction of the ZDL at the Laboratory of the Ministry of Agriculture and initiated construction of the CRL. Construction was completed on the veterinary ZDL in Kutaisi. DoD continues to address the Georgian proposal to establish the CRL as a joint U.S.-Georgia laboratory. In Uzbekistan, renovation of a ZDL at the Sanitary-Epidemiology Station in Samargand was completed, and construction of the first joint human-veterinary ZDL began in Karshi. In Kazakhstan, construction of the ZDL at the National Veterinary Center in Astana was completed, and construction of the ZDL at Uralsk commenced.
- <u>Cooperative Biological Research:</u> Researchers on the one active project in Russia are preparing a manuscript titled "A simple method for production of randomized human tenth fibronectin domain III libraries for use in combinatorial screening procedures" for submission to international peer-reviewed journals. In non-Russian states, an assessment of the Azerbaijani human and animal disease surveillance and diagnostic laboratory systems was conducted and a number of core training modules completed, including modules on disease surveillance baselines, regulatory reform, biosafety, and biosecurity. Plague-causing bacteria in Georgia were characterized, and their comparison with U.S. strains is continuing. In Kazakhstan, an assessment of the prevalence of avian influenza in wild bird populations found H5N1 virus among swans on the eastern shore of the Caspian Sea, and the outbreak was contained. Brucellosis, an important health and

economic problem, is being studied in Kazakhstan and Uzbekistan. In Uzbekistan, an ecological and virological study of arbovirus infections in the South Aral region began. These projects engaged 569 scientists at 17 different institutes and are guiding the publication of one article in a peer-reviewed journal. Non-Russian FSU scientists, in collaboration with their U.S. colleagues, made seven presentations at international conferences.

Weapons of Mass Destruction – Proliferation Prevention Incentive Program- FSU

Four projects were underway in FY 2007 to address the vulnerability of selected non-Russian FSU states' borders to smuggling of WMD and related components:

- Land Border and Maritime Proliferation Prevention (Ukraine): The land border project continued planning, implementation, and construction of a land border system surveillance architecture and conducted a successful operational exercise that employed realistic proliferation threat scenarios that may be encountered. RTSC commenced construction of radar tower foundations as part of a comprehensive command and control systems architecture. In the maritime project, enhancements such as radiological detection equipment and training, were provided to Customs and Border Guard units operating in Ports of Entry (POE). DoD continued patrol vessel repairs and upgrades, including installation of rigid hull inflatable boats and surveillance, communications, and navigation equipment. Design and construction of a shore-based maritime surveillance system and command and control network linking critical communication facilities began.
- <u>Caspian Sea Maritime Proliferation Prevention (Kazakhstan)</u>: A draft concept of operations was provided to Kazakhstan representatives. RTSC provided basic boarding team gear, radiological detection equipment, and training modules. Unitech delivered a training needs analysis and conducted several training sessions with Kazakhstani students.
- <u>Caspian Sea Maritime Proliferation Prevention (Azerbaijan)</u>: Two patrol vessels were repaired and tested at sea, and support for ship repair and maintenance capabilities continued. Repairs to the final two patrol vessels were planned and approved. The State Border Service-Coast Guard received comprehensive smallboat and boarding-team training, including an instructor-trainer curriculum designed to strengthen the indigenous capability to self-train and sustain mission capability. Initial design and site surveys were completed for a new maritime surveillance radar site on Chilov Island.
- <u>Portal Monitoring (Uzbekistan)</u>: Washington Group International finished installation of portal monitors, including communications upgrades, at 27 POEs and transitioned operation of the monitors to the Uzbekistan State Customs Committee. WGI also implemented an Employee Fitness for Duty Program for Uzbekistan's State Customs Committee to increase the effectiveness of equipment installed for the detection and interdiction of WMD smuggling.

Department of Energy Programs

International Nuclear Materials Protection and Cooperation

The International Nuclear Materials Protection and Cooperation program seeks to prevent terrorism by securing and eliminating nuclear weapons and weapons-usable materials as well as by installing nuclear material detection equipment at border crossings and Megaports to prevent the illicit trafficking of these materials.

- <u>Navy Complex</u>: This program improves the security of Russian Navy warheads and fissile material by upgrading security at sites where nuclear warheads, fuel and other nuclear materials are present. In FY 2006, NNSA completed Materials Protection Control & Accounting (MPC&A) upgrades at the final two Russian Navy nuclear warhead sites, bringing the total upgrades completed to 39.
- <u>Strategic Rocket Forces</u>: This program completed in October 2007 security upgrades for a Russian Strategic Rocket Force base in Siberia. In the process of competing the last upgrade for 25 nuclear missile sites at 11 Russian bases as called for in a 2005 U.S.-Russia joint statement.
- <u>Rosatom Weapons Complex</u>: This program secured a cumulative total of 193 buildings in Russia containing weapons usable material. The United States and Russia adopted a joint sustainability plan with Rosatom outlining specific requirements (e.g., regulatory, training, maintenance, inspections) to ensure the long-term viability of nuclear security.
- <u>Civilian Nuclear Sites</u>: This program works to install improved security and accounting systems at 31 civilian nuclear sites (19 Russian and 13 Non-Russian). Both rapid upgrades to combat immediate risks and more comprehensive upgrades are installed. Through FY 2007, upgrades to help to ensure sustainability of security systems at civilian nuclear sites in Russia and in former Soviet states will continue. Additionally, the program will provide support for training, procedures, maintenance, equipment repair, critical spare parts and performance testing to further ensure program sustainability.
- <u>Material Consolidation and Conversion</u>: This program converts HEU into LEU and consolidates excess nuclear materials into fewer, more secure sites. By the end of FY 2008, the program expects to have converted 10.7 MTs of the total 17 MTs of HEU to LEU.
- <u>Second Line of Defense</u>: Installation of radiation detection equipment to detect the illicit trafficking of nuclear and other radiological materials was completed at a cumulative total of 150 strategic transit border crossings, air and sea transshipment hubs in Russia and other countries and at a cumulative total of 12 Megaports.
- <u>National Programs and Sustainability</u>: This program allows the International Nuclear Materials Protection and Cooperation program to implement a focused strategy to ensure that its programs can be sustained in Russia and other countries. It develops the necessary infrastructure in these countries through projects that seek to develop regulations and inspection capabilities, site safeguards and

security programs, training and regional support and site sustainability. In FY 2008, the program will operate and maintain three regional technical support facilities. Additionally, the program will conduct 20 physical protection classes with 300 participants and 35 material control and accounting classes with 500 participants.

Global Threat Reduction Initiative

The Global Threat Reduction Initiative seeks to secure and/or remove all high risk nuclear materials and equipment that could potentially be a threat to the United States or the international community. To date, this program has completed security upgrades in over 40 countries. GTRI is composed of eight subprograms.

- <u>Reduced Enrichment for Research and Test Reactions (RERTR)</u>: Nine HEU reactors have been converted to LEU increasing the total handled by the program to 55, inclusive of four research reactors that have been shutdown without conversion to LEU.
- <u>Russian Research Reactor Fuel Return (RRRFR)</u>: This program works to eliminate Russian-origin stockpiles of HEU in foreign countries by either repatriating or otherwise facilitating final disposition of the material. In FY 2006, 268 kilograms of Soviet-origin HEU from Germany was returned to Russia, where it was to be down-blended to LEU fuel. In FY 2007, over 200 kilograms of material from four countries was shipped to Russia.
- <u>Kazakhstan Spent Fuel Disposition</u>: The program provides safe and secure longterm storage of nearly three tons of weapons-grade plutonium and ten tons of HEU in spent fuel from the BN-350 fast breeder reactor, which is enough for 775 crude nuclear weapons. It is expected that by the end of 2008, this subprogram will have completed more than 50 percent of the serial production of dual-use casks.
- <u>International Radiological Threat Reduction:</u> An additional 100 high priority radiological sites have received security upgrades, increasing the program total to 600 sites containing eight million curies, enough for over 8,000 radiological dirty bombs. The program also removed or disposed of an additional 1,622 radiological sources increasing the program total to 15,500 sources removed, containing over 190,000 curies, enough for over 1,485 radiological dirty bombs. By the end of FY 2008, it is expected that 10 percent of funding will support the sustainability of previously upgraded sties in 40 countries. This subprogram is also expected to complete security upgrades at an additional 59 sites, containing 2,600,000 curies of radioactive material, enough for 2,600 radiological dirty bombs.
- <u>U.S. Foreign Research Reactor Spent Nuclear Fuel (FRRSNF)</u>: This subprogram provides for material packaging, secure transport, and storage at the Savannah River and Idaho Sites of eligible U.S.-origin HEU spent nuclear fuel. In FY 2007, removed or disposed of an additional 425 kilograms of nuclear material (HEU and plutonium) increasing the program total to 1,791 kilograms, enough for over 65 crude nuclear weapons. By the end of FY 2008, it is expected that this

subprogram will return approximately 675 spent fuel assemblies containing 70 kilograms of HEU to the United States from the following countries: Argentina, Brazil, Germany, Japan, Portugal, Romania, South Africa, and Turkey.

- <u>Emerging Threats and Gap Materials (ET)</u>: This subprogram provides for material packaging, secure transport, storage and/or disposition of civilian HEU and plutonium not covered under other GTRI programs. By the end of FY 2008, this subprogram is expected to remove nearly 90 kilograms of HEU and plutonium from Chile, Denmark, Greece, Italy and Switzerland equivalent to more than five nuclear weapons, resulting in a cumulative total of more than 325 kilograms of HEU, which is equivalent to more than 15 crude nuclear weapons.
- <u>Global Research Reactor Security</u>: This subprogram provides vulnerability analysis and security upgrades at facilities and research reactors outside the U.S. and FSU with WMD-usable nuclear materials. In FY 2008, this subprogram will provide security upgrades to the Safari Research Reactor in South Africa.
- <u>U.S. Radiological Threat Reduction (USRTR)</u>: This subprogram provides for material packaging, transport, storage and/or disposition of excess sealed radioactive sources and similar radioactive materials that are in the possession of domestic U.S. licensees. Removed 1,578 excess sources in FY 2007 and in FY 2008 is expected to remove 2,250 excess sources containing an equivalent number of curies to that of 107 radiological dirty bombs. This results in a cumulative total of more than 17,700 excess sealed sources removed, containing an equivalent number of curies to that of approximately 1,600 radiological dirty bombs.

Nonproliferation and International Security

The Nonproliferation and International Security (NIS) program seeks to prevent and counter the proliferation of weapons of mass destruction by providing support for the reduction in WMD stockpiles, strengthening export control systems, transitioning WMD expertise and infrastructure to peaceful purposes, and improving international safeguards and interdiction regimes. FY 2007 achievements include:

- <u>Safeguard Objective Assessment</u>: A comprehensive assessment of international safeguards objectives, authorities, capabilities, technologies, and human and financial resource issues was completed that will serve as the basis for new initiatives to strengthen the IAEA and revitalize the U.S. safeguards technology and human capital base.
- <u>Verification and Detection Technologies</u>: This program has developed and delivered several new technologies, systems, and methods to verify declared nuclear activities and detect undeclared nuclear materials and activities, including technologies that will strengthen the overall effectiveness and efficiency of IAEA safeguards.
- <u>Six Party Talks</u>: The department has provided technical and policy support to the U.S. delegation to the talks on the complete, verifiable, and irreversible dismantlement of North Korea's nuclear program.
- <u>Illicit Transfer Prevention</u>: This program has trained over 2,000 technical, enforcement and industry officials in over 30 countries on export license risk

analysis and WMD commodity recognition methods needed to prevent illicit transfers of items listed by the multilateral WMD export control regimes.

- <u>Infrastructure Preparation</u>: Technical assistance and training on effective nuclear infrastructure preparation has been provided to countries interested in pursuing nuclear power, including new partnerships with Vietnam and Algeria.
- <u>Employment Opportunities</u>: This program has engaged over 5,600 scientists, engineers and related technical experts at institutes across the FSU, Libya, and Iraq, creating over 500 sustainable civilian jobs. Since 1994, this program has engaged and/or redirected 16,000 individuals at over 180 institutes.
- <u>HEU Transparency Program</u>: The program has completed the down-blending of 30 MTs of HEU from dismantled Russian nuclear weapons. As of the end of FY 2007, the program has monitored the cumulative conversion of 315 MT of weapons-usable HEU. This represents the equivalent of 12,600 nuclear weapons permanently eliminated, per IAEA defined standards.
- <u>Export Control Regimes</u>: Over 2,000 joint reviews of foreign WMD/missile procurements for sanctionable activity have been conducted, as well as 7,000 export control reviews for proliferation concerns, and technical support for 100 domestic interdiction investigations has been provided. Additionally, since 2003, over 5,600 U.S. export and import enforcement officials have been trained to identify proliferation sensitive technologies.
- <u>Physical Protection Training</u>: This program has provided IAEA physical protection training for over 280 foreign nuclear security officials from 37 countries.

Elimination of Weapons-Grade Plutonium Production

This program helps Russia to eliminate its weapons-grade plutonium producing reactors by shutting them down and replacing them with fossil fuel power plants to provide energy to the cities of Seversk and Zheleznogorsk, which are dependent on these reactors. This program has two main subprograms:

- <u>Seversk Plutonium Production Elimination</u>: As of the end of FY 2007, the project achieved 72% completion. Currently the project is on schedule for completion in December 2008, thus eliminating 800 kilograms per year of weapons-grade plutonium production, and assisting with the shutdown of two of the three remaining production reactors.
- <u>Zheleznogorsk Plutonium Production Facility</u>: In 2007 the project achieved 34 percent completion and awarded over 80 percent of its equipment procurements. The project is currently expected to meet its December 2010 completion date on cost and schedule. The completion will provide district heat to allow shutdown of the Zheleznogorsk reactor and eliminate the final portion of plutonium production of about 400 kilograms per year.

Russian Surplus Fissile Materials Disposition

The program goal is to support the elimination of surplus Russian plutonium and surplus United States plutonium and HEU. FY 2007 achievements include:

- <u>Mixed Oxide (MOX) Fuel Fabrication Facility</u>: Construction began on the U.S. facility in August 2007. Funding for this project is included in the Office of Nuclear Energy budget starting in FY 2008.
- <u>Pit Disassembly and Conversion Facility (PDCF)</u>: Approximately 65% of the facility's design has been completed, and the statement of work was developed to begin the process to hire a construction manager for the PDCF. Funding for this project is included in the NNSA Office of Defense Programs budget starting in FY 2008.
- <u>Waste Solidification Building</u>: Approximately 60% of the design for the building's construction has been completed, which had been suspended in 2004 due to uncertainties surrounding the plutonium disposition program and was resumed in September 2006. Funding for this project is included in the NNSA Office of Defense Programs budget starting in FY 2008.
- <u>Reliable Fuel Supply</u>: This program has down-blended a cumulative total of 101 MT of surplus U.S. HEU for peaceful use as nuclear reactor fuel, and awarded a contract to down-blend 17.4 MT of HEU to create the Reliable Fuel Supply.
- <u>Surplus Plutonium Disposition</u>: This program has developed a financially and technically credible program for disposition of 34 MT of Russia's surplus weapon-grade plutonium, recorded in a Joint Statement by Energy Secretary Bodman and Rosatom Director Kiryenko. The program will rely on Russia's existing and planned fast reactors with disposition scheduled to begin in the 2012 timeframe.

Department of State Programs

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

NADR provides funding for a wide range of critical, security-related programs that seek 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 2007 totaling \$53.3 million), and provides funding to the Comprehensive Nuclear Test Ban Treaty International Monitoring System (totaling \$13.5 million in FY 2007).

Nonproliferation and Disarmament Fund

The Nonproliferation and Disarmament Fund (NDF) supports efforts to halt the spread of weapons of mass destruction, their delivery systems, and advanced conventional weapons systems, with particular emphasis on denying such weapons to terrorists. Projects are

designed to deal with unanticipated and urgent threats that may arise during the fiscal year.

Funding for NDF in FY 2007 totaled \$37 million. NDF is currently working in the areas of weapons destruction, security of WMD-related materials and capability/institution building. These subprojects entail destroying inadequately secured missiles and Man-Portable Air Defense Systems (MANPADS). Currently, NDF is engaged in eliminating heavy munitions that could be used to make Improvised Explosive Devices, and the destruction of fermenters which could be used to make large quantities of pathogens for biological weapons. Furthermore, NDF aggressively works to secure biological weapon-capable pathogens while working with related governments and laboratories to ensure appropriate security mechanisms, including but not limited to training, pathogen consolidation and appropriate legislation, are put in place. Finally, NDF engages in projects to build capabilities and institutions to help keep WMD away from terrorists.

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, their missile delivery systems, and other advanced conventional weapons. The program seeks to help ensure safe international trade while enhancing the global community's ability to interdict illicit transfers of dangerous technologies by assisting foreign countries in improving their legal and regulatory frameworks, licensing processes, outreach to industry, interagency cooperation and border control and other enforcement capabilities. This program focuses chiefly on proliferation-sensitive nations.

In FY 2007, funding for EXBS totaled \$42.1 million. During the year, four additional countries graduated from U.S assistance, for a total of 12 countries which have completed the program. Since the passage of UN Security Council Resolution 1540, the EXBS program has engaged other nations to become involved in sharing the burden of helping other countries develop strategic trade and border controls which meet international standards. The EXBS program works to ensure that potential suppliers have effective controls on exports of arms, dual-use goods and related technologies and to ensure that transit/transshipment countries have the appropriate tools to interdict illicit shipments and to prevent shipment diversion.

Global Threat Reduction Program

The Global Threat Reduction Program (formerly the Nonproliferation of WMD Expertise Program) seeks to combat proliferation of WMD expertise by redirecting WMD scientists, engineers and technicians. The program had \$51.4 million allocated in FY 2007 in funding. Six areas that deal with the engagement and redirection of expertise are funded under this program.

• <u>Science Centers</u>: 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. Funding is committed to qualified research proposals, with emphasis given to projects and activities that achieve long-term nonproliferation impact and move priority institutions closer to selfsustainability. In 2007, the ISTC, which has engaged more than 60,000 former weapons experts and over 700 institutions since its inception through FY 2006, was actively engaged in developing a new vision statement and strategic plan that was intended to serve as the framework for its future development; 73 Regular projects and 74 Partner projects were funded and Technology Implementation Plans prepared by institutes for each as a basis for future planning; ISTC financially supported 18 patent applications for innovations related to funded projects and supported the travel of 138 Russian and CIS experts to international seminars, workshops and Partner events using the Mobility Program. On April 9, 2008, the ISTC inaugurated its seventh International Resources Center in Dushanbe, Tajikistan. The Resource Center offers Tajik scientists distancelearning programs, on-site training, access to computers and the Internet and other technical equipment to improve their business skills.

- <u>Bio-Chem Redirect Program</u>: 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.
- <u>Bio Industry Initiative</u>: 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.
- <u>Iraq</u>: This program set up a center of science and technology in Iraq to focus on WMD scientist redirection.
- <u>Libya</u>: 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 will support establishment of a nuclear medicine center in Libya, intended to support efforts to redirect Libya's former WMD personnel.
- <u>Biosecurity Engagement Program (BEP)</u>: The Biosecurity Engagement Program was launched in February 2006 pursuant to a National Security Council mandated, interagency-approved U.S. Government strategy for strengthening global security, with a goal of initially focusing on countries and regions where emerging bioscience sectors, highly infectious disease outbreaks, and terrorist threats coexist. A core objective of this program is to conduct training conferences to increase biosecurity and safety as well as to fund projects or grants to improve pathogen security and laboratory biosafety. In FY 2007, results were on target with activities occurring in over 12 countries throughout Asia, the Middle East and Latin America. Under proposed funding levels the U.S. Government will continue to gradually increase the number of activities that improve pathogen security and laboratory biosafety.

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