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GLOBAL PARTNERSHIP PROGRAM

MAKING A DIFFERENCE

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Canada

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MESSAGE FROM THE MINISTER

I am delighted to present to Parliament the 2005-2006 Annual Report on Canada's participation in the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction. This G8-led initiative addresses one of the most serious threats we face today—that of terrorists acquiring weapons of mass destruction (WMD) to use in vicious and indiscriminate attacks throughout the world.

It is one of Canada's most important security initiatives.

The Global Partnership is a true multinational partnership. It demonstrates the collective commitment of Canada, the United States, Russia and other members to work on a collaborative basis to reduce the threats posed by the Cold War legacy of WMD stockpiles as well as related materials and expertise. It also constitutes a key element of our cooperation with the U.S., as well as with other countries, in the international efforts to keep weapons and materials of mass destruction beyond the reach of terrorists. Canadian initiatives and support have made a substantial contribution toward some of the most important projects undertaken through the Global Partnership.

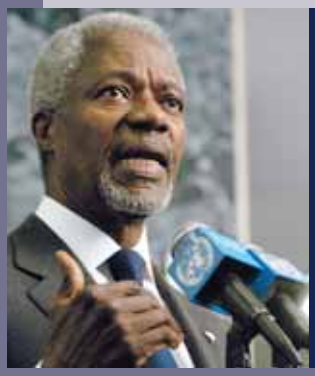
I am proud that Canada is delivering tangible results that truly enhance our domestic and international security alike. Our work on the Global Partnership makes a real difference.

In this report, you will read about the contributions made to the construction of a vital chemical weapons destruction facility, the progress in the dismantlement of nuclear submarines, in securing fissile material, in the redirection of former weapons scientists and in the area of biological non-proliferation.

I invite you to review this report and to see what Canada's Global Partnership Program has achieved. This Program is a prime example of a focused and effective foreign policy tool that allows Canada to play a leading role on the international scene. I trust that, like me, you will be very proud of the significant contribution that Canada is making to help build a safer and more secure world.

Peter MacKay,
Minister of Foreign Affairs and Minister of the Atlantic Canada Opportunities Agency

EXECUTIVE SUMMARY



"We live in a world of excess hazardous materials and abundant technological know-how, in which some terrorists clearly state their intention to inflict catastrophic casualties. Were such an attack to occur, it would not only cause widespread death and destruction, but would stagger the world economy and thrust tens of millions of people into dire poverty."

— Kofi Annan, Secretary General, United Nations (keynote address to the Closing Plenary of the International Summit on Democracy, Terrorism and Security – Madrid, March 2005). Photo Credit: United Nations

The dissolution of the Soviet Union in 1991 represented a watershed moment in history. The end of the Cold War brought to an end decades of East-West tension, and with it, the ever-present threat of a global military conflict in which weapons of mass destruction (WMD)—nuclear, chemical and biological weapons—might be employed. The collapse of the Soviet Union, however, also created new challenges, not the least of which stemmed from the formidable legacy associated with Soviet WMD programs—the weapons themselves, their manufacturing facilities and the highly skilled workforce that developed and produced them. Facilities across the former Soviet Union (FSU) were home to an estimated 600 tonnes of highly enriched uranium (HEU) and weapons-grade plutonium; this material was in addition to the significant quantities incorporated into nuclear weapons. Still other facilities contained the world's largest declared stockpile of chemical weapons (CW), at some 40,000 tonnes. Apart from these materials, there were close to 200 retired and vulnerable nuclear-powered submarines (NPS) from Russia's Northern and Pacific fleets awaiting dismantlement. These submarines, many with spent nuclear fuel on board, posed not only nuclear and radiological threats but also environmental risks. Of no less concern were the many institutes that had once been involved in the Soviet Union's various weapons programs and the scientists that worked in them. The dissolution of the Soviet Union had a significant human impact on this group as tens of thousands of former weapons scientists were suddenly left unemployed or underemployed. This situation makes some of them vulnerable to offers made by groups and countries interested in acquiring knowledge and expertise related to WMD.

Victor I in floating dry dock just prior to dismantling

Addressing this Cold War legacy was an enormous task, one well beyond the capacity of Russia and other countries of the FSU. A few nations responded in the 1990s with bilateral and multilateral projects to help deal with the risks posed by these weapons and the infrastructure that supported their production. Some progress was made, most notably through the U.S. Cooperative Threat Reduction program initiated by Senators Sam Nunn and Richard Lugar, but much more work was required. The terrorist attacks in the United States on September 11, 2001 provided a tragic reminder of the seriousness of terrorist threats and underscored the urgency of preventing terrorists and states of proliferation concern from adding weapons and materials of mass destruction to their repertoires. They also provided the catalyst for the formation of the G8-led Global Partnership Against the Spread of Weapons and Materials of Mass Destruction.[1]

The Global Partnership owes a lot to Canada. It was launched at the G8 Kananaskis Summit in June 2002 to reflect strong political support at the leader's level and provided a framework for increased cooperation in global threat reduction. At this summit, G8 Leaders committed to raising up to US$20 billion over a 10-year period to support projects that would address this Cold War WMD legacy.

Canada, as host of the 2002 Summit, played a pivotal role in shaping the Global Partnership, both in terms of championing the initiative and bringing other G8 countries on board, and in developing the Principles and Guidelines that underpin the Partnership's activities. Serving as the first chair of the Global Partnership Senior Officials Group, Canada also led the initiative during the early stages of implementation—securing initial financial commitments, facilitating the development of multilateral and bilateral projects, and broadening the Partnership beyond G8 members.

To date, 13 additional countries have joined the Global Partnership, and overall commitments are in the range of US$19 billion. These commitments targeted a number of projects, with special emphasis on activities in the four areas identified as being among the priorities of G8 Leaders:

- the destruction of chemical weapons;
- the dismantlement of decommissioned nuclear submarines;
- the disposition of fissile materials; and
- the redirection of former weapons scientists.

Canada's Global Partnership Program was launched in September 2002. Initial efforts focused on establishing the organization, defining the Program's structure, recruiting specialized expertise, obtaining the required authorities and putting a comprehensive legal framework in place. This required the negotiation of numerous bilateral and multilateral agreements and specific contractual arrangements to enable projects to move ahead. Canada's Global Partnership Program is now fully operational, implementing projects in all priority areas.

Milestones and achievements of Canada's Global Partnership Program from April 1, 2005 to March 31, 2006 are listed below.

[1] *Also referred to as the "*Global Partnership*" or "*Partnership*".*

Highly radioactive materials that could be used to construct a "dirty bomb" are currently powering Russian lighthouses. Photo Credit: County Governor of Finnmark (Norway)

CHEMICAL WEAPONS

- Canada is making a key contribution to the destruction of CW agents at Shchuch'ye. Canadian funding will play a significant role in the elimination of approximately 1.9 million artillery shells filled with highly lethal nerve agents. It is providing up to $33 million for the construction of an 18-kilometre railway that will allow the chemical weapons to be moved from their storage depot near Planovy to the actual chemical weapons destruction facility (CWDF). Construction of the railway commenced in March 2006 and will take approximately 22 months to complete.
- Canada is providing up to $55 million for equipment for the second destruction line at Shchuch'ye, which will double the facility's CW destruction capacity and will significantly accelerate destruction of the site's deadly nerve agent stockpile. These projects are expected to be completed in 2006-2007.
- Canada is sensitive to the needs and concerns of the local community. It is contributing $10 million for the construction of a local public address system (to provide information to area residents in the event of an incident at the facility) and for the construction of inter-site communications lines at Shchuch'ye. Both projects are scheduled to be completed by spring 2007.
- Also in support of the local community, Canada is providing US$100,000 per year to fund the operation of a Green Cross Public Outreach Office in Izhevsk, the capital of the Udmurt Republic. The office will increase local awareness of the CW destruction activities at the nearby Kizner and Kambarka facilities. The Izhevsk office opened officially on June 20, 2005.

DISMANTLEMENT OF DECOMMISSIONED NUCLEAR SUBMARINES

- Canada has made a significant impact on the dismantlement of decommissioned nuclear submarines in Russia's Arctic. All work under the first implementing arrangement with the Zvezdochka Shipyard involving the defuelling and dismantling of three NPS has been successfully completed.
- Canada also began work under its second implementing arrangement, a $32 million undertaking. Under the terms of this arrangement, Canada has completely dismantled one and defuelled two Victor-Class submarines.
- In October 2005, Canada was host to the International Atomic Energy Agency (IAEA) Contact Expert Group, whose mandate is to promote cooperation between countries and international organizations interested in enhancing the security and safety of spent fuel and radioactive wastes in the Russian Federation.
- Canada previously contributed $32 million to the Northern Dimension Environmental Partnership (NDEP) Support Fund, which is dealing with issues relating primarily to the safe and secure management of spent nuclear fuel and radioactive wastes from Russia's Northern Fleet. Projects were implemented under this fund and Canada continues to monitor progress.

NUCLEAR AND RADIOLOGICAL SAFETY

- As a result of Canadian funding, five highly radioactive sources have been removed from lighthouses in the region of Arkhangelsk, and replaced with solar cell panels. The sources have been decommissioned and disposed. This work was undertaken in cooperation with Norway.

Second main destruction building, Shchuch'ye chemical weapons destruction facility

- Canada's $4 million contribution to the IAEA Nuclear Security Fund (NSF) has been used to fund important physical protection upgrades and training projects in Russia, Ukraine and Central Asia.
- Canada's $9 million contribution to the U.S.-led project to shut down the last Russian nuclear reactor that produces significant quantities of weapons-grade plutonium has helped to ensure that the reactor is shutdown in 2011.
- Canada also continues to work closely with its G8 partners to conclude a multilateral agreement in support of Russia's plutonium disposition program. Canada has committed $65 million to this initiative, which will help Russia convert 34 tonnes of weapons-grade plutonium into forms not usable for weapons.
- Canada concluded a series of agreements with key partners in Russia for cooperation on the physical protection of nuclear materials.
- Raytheon Canada Limited was engaged through an open and competitive procurement process to provide technical expertise in support of physical security projects.

REDIRECTION OF FORMER WEAPONS SCIENTISTS

- During 2005-2006, Canadian funding of approximately $10 million to the International Science and Technology Center (ISTC) allowed 38 scientific research projects to go ahead. These projects involve 906 new former weapons scientists with expertise in nuclear, chemical, biological sciences and delivery systems (e.g., missiles). This brings the cumulative total (since March 2004) to 76 projects funded by Canada, worth approximately $20 million and involving the redirection of over 1,750 former weapons scientists of priority interest to Canada.
- Canada also supported 12 science and technology and industrial workshops and events aimed at developing new research projects, enhancing collaboration between Canadian and FSU experts and promoting industrial linkages.

BIOLOGICAL NON-PROLIFERATION

- In particular, Canada has focused on scientific projects that engage the biological sector. To date, Canada has funded 25 biotechnology and life sciences projects through the ISTC aimed at the redirection of former "bioweaponeers" and the employment of scientists working at facilities formerly associated with the Soviet biological weapons (BW) program, a commitment worth an approximate $7 million. Altogether, Canada is redirecting nearly 500 former BW scientists.
- In fiscal year 2005-2006, Canada targeted funding to initiatives that promote biological safety (biosafety) and biological security (biosecurity) through training, founding of associations and the development of appropriate guidelines.

The Redirection of Former Weapons Scientists Program ensures that scientists can focus their research on peaceful and sustainable goals

Canada's Nuclear and Radiological Security team discusses strengthening security at Russian nuclear facilities to prevent terrorism. Photo Credit: Obninsk – ISTC

INTRODUCTION

Entrance to the Shchuch'ye chemical weapons destruction facility

"Terrorism has become a global movement that has taken root. It is not a passing trend. It is in Canada, and it is a very real threat to our national security. The terrorist networks responsible for, or associated with, the 9/11 attacks have become more physically dispersed and, simultaneously, much more technologically sophisticated in many respects. We assess as well that their long-standing quest to obtain more horrific weaponry—be it chemical, biological, radiological or nuclear—continues unabated."

— Jim Judd, Director, Canadian Security Intelligence Service (Senate Committee on Anti-Terrorism Act, 2005)

MAKING A DIFFERENCE

THE CHALLENGE

The problems posed by weapons of mass destruction (WMD) produced and stockpiled during the Cold War continue to represent a serious threat to global security and to our own national security. This threat has been exacerbated by the professed and demonstrated willingness of terrorist groups to use these weapons to inflict widespread damage. The events of 9/11 were horrific, but could have been far worse had WMD been used. The possible use of WMD by terrorists raises the seriousness of the terrorism threat to a new level, a danger that cannot be ignored.

The Russian Federation is in possession of the world's largest stockpiles of nuclear and chemical weapons. In addition, Russia and many other countries of the former Soviet Union (FSU) have vast stores of vulnerable nuclear, radioactive and biological materials, and are also home to tens of thousands of scientists who developed weapons and are currently unemployed or under-employed. These countries alone do not have sufficient resources to eliminate or properly secure these stockpiles. Individual countries, including Canada and the U.S., had been engaged in cooperative threat-reduction activities to assist. But this new circumstance the world faced called for a more coherent and coordinated global response to address these threats.

AN INTERNATIONAL RESPONSE

This challenge was addressed under Canadian leadership. At its 2002 Summit in Kananasksis, the G8 launched the Global Partnership Against Weapons and Materials of Mass Destruction. The G8 agreed to contribute up to US$20 billion over a 10-year period for projects to address non-proliferation, disarmament, counterterrorism and nuclear safety issues. The initial geographic focus was Russia; Ukraine has formally become the second recipient country.

The Global Partnership is a unique international cooperative undertaking that has evolved into a true international partnership. G8 member countries (Canada, France, Germany, Italy, Japan, the U.K., the U.S. and the Russian Federation) and the EU have been joined by 13 countries. Over US$19 billion has been raised, and activities are under way in all areas. The Partnership was conceived as a 10-year undertaking, and its full life span and fulfillment of commitments by all participants will be essential to achieving its goals and making the world safer for all.

"We must anticipate that terrorists will use weapons of mass destruction if allowed the opportunity. The minimum standard for victory in this war is the prevention of any terrorist cell from obtaining weapons or materials of mass destruction. We must make certain that all sources of WMD are identified and systematically guarded or destroyed."

— The Lugar Survey on Proliferation Threats and Responses, June 2005

Lighthouse powered by radioisotope thermoelectric generator (RTG) containing highly radioactive material. Photo Credit: County Governor of Finnmark (Norway)

"In the former Soviet Union there are decaying lighthouses, for example around the coast, where there is material that can be taken by people… which could go into dirty bombs… There have also been reports that the marketplace for that is in the "Stans".

Practical progress has been made in implementing commitments under the Global Partnership, including the physical protection of nuclear materials and facilities. The G8 Gleneagles Statement and the Sea Island G8 Action Plan on Non-Proliferation highlighted the importance of addressing the security of nuclear materials, equipment and technology as well as radioactive sources. A number of countries have now established programs with Russia and Ukraine to upgrade the physical protection of and account for nuclear materials. These include the U.S., the U.K., Germany, Canada, Norway, Sweden and the EU."

— U.K. House of Commons (Human Rights Annual Report, 2005) (February 15, 2006)

THE GLOBAL PARTNERSHIP AGAINST THE SPREAD OF WMD: OVERVIEW

Global Partnership Program Bureau Team 2006

Principles and Guidelines

The Global Partnership is grounded in six principles designed to prevent terrorist groups from acquiring or developing nuclear, chemical, radiological and biological weapons, or related materials, equipment, technology and expertise.

These principles, developed by Canada, call upon states to:

- strengthen global non-proliferation efforts through the adoption and full implementation of relevant multilateral treaties and other international instruments;
- develop and maintain appropriate measures to account for and secure WMD materials in use, storage and transport;
- develop and maintain secure storage facilities for WMD materials;
- strengthen border controls, law enforcement and international cooperation to deter, detect and interdict illicit trafficking of WMD;
- strengthen national export and trans-shipment control systems over items that could be used in the development or production of WMD; and
- strengthen efforts to reduce stockpiles of WMD materials.

Central to the implementation of these principles is the international community's commitment to assist countries that lack the resources to address the problems of WMD.

The G8 also agreed to a set of guidelines at Kananaskis to facilitate the implementation of bilateral and multilateral cooperation projects funded through the Global Partnership. These guidelines, which are based on practices that had proven their value in other cooperation work, require Global Partnership projects to:

- be transparent and subject to monitoring and audit;
- adhere to accepted environmental protection and safety standards;
- be based on clearly defined project milestones;
- adhere to peaceful use provisions and the application of adequate physical protection measures;
- provide full exemption from taxes, duties, levies and other charges;
- base project implementation on international procurement standards;
- provide adequate liability protection for project personnel and contractors;
- provide appropriate privileges and immunities for donor representatives working on cooperation projects; and
- ensure adequate protection of sensitive information and intellectual property.

"We acknowledge, as we did at Evian and Sea Island, that the proliferation of weapons of mass destruction and their delivery means, together with international terrorism, remain the pre-eminent threats to international peace and security. The threat of the use of WMD by terrorists calls for redoubled efforts… We will work to build on the considerable progress we have made to implement cooperative projects to which the G8 and 13 other countries now contribute… We welcome Ukraine's participation, and continue to discuss with a number of countries of the former Soviet Union their interest in joining the Partnership. We reaffirm our openness in principle to a further expansion of the Partnership to donor and recipient partners which support the Kananaskis documents."

— Gleneagles Statement on Non-Proliferation (2005)

Priorities for Action

At the Kananaskis Summit in 2002, G8 Leaders highlighted four areas that were among their priority concerns under the initiative:

1. The destruction of chemical weapons;

2. The dismantlement of decommissioned nuclear submarines;

3. The disposition of fissile materials; and

4. The redirection of former weapons scientists.

Leaders also recognized the importance of addressing risks posed by biological agents.

Funding the Global Partnership

G8 members made the following pledges to the Global Partnership (amounts are given in the currency units of the pledge):

- Canada (C$1 billion[2]);
- European Union (€1 billion);
- France (€750 million);
- Germany (€1.5 billion);
- Italy (€1 billion);
- Japan (US$200 million);
- Russia (US$2 billion);
- United Kingdom (US$750 million); and
- United States (US$10 billion).

To date, 13 additional countries have joined the Partnership (Finland, Netherlands, Norway, Poland, Sweden, Switzerland, Australia, Belgium, Czech Republic, Denmark, Ireland, New Zealand and Republic of Korea), demonstrating the global reach of the determination to address this threat.

"The proliferation of weapons of mass destruction is a real and immediate threat ... We must have the strength to confront this threat directly with concrete action, not mere talk of action."

— Alexander Downer, Australia's Minister of Foreign Affairs, remarks at the opening session of the Australia Group Annual Plenary Meeting, Sydney (April 18, 2005)

[2] *Elsewhere in this report, Canadian dollar amounts are indicated simply by "$".*

1 Germany
2 Canada
3 France
4 Russia
5 Japan
6 United Kingdom
7 Italy
8 European Union
9 United States of America

Monitoring Progress

The monitoring and coordination structures for the Global Partnership have evolved to meet needs. The Global Partnership Working Group (GPWG), chaired by the current G8 President, brings together all Global Partnership participants to review implementation, coordinate activities, exchange experiences, identify opportunities for cooperation, including "piggybacking," and prepares the annual report to G8 Leaders. As well, in some areas, coordination groups have been established to facilitate cooperation in specific areas. One such body is the 16-member Contact Experts Group, which provides a forum for facilitating work related to submarine dismantlement. Another, in the CW destruction area, is the Shchuch'ye Coordination Working Group, comprising Canada, Russia, the U.K. and the U.S. Experience is showing the value of these informal arrangements as a mechanism to consult and coordinate, avoid duplication, fill gaps and share experiences and best practices.

Domestically, the Global Partnership Program operates on a whole-of-government basis, involving over two dozen federal government departments and agencies. The Program receives advice from the senior level interdepartmental Global Partnership Advisory Group and also from the Science, Technology and Trade Advisory Group, which ensures that projects involving the redirection of former weapons scientists reflect Canada's priority R&D interests and needs.

Outlining the horrors of terrorism and WMD, Kofi Annan said:

"Many experts tell us the question is not whether, but how soon, the two will be combined—and we see, for example, a 'dirty bomb' detonated in central London, or some other major capital. The loss of life would be shocking, but as nothing [compared] to the social and economic effects."

— Kofi Annan, Secretary General, United Nations; from an article by the UN News Service (February 10, 2005)


Canadian monitoring visits

CANADA AND THE GLOBAL PARTNERSHIP PROGRAM

Victor III being dismantled in dry dock

At the Kananaskis G8 Summit in 2002, the Government of Canada committed up to $1 billion over 10 years. Shortly after, Canada's Global Partnership Program was established.

"We are grateful to Canada for the active work which it has been carrying out in performance of its Global Partnership obligations… Of the G8 countries, our engagement with Canada and Germany under the Global Partnership is exemplary."

— Russian Minister of Foreign Affairs, Sergey Lavrov, during his working visit to Canada in March 2006

Canada's Accomplishments

INTRODUCTION

After the establishment of the Global Partnership in 2002, Canada's initial efforts focused on three areas: establishing the necessary international legal frameworks and implementation arrangements to enable projects to be undertaken in Russia, creating the domestic support structure and monitoring framework for a program consistent with the Government of Canada's highest standards of stewardship and probity, and developing projects consistent with Canadian priorities as well as the international relationships needed for their implementation.

The Global Partnership Bureau, with over 30 staff, was established in September 2002 within the Department of Foreign Affairs and International Trade (DFAIT). It incorporates technical expertise as well as experience in non-proliferation, disarmament, counterterrorism and nuclear safety areas. In addition, there is an office at the Canadian Embassy in Moscow, consisting of four staff members to deal directly with the Russian government and Global Partnership stakeholders.

To operate effectively and control risks, a comprehensive legal framework was put in place. This consists of a combination of multilateral agreements, bilateral agreements and third-party arrangements, which are supplemented by specific implementing arrangements governing the release of funds.

Allan Poole, Senior Coordinator, Canada's Global Partnership Program (2002-2006)

To effectively carry out a wide range of projects, Canada's Global Partnership Program makes use of various delivery mechanisms, including working in partnership with other countries and with international organizations. The result is a truly cooperative international program that makes effective use of resources.

Canada played a pivotal role as host of the 2002 G8 Summit in Kananaskis in establishing the Global Partnership, and has since continued to demonstrate leadership. Canada was instrumental in efforts to encourage non-G8 countries to participate in the Global Partnership. By March 2006, there were 13 new members, all of which had made significant financial commitments to the Global Partnership. The Partnership now counts 22 members, and aside from close collaboration with Russia, Canada has worked very closely on several projects with the U.S., the U.K., the EU, Japan and Norway. It has demonstrated the seriousness of its non-proliferation commitments among its G8 partners and other countries that are members of the Global Partnership.

The Global Partnership has become a true multinational effort at all levels. Many projects depend on contributions from several countries for their success. In several instances, Canada has contributed to projects that would have not been completed without its participation. Canada will continue to be a strong champion for this level of cooperation.

Canada is now well engaged and is delivering concrete results. Achievements during the last financial year and their impact on reducing the availability of WMD and opportunities for terrorists to acquire them, are outlined in the following sections.

We are really making a difference.

"…Canada is a leader in the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction, whose purpose is to prevent the spread of weapons of mass destruction to terrorists by securing or destroying weapons grade material in the former Soviet Union. Canada is contributing $1 billion over 10 years to the Global Partnership with over $250 million already disbursed. Canada has been recognized by both the United States and Russia for the effectiveness of its efforts."

— Michael Wilson, Canadian Ambassador to the U.S. (May 15, 2006)

Destruction of Chemical Weapons

At the end of the Soviet era, the Russian Federation inherited the world's largest stockpile of chemical weapons (approximately 40,000 tonnes). Russia's chemical weapons are stored at seven facilities, six of which are located west of the Ural Mountains and one east. Five of these sites are repositories for the deadly Organophosphorous nerve agents, Sarin, Soman and VX (approximately 32,500 tonnes, or 80 percent of Russia's total CW stockpile). Two others house the Vesicants (i.e., blister agents) mustard, lewisite and lewisite/mustard mixture (roughly 5,500 tonnes, or 20 percent of the total stockpile). Most of the nerve agents remain in their weapons casings, including artillery shells, rocket and missile warheads, aerial bombs and spray tanks. The blister agents are stored in bulk containers. Of particular concern are the nearly four million nerve agent-filled

COMPLYING WITH THE CHEMICAL WEAPONS CONVENTION (CWC)

The CWC requires all States Parties possessing chemical weapons to destroy them in a safe and environmentally friendly manner. While a State Party may select and apply the appropriate destruction methods for its chemical weapons, certain methods (i.e., dumping in any body of water, land burial or open-pit burning) are not permitted. The CWC also establishes timelines for the destruction of CW stocks, and stipulates that final destruction of national stockpiles is to be accomplished by April 29, 2007. In exceptional circumstances, however, a five-year extension of this deadline may be granted (i.e., April 29, 2012). The Russian Federation has formally requested this extension. In October 2005, the Russian government adopted a revised CW destruction plan, which outlines how Russia plans to achieve 100 percent destruction by 2012.

artillery shells stored at Shchuch'ye (Kurgan Oblast) and Kizner (Udmurt Republic). The small-calibre artillery shells pose a particular risk since they are both rugged and portable (they can fit into a briefcase)—two characteristics that make them an especially attractive target for terrorists.

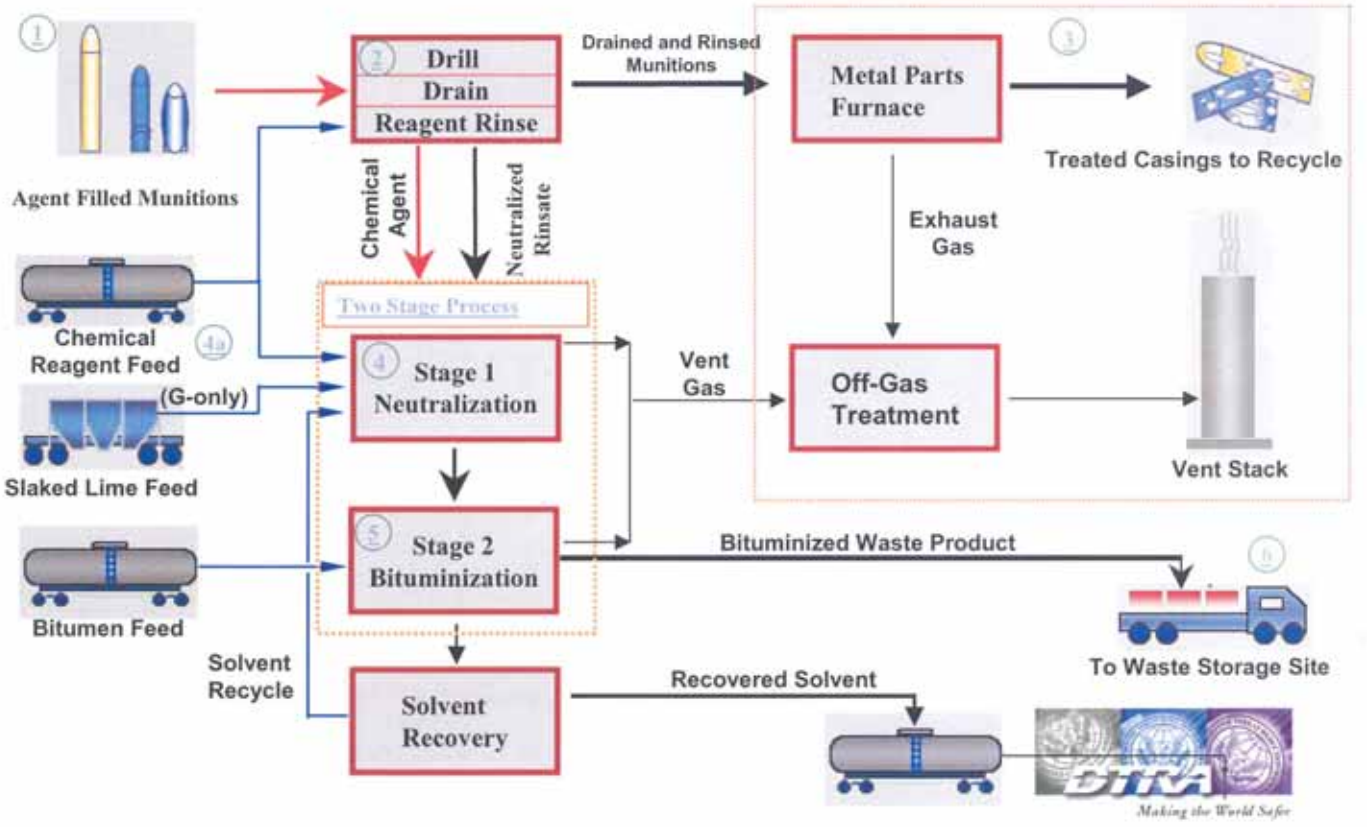
The seriousness of the risks posed by CW stockpiles in Russia, as well as the enormity and urgency of the task of eliminating them is well recognized by many countries. While the U.S., Germany, Canada and the U.K. have made their largest contributions to the destruction of these weapons, Belgium, the Czech Republic, the EU, Finland, France, Ireland, Italy, the Netherlands, New Zealand, Norway, Poland, Sweden and Switzerland have also provided assistance to Russia.

Russia's first CWDF was established at Gorny with significant assistance from Germany as well as the EU, Finland and the Netherlands. The Gorny destruction facility commenced operations in December 2003, and completed destruction of the site's 1,125-tonne blister agent stockpile in December 2005. Germany also played a key role in constructing the destruction facility at Kambarka, with contributions from the EU, Finland, the Netherlands, Sweden and Switzerland as well. The Kambarka facility commenced destruction of the site's blister agent stockpile in March 2006. Russia's five nerve agent destruction facilities are scheduled to become operational between 2006 and 2009.

"I would like to highlight the very close and effective working relationship that [the United Kingdom has] with Canada, and the great value that we attach to it. This partnership enables our two countries to provide assistance in a way which provides best value both for our taxpayers and for the Russian Federation."

— Adam Ingram, U.K. Minister of State for the Armed Forces, Edinburgh (April 12, 2005)

Russian Chemical Weapons Destruction Process



Source: U.S. Defence Threat Reduction Agency (DTRA)

Computer-generated image of the Shchuch'ye chemical weapons destruction facility. Source: U.S. Defence Threat Reduction Agency (DTRA)

Second main destruction building

Railway entering the CWDF industrial zone and arriving at the destruction building

Construction of the Shchuch'ye Chemical Weapons Destruction Facility

Canada considers the Shchuch'ye CWDF to be the top CW priority, as it will destroy Russia's most lethal and proliferation-prone chemical weapons. The arsenal consists of 5,440 tonnes of the deadly nerve agents Sarin, Soman and VX, which are stored in more than 1.9 million artillery and rocket-launched munitions. While the Shchuch'ye stockpile accounts for 13.6 percent of Russia's total agent stockpile by volume, it represents almost 44 percent of the total number of chemical weapons in Russia's declared stockpile of 4.5 million.

CANADIAN PROJECTS AT SHCHUCH'YE

RAILWAY PROJECT

Canada has committed up to $33 million to fund the construction of an 18-kilometre railway connecting the CW storage depot near Planovy to the destruction facility at Shchuch'ye. The primary purpose of this line is to enable the chemical munitions to be transported to the destruction site in a safe and secure manner. This rail link will also be used to deliver operational supplies and remove waste materials. Canada has received a US$1 million contribution from the U.S. non-governmental organization (NGO) Nuclear Threat Initiative (NTI) for this project, which will be applied to the construction of a rail bridge across the Miass River.

Difficulties in the subcontractor tendering process in 2004 were resolved, and a competitive and transparent bid process resulted in the awarding of the construction subcontract in February 2006. Railway construction commenced in March 2006 and will take approximately 22 months to complete.

EQUIPMENT FOR NERVE AGENT DESTRUCTION

In October 2005, Canada announced that it would provide up to $55 million for the provision of equipment critical to accelerating and completing the destruction of the stock of nerve agents in Shchuch'ye. In particular, Canadian funds are being used to purchase equipment needed to destroy nerve agent munitions within the site's second main destruction building (MDB-2). This building will double the CW destruction capacity of the Shchuch'ye facility, thereby significantly accelerating the destruction of the site's stockpile. Equipment to be funded by Canada includes MDB-2's two demilitarization process lines (DPLs), catalytic reactors (filters), a munitions thermal treatment demilitarization process line (MTTDPL) and the treatment area for leaking munitions. These projects are expected to be completed in 2006-2007.

Manipulators for the second main destruction building at the Shchuch'ye CWDF

OTHER INFRASTRUCTURE PROJECTS

Canada is also contributing $10 million for two important industrial infrastructure projects at the Shchuch'ye CWDF—construction of a local public address system to provide timely information to area residents in the event of problem at the Shchuch'ye facility, and construction of inter-site communications lines. Both projects are scheduled for completion by spring 2007.

INTERNATIONAL PARTNERSHIP AT SHCHUCH'YE

Canada, Russia, the U.K. and the U.S. are the primary partners in the Shchuch'ye CWDF project and work closely together through the Shchuch'ye Coordination Working Group. The Working Group was created in 2003 to facilitate information exchange and ensure maximum cooperation around construction activities. Other Global Partnership contributors to the Shchuch'ye facility include the Czech Republic, the EU, France, Italy, the Netherlands, New Zealand, Norway and Belgium.

The United States is contributing US$1.039 billion for the construction of the Shchuch'ye facility, and is fully funding the design and construction of most elements within the perimeter of the CWDF.

Canada is the second-largest donor at Shchuch'ye, having committed more than $103 million. Canada is implementing its projects at Shchuch'ye through the United Kingdom's bilateral Chemical Weapons Destruction Agreement with Russia. Canada and the U.K. have signed two memorandums of understanding for the contributions, under which the U.K. is responsible for implementing the projects, in cooperation with Canada. This approach enables the maximum level of Canadian assistance to be delivered in a timely, coordinated and efficient manner.

Demilitarization process line for the second main destruction building at the Shchuch'ye CWDF

CANADA'S PRIOR CONTRIBUTION TO THE SHCHUCH'YE FACILITY

In 2002, Canada contributed $5 million directly to the Russian Munitions Agency to help fund the construction of a natural gas pipeline to provide energy for the facility. The pipeline project, which also included support from Italy, was successfully completed in September 2003. In 2000 and 2001, Canada had also contributed to the design of an access road to the site's industrial area, design and partial construction of power lines to supply electricity to the site, and reconstruction of a spillway structure on the Chumlyachka River.

Green Cross Public Outreach Office at Izhevsk

Canada is also supporting the efforts of Green Cross International to provide information about CW destruction and to facilitate dialogue among Russian citizens, particularly those people living and working in the vicinity of Russia's CW storage and destruction facilities. In November 2004, Canada committed US$100,000 per year for four years to fund the establishment and operation of a Green Cross Public Outreach Office in Izhevsk (Udmurt Republic). The Izhevsk office opened officially on June 20, 2005.

GREEN CROSS INTERNATIONAL

Founded in 1994 by former Soviet President Mikhail Gorbachev and other senior officials from Japan, the Netherlands, Russia and Switzerland, Green Cross International aims to foster a new sense of global interdependence and shared responsibility in humanity's relationship with nature. Green Cross International, which is headquartered in Geneva, has over two dozen national affiliates worldwide and manages several international environmental programs.

Galina Vepreva, Director, Shchuch'ye Green Cross

Future Priorities

The Kizner CW storage facility (Udmurt Republic) currently stores 5,680 tonnes of nerve agents in some 2 million munitions and is being evaluated as a target for Canadian funding once Canada's work at the Shchuch'ye CWDF is completed. In March 2006, a delegation of Canadian and U.K. representatives visited the site of the future Kizner CWDF and met with local officials to obtain additional information on the destruction plans and timelines.

> "I was particularly heartened by the progress being made at the Shchuch'ye chemical weapons destruction facility. Part of the success of this project is due to the close cooperation between the MoD, Russia, the U.S., Canada and many other partners."
>
> *— Rt. Hon. Adam Ingram, U.K. Minister for the Armed Forces*

Dismantlement of Nuclear Submarines

Following the collapse of the Soviet Union, nearly 200 decommissioned NPS from Russia's Northern and Pacific fleets required dismantlement. Fifteen years later, dozens remain, and about half still have nuclear fuel on board. Due to poor maintenance and inadequate protection, the large quantities of highly radioactive materials within each submarine, or stored in shipyards, offer a target for theft or sabotage. They also pose serious environmental risks to the Arctic or Pacific oceans. Addressing these risks is neither a simple nor an inexpensive process. Dismantling a nuclear submarine involves 13 stages, including extensive preparations, transportation, defuelling, dismantlement, on-site handling of highly radioactive materials, safe storage of reactor compartments and transfer of spent nuclear fuel to final storage. Without international assistance, Russia could not address this problem in a timely way. Canada, Germany, Japan, Norway, the U.K. and the U.S. are consequently helping Russia to tackle this problem.

Under its bilateral agreement with Russia, Canada has committed to the dismantlement of 12 decommissioned NPS by 2008. Canada has focused on Russia's Northern fleet and its $120 million commitment represents a significant contribution to addressing the problem. The Canadian project is being implemented in cooperation with the Federal State Unitary Enterprise Engineering Plant (FSUE EP) – known as the "Zvezdochka Shipyard" – at Severodvinsk, in the Arkangelsk Oblast.

Canada completed work under its first implementing arrangement with the Zvezdochka Shipyard on September 30, 2005, successfully defuelling and dismantling three NPS. Canada has begun work under its second implementing arrangement, a $32 million undertaking. Under the terms of this arrangement, Canada has completely dismantled one and defuelled two submarines. Concurrent with carrying out works under these two implementing arrangements, Canada negotiated a third agreement, valued $23.7 million. Work under this arrangement will be undertaken during 2006 and 2007.

Victor Class submarine under tow to dismantling shipyard

Submarines awaiting defuelling

Nuclear-powered submarine in floating dry dock

In October 2006, Canada hosted the IAEA Contact Expert Group. The mandate of this group is to promote cooperation between all countries and international organizations interested in contributing to projects to enhance the security and safety of spent fuel and radioactive waste management in the Russian Federation. Within this mandate, the Contact Expert Group has provided a leading forum for coordination of the full spectrum of work related to submarine dismantlement. International delegates toured Canadian facilities to gain a better understanding of Western waste-management practices.

THE NORTHERN DIMENSION ENVIRONMENTAL PARTNERSHIP SUPPORT FUND OF THE EUROPEAN BANK FOR RECONSTRUCTION AND DEVELOPMENT

The NDEP Support Fund was established in 2001 to respond to problems associated with the large quantities of spent nuclear fuel and radioactive wastes that were produced by the operations of Russia's Northern Fleet. Funds assigned to the "nuclear window" of the NDEP Support Fund are used for nuclear-related security and environmental projects in northwestern Russia.

Canada contributed $32 million to this program in March 2004 as a logical complement to the submarine dismantlement project. The European Bank for Reconstruction and Development (EBRD) manages the NDEP Support Fund on behalf of donors (including Canada, Finland, France, Germany, the Netherlands, Norway, Russia, Sweden, the U.K. and the EU). While there were delays in implementing work under this fund in the early stages, the EBRD has initiated several projects during the past year, including one to establish a radiological monitoring system for northwestern Russia. Canada works with the international group of donors to review and approve projects and monitor progress.

YAGRI ISLAND ORPHANAGE PROJECT – CANADIANS VOLUNTEERING IN RUSSIA

In May 2005, the Yagri Island Orphanage (adjacent to FSUE Zvezdochka) solicited assistance from Canada's project management team. The dentist clinic at the orphanage was in need of supplies and equipment.

During their monitoring visits to the shipyard, members of the Canadian team devoted their personal time to this need. Initially they provided the orphanage with consumable dental supplies such as toothbrushes and toothpaste. In Autumn 2005, the team partnered with the Canadian Forces Dental Service to provide the orphanage with surplus supplies, including various hand instruments and an ultrasonic sterilizer. The team also used private donations to allow a small Canadian Forces dental team to travel to the orphanage in March/April 2006. At present, the interdepartmental team is engaged with the orphanage's clinic to donate a surplus dental chair, replacing the pulley-operated chair currently in use.

This project will have an important impact on the heath and wellbeing to the children of the orphanage. Thanks to those who have become personally involved, Canada is making a difference.

Victor I being dismantled in floating dock

Reactor section

Nuclear-powered submarine dismantlement management team

Nuclear and Radiological Security

"The elimination of nuclear terrorism is a massive challenge, but it is a challenge that we must meet, and it is a challenge that can only be met through international cooperation."

— A. Rumyantsev, former head of Rosatom, Carnegie Conference on Nuclear Security (November 2005)

Terrorist groups are openly pursuing nuclear capabilities, and documents describing the construction of "dirty bombs," where conventional explosives are used to disperse radioactive materials, have been found in many conflict areas. In addition to its nuclear weapons stockpile, Russia possesses hundreds of tonnes of weapons-grade nuclear material—enough for tens of thousands of nuclear weapons. There is an urgent need to support Russian efforts to secure these materials from theft and to convert them into forms that cannot be used for weapons (material disposition). As well, highly radioactive materials that could be used to construct dirty bombs must also be secured.

COOPERATIVE PROJECTS

Canada has made significant progress to help address these threats using a multifaceted approach. The first step was a $4 million contribution to the IAEA NSF, which is being used to fund projets including physical protection upgrades and training projects in Russia and Central Asia and to help Ukraine improve its capacity to prevent the smuggling of nuclear materials.

In cooperation with Norway, Canada has removed, decommissioned and disposed of five highly radioactive sources that were being used to power lighthouses in the Arkhangelsk region of Russia, replacing them with solar cell panels.

Another important project is Canada's $9 million contribution to the U.S.-led project to shut down the last Russian weapons-grade plutonium-producing nuclear reactor. This funding has helped to ensure that the reactor is shutdown in 2011. The operating reactor currently produces enough material for one nuclear bomb each week. Canada also continues to work closely with G8 partners to conclude a multilateral agreement in support of Russia's plutonium disposition program. Canada has committed $65 million to this initiative, which will help Russia convert 34 tonnes of weapons-grade plutonium into forms not usable for weapons.

Visit of Russian Delegation to AECL, Chalk River Laboratories, with Canadian Global Partnership staff

Perimeter security fences help ensure that terrorists do not gain access to dangerous nuclear materials. Photo Credit: Canadian Nuclear Safety Commission

Canada has contributed $9 million to the U.S.-led project to shut down the last Russian weapons-grade plutonium-producing reactor, in Zheleznogorsk. This reactor produces enough plutonium for approximately one nuclear bomb per week. Photo Credit: US Department of Energy (DOE)

"Nuclear proliferation is on the rise. Equipment, material and training were once largely inaccessible; today, however, there is a sophisticated worldwide network that can deliver systems for producing material usable in weapons. The demand clearly exists: countries remain interested in the illicit acquisition of weapons of mass destruction."

— Mohamed ElBaradei, Director General, IAEA (Op Ed in New York Times*; "Saving Ourselves From Destruction", February 12, 2004). Photo Credit: IAEA*

NUCLEAR SECURITY – PHYSICAL PROTECTION OF NUCLEAR MATERIALS

Denying access to nuclear material is key to the prevention of nuclear terrorism. Canada's focus has been on perimeter security at some of the most vulnerable facilities in Russia. Canada has been very active in the physical protection of nuclear materials and facilities (fences, barriers and access control systems). In October 2005, Canada signed its first implementing agreement for cooperation on physical protection with the Petersburg Nuclear Physics Institute (PNPI), part of the Russian Academy of Sciences. It also concluded negotiations with the Institute of Theoretical and Experimental Physics (ITEP), which is overseen by Russia's Federal Agency for Atomic Energy (Rosatom), the main custodian of Russia's nuclear materials. This project has provided a model for expanded Canada-Russia cooperation at other Rosatom sites. It has allowed DFAIT and Rosatom to establish procedures for governing cooperation at these highly sensitive facilities, and for Canada to move ahead on three new projects, including sites within Rosatom's weapons complex. In November 2005, DFAIT engaged Raytheon Canada Limited through a competitive procurement process to provide technical expertise in support of these projects. As well, a Canada-Russia working group has been established to coordinate cooperation on nuclear security projects.

RADIOLOGICAL SECURITY – SECURING HIGHLY RADIOACTIVE SOURCES

Russia has an estimated 700 radioisotope thermoelectric generators (RTGs), which are used to power navigational devices such as lighthouses in remote areas. These RTGs contain highly radioactive material, which could be used in a dirty bomb. Many are inadequately protected and vulnerable to theft. Russia is working with its Global Partnership members to address this threat and secure these sources as quickly as possible. Canada is now working bilaterally and with the IAEA on projects to remove some of the bottlenecks hindering work in this field. In January 2006, Canada completed an implementing agreement with Russia's Kurchatov Institute to fund a Master Plan, which will serve as a central guiding document for Russia and its international partners and ensure efficient coordination of efforts and allocation of funding. As well, Canada is finalizing an agreement to improve the infrastructure needed to ensure the safe and secure transportation of the RTGs. Canada is considering cooperating with other donors on additional projects aimed at removing and securing these vulnerable sources.

Upgrading physical protection measures is a key component of Canada's efforts to improve security of Russian nuclear materials. Photo Credit: Canadian Nuclear Safety Commission

Solar cell panels provide a sustainable alternative power source for lighthouses formerly powered by highly radioactive material. Photo Credit: County Governor of Finnmark (Norway)

"Our biggest challenge, and our biggest failing, is on nuclear proliferation and disarmament… Weapons of mass destruction pose a danger to us all, particularly in a world threatened by terrorists with global ambitions and no inhibitions."

— Kofi Annan, Secretary General, United Nations: Address to the 2005 World Summit (New York, September 14, 2005)

Redirection of Former Weapons Scientists

Even 15 years after the dissolution of the Soviet Union, thousands of former weapons scientists remain unemployed or underemployed. Redirecting such scientists toward sustainable, peaceful employment remains a priority of the Global Partnership. These efforts are needed to reduce the risk of key scientists in the FSU selling their expertise or access to weapons-related materials to groups or states of proliferation concern. They can also generate significant science, technology and industrial benefits to Canada.

Redirection of Former Weapons Scientists team meets with ISTC executive director Norbert Jousten to plan future Canadian activities

To achieve the objectives in this area, Canada is a Party to the Moscow-based International Science and Technology Center (ISTC) and the Kyiv-based Science and Technology Center in Ukraine (STCU).

SUPPORT TO THE INTERNATIONAL SCIENCE AND TECHNOLOGY CENTER

The Moscow-based ISTC is an intergovernmental organization funded primarily by Canada, the U.S., the EU and Japan. The ISTC coordinates the efforts of governments, international organizations and private-sector industries to provide former weapons scientists from Armenia, Belarus, Georgia, Kazakhstan, the Kyrgyz Republic, Russia and Tajikistan with opportunities to use their expertise and engage in international partnerships for peaceful purposes.

When Canada formally acceded to the ISTC in March 2004, it became the third-largest contributor (after the U.S. and the EU), a member of the six-nation Governing Board and a participant in its Scientific Advisory Committee. Canada has pledged up to $18 million annually to support ISTC research projects, various redirection programs and day-to-day operations.

During the financial year 2005-2006, Canada committed roughly $10 million to 38 scientific research projects involving 906 new former weapons scientists. Areas of expertise encompassed nuclear, chemical, biological sciences and delivery systems (e.g., missiles). Since March 2004, 76 projects have been funded by Canada at

SCIENCE AND TECHNOLOGY AND INDUSTRIAL WORKSHOPS

- June 2005: Oil and gas science and industry workshop – Calgary.
- July 2005: Research workshop on the theme "How Clean is Clean: Setting Decontamination Targets for Chemical and Biological Counterterrorism" – Volgograd, Russia.
- September 2005: Photonics workshop, organized by NATO and partially funded by ISTC and STCU in Sherbrooke, Quebec; and workshop on "Advanced Membrane Separation Technologies" – Gus-Khrustalny, Russia.
- November 2005: Chemical Sciences Workshop – Ottawa – Seminar on the use of "Bio-Fuels in Clean Power Production and Transport" – Moscow.
- December 2005: First Annual ISTC Aerospace Colloquium – Moscow.
- January 2006: Counterterrorism workshop dealing with environmental restoration, organized by the Chemical, Biological, Radiological and Nuclear (CBRN) Research and Technology Initiative (CRTI).
- February 2006: First ISTC Law Enforcement Technologies workshop (involving Russian scientists, officials from the Russian Ministry of the Interior and representatives from DFAIT, RCMP, the EU and the U.S.), and a Canadian-Russian Clean Energy/ Hydrogen Technologies workshop – Moscow.
- March 2006: Participation by DFAIT at the Canada Eurasia Russia Business Association (CERBA) Mining Conference – Toronto.
- March 2006: ISTC booth at the *Globe 2006* trade show – Vancouver.

a value of approximately $20 million and involving the redirection of over 1,750 former weapons scientists. Dozens of collaborators from the Canadian government, industry and academia have participated in these projects. Canada is now focusing its project funding in the following sectors: environment, alternative energy, biotechnology, advanced materials and manufacturing, aerospace, information and communication technologies, photonics, and counterterrorism. In addition, work has progressed well in the ISTC Fuel Cells Targeted Initiative (funded in part by Canada) and in defining the Law Enforcement Targeted Initiative. Both involve collaboration with the U.S. and the EU.

During this period, Canada also supported a series of workshops and related events to develop ideas for ISTC research projects and collaboration between Canadian and FSU experts, as well as to promote industrial linkages.

All of these events were successful in generating new project ideas from former weapons scientists of priority interest in key Canadian science and technology or industrial sectors.

Canada continued to support the ongoing work of the Global Security and Strategic Planning department at the ISTC. The mandate of this department covers technologies relevant to safety and security at weapons institutes, counterterrorism, and other non-proliferation, arms control and disarmament issues. Since December 2004, a Deputy Executive Director from Canada has led the department. A key challenge in 2006-2007 will be to develop a multiyear strategic plan for the Center.

BENEFITS TO CANADA

The benefits of Canadian participation in the ISTC go beyond reducing the risks posed by the proliferation of weapons-based science and materials. For example, Canadian companies, departments and research institutions that become involved as collaborators in ISTC research projects or that fund their own research projects as ISTC "Partners" can benefit from early and privileged access to new technologies developed at moderate cost by world-class scientists in Russia and other FSU countries. Such access to new technologies can contribute to the research goals of many government departments and research organizations, while also enabling Canadian companies to improve their products and possibly their export performance. Several outreach events were held in 2005-2006, leading to the identification of several new companies, departments and other organizations interested in participating in ISTC projects and activities.

Scientists working on ISTC-funded projects in Russia

Funding is required to upgrade biosafety and biosecurity at several facilities where deadly pathogens are inadequately secured

Biological Non-Proliferation Program

Responding to the serious threats posed by biological agents and scientists in the FSU is a key priority for Canada's Global Partnership Program. As only a microscopic quantity of a biological agent can cause serious and widespread problems, and as many under-funded biological facilities are unable to adequately safeguard their deadly collections of pathogens and manufacturing equipment, the proliferation of biological materials that could be used as biological weapons is of growing concern. Of equal concern is the significant insider threat posed by thousands of underpaid scientists who retain access to their institutes' dangerous strain collections.

In accordance with the commitment made by leaders at the Kananaskis Summit in 2002, Canada is pursuing a number of initiatives in Russia and other countries of the FSU to prevent terrorists and states of proliferation concern from acquiring or developing biological weapons. For these objectives, Canada is providing assistance under the Global Partnership Program to countries to help them with the following:

- advancing adherence to the Biological and Toxin Weapons Convention, which implements effective measures to account for and secure biological items (i.e., biosafety);
- implementing effective physical protection measures at facilities that house biological items (i.e., biosecurity);
- effectively addressing illicit trafficking in biological items (e.g., through detection systems, training for Customs and law-enforcement personnel, cooperation in tracking these items);
- improving the use of national export and transshipment controls over items on multilateral export control lists (as well as any other items that may contribute to the development, production or use of BW); and
- taking actions to minimize holdings of dangerous biological pathogens and toxins.

Canada's membership in the Moscow-based ISTC allows it to address a number of critical issues, including the proliferation threat posed by former BW scientists. As of March 31, 2006, Canada had funded 25 biotechnology and life sciences projects through the ISTC aimed at the redirection of former bioweaponeers and the employment of scientists working at facilities formerly associated with the Soviet BW program, a commitment worth approximately $7 million.

Canada has also developed a biological safety (biosafety) and biological security (biosecurity) strategy under the Global Partnership Program. Based on consultations with Russian/FSU and other international partners, Canada's activities are aimed at:

- assisting with the development and implementation of effective and practical biosafety/biosecurity standards;
- assisting with the establishment of national and/or regional biosafety associations in Russia and other countries of the FSU;
- providing biosafety/biosecurity training; and
- funding required biosafety/biosecurity upgrades at facilities of priority non-proliferation concern.

In fiscal year 2005-2006, Canadian activities included support for the following:

- the initiation of a methodical series of visits to priority biological institutes in Russia, Belarus and Ukraine in order to evaluate the scope and need for biosafety/biosecurity projects under the ISTC and STCU;
- discussions via the International Biosafety Working Group Meeting concerning the establishment of a Russian Biosafety Association;
- support for a workshop at a Russian American Nuclear Security Advisory Council (RANSAC) conference on "Advancing International Cooperation on Bio-Initiatives in Russia and the CIS" in April 2005 to raise public awareness and to provide a forum to advance bio-threat reduction initiatives in Russia;
- agreement with the Henry L. Stimson Center and financial support for the initial stages of the "Pathogens for Peace Initiative". The Global Partnership Program has contributed to a one-year scoping study to identify opportunities investments in the sustainable redirection of former Soviet BW scientists to advance the research, development and production of vaccines and other therapeutic drugs in developing states;
- participation in the American Biological Safety Association (ABSA)'s annual conference in Vancouver, British Columbia, in October 2005. Canada also provided support for attendance by experts from Belarus, Kazakhstan and Russia;
- completion of the translation into Russian of the Canadian Laboratory Biosafety Guidelines (third edition, 2004) and the "Containment Level 3 Facilities" training video of the Office of Laboratory Security, Public Health Agency of Canada.

Assistance in biosafety and biosecurity is essential to prevent terrorists from acquiring deadly biological agents

Scientists visiting the new Life Sciences Center at the University of British Columbia to learn about constructing a modern containment laboratory

Under the Biological Non-Proliferation Program, Canada is providing training in modern biosafety practices and equipment

Reaching out

The work accomplished under the Global Partnership Program is making a significant contribution to improved security, both domestically and internationally, to a cleaner environment and to a safer world where weapons and materials of mass destruction and related expertise are not easily available to terrorists or states of proliferation concern. Sharing these achievements with Canadians, with other partners and with the international non-proliferation, arms control and disarmament community, and obtaining feedback on Canadian activities and priorities, represents an important priority for the Program.

Domestic outreach efforts have been aimed at two distinct audiences. First, the Program has implemented initiatives to ensure that opportunities for R&D through the Redirection Program are brought to the attention of potential Canadian public and private sector partners and collaborators. In the past year, Canadian experts from 59 government, industrial and academic organizations were active in supporting the Program's objectives by acting as a collaborator for projects funded through the ISTC. One Canadian company has become an ISTC Partner, with several more poised to do so. Consultations and meetings with members of the Canadian non-proliferation, arms control and disarmament non-governmental community were also organized to demonstrate how Canada's Global Partnership Program is contributing concretely to the achievement of policy goals in this important area. Ties were expanded with academics, civil society audiences and institutions for this purpose.

At the international level, Canada maintained its role as an advocate for transforming pledges into projects and for increasing the overall effectiveness and impact of the Global Partnership.

These activities reinforce Canada's image as a country that lives up to its commitments, and can make a difference in efforts to address the most serious threat facing international security. At the level of the Global Partnership Working Group, Canada has worked to develop support for a clear commitment from leading donors to continue to adhere to the full range of Kananaskis priorities and to undertake a comprehensive partnership-wide strategic review of all program activities. This will significantly enhance the basis for establishing future priorities and facilitate more effective decision making for the second stage of the Global Partnership. Canadian leadership also contributed to a more coordinated approach by leading donors to implementing initiatives related to threats posed by biological agents. At the project level, an initiative was undertaken jointly with the U.K. to invite other Global Partnership members to contribute to components of the CWDF at Shchuch'ye. This joint initiative resulted in four countries contributing additional funds to a project that is Canada's top CW destruction priority. These efforts have been well received by Global Partnership members. They have had a positive effect on Canada's bilateral relationship with Russia, where Canada is openly cited as the model for other countries to follow, with the U.S. and with other donors who either work with Canada or recognize Canadian successes and value our views on their own activities. The U.S. also recognizes the value of Canada's contribution to what they see as an initiative important to North American security.

ISTC-funded scientist

Russian military officials

Russian shipyard manager

Russian military official

Looking Ahead – Canada's Priorities for 2006-2007

The groundwork put in place for the Global Partnership Program, described in this and last year's Annual Report, has enabled Canada to move quickly with project implementation—much faster than many other countries. The Program has now become fully operational, and activities are expected to intensify in all priority areas in the coming years. Clear results are becoming increasingly visible.

Priority Projects

CHEMICAL WEAPONS DESTRUCTION

Canada's extensive work at the Shchuch'ye CWDF will continue during the course of 2006. According to the Russian Federation, this facility will be completed by 2008, enabling Russia to meet its CWC destruction deadline. With this deadline in mind, Canada is considering undertaking similar work at Kizner beginning in 2007. The stockpile at the facility represents a serious CW proliferation threat, and Canada is in a position to build on the expertise and cooperation developed at Shchuch'ye.

NUCLEAR SUBMARINE DISMANTLEMENT

Canada's ongoing work on the Arctic fleet is expected to be completed by 2010. Submarine dismantlement activities will continue, under the second and third implementing arrangements, and negotiations of the fourth implementing arrangement will take activities to the end of existing authorities. An extra year of work may be required to complete activities in the North.

NUCLEAR AND RADIOLOGICAL SECURITY

Given the seriousness of the threats posed by unprotected or unaccounted nuclear materials, this area has become an increasingly high priority under the Global Partnership Program. Consequently, more resources will be devoted to physical protection upgrades for nuclear facilities. The work that has been done with the IAEA and on RTGs will continue within Russia. The status of the Multilateral Plutonium Disposition Program continues to be a priority to be monitored closely, as is future work at Chornobyl.

REDIRECTION OF FORMER WEAPONS SCIENTISTS

The immediate priority is to increase the number of Canadian partners and collaborators for project cooperation, through an enhanced outreach program in Canada, to ensure that our science community is aware of the benefits that can flow from this part of the Program. With both the ISTC and the STCU falling under the Global Partnership Program, efforts will be made to improve the synergies between their works, including through development of a more strategic approach.

BIOLOGICAL NON-PROLIFERATION

Addressing the risks associated with biological agents is an area of growing importance within the Program. Canada plans to increase its activities under the Biological Non-Proliferation Program to raise awareness among a larger number of donor countries of the need for sustained attention to this area, and to implement specific projects to strengthen biosafety and biosecurity in Russia and FSU countries.

Canada's Commitment

Ongoing review of the international security environment confirms that the possibility of weapons and materials of mass destruction falling into terrorist hands continues to represent a serious threat for Canada and the international community. The Global Partnership remains the only multinational response aimed specifically at this threat. Canada's Global Partnership Program is reviewed annually to determine the appropriateness of its response to these threats, and will be adjusted as needed.

While notable progress has been made to date, there is still a long way to go in all areas. Canada is committed to maintaining its active role and leadership at the project implementation and policy levels. Canada will continue to work with other partners to build on the progress and momentum achieved and to encourage all countries to fully implement their financial pledges and turn these into concrete activities. In this way, Canada will continue to work to ensure that the Global Partnership Program fulfills an important mandate within the broader non-proliferation, arms control and disarmament agenda.

"While G8 Global Partnership efforts over the past four years have helped secure and/or eliminate thousands of nuclear weapons, construct chemical weapons destruction facilities and retrain thousands of former weapons scientists, much remains to be done."

— Mikhail Gorbachev, Former Soviet President, from a letter encouraging leaders of the Global Partnership to expand efforts, especially in Russia (December 21, 2005)

STEWARDSHIP AND PROBITY

Financial Monitoring and Accountability Systems

A comprehensive network of policies, frameworks and reviews has been put in place to ensure the integrity of Canada's Global Partnership Program, which adheres to the highest standards of project management, stewardship and accountability.

Program actions are guided by the Management Accountability Framework, developed by the Treasury Board, a Project Management Framework specifically developed for the Program, consistent with an industry-standard project-delivery methodology, as well as a Treasury Board-compliant Risk-Based Audit Framework (RBAF) and a Results-Based Management and Accountability Framework (RMAF). These provide the basis for measuring, evaluating and reporting on performance, and enable the integration of risk management into implementation strategies and approaches. Risk registries at both the project and program levels list the most serious risks and provide mitigation strategies. Together, these instruments provide a comprehensive project management framework for the Program. For visible accountability, comprehensive reports on project implementation are submitted to Treasury Board on a biannual basis and to Parliament annually. The work of the Global Partnership Program is also fully reflected in DFAIT's annual submissions on Plans and Priorities and the Departmental Performance Report.

Stringent financial accountability underpins all Global Partnership Program activities. All expenditures and commitments are subject to the standards and practices of the Government of Canada's Financial Administration Act and related regulations and policies, and are made within a rigorous financial management framework that emphasizes internal control, due diligence and prudent fiscal management.

Cooperation with partners is covered by a comprehensive legal framework. The bilateral Canada/Russia Agreement Concerning Cooperation on the Destruction of Chemical Weapons, the Dismantlement of Decommissioned Nuclear Submarines and Nuclear and Radioactive Material Protection, Control and Accountancy is an umbrella agreement that ensures that cooperation meets Canada's legal and policy requirements, including those involving safety and environmental protection. The Agreement contains strict monitoring, access, transparency, taxation, liability and intellectual property rights provisions. At the operating level, many projects have their own implementing agreement or arrangement. Additionally, to manage financial risks, Canada pays against completed milestones. Funding is disbursed once it has been verified that the work has been properly completed and meets the conditions of the original agreement.

Audit and evaluation are integral parts of the Program's activities. An internal audit conducted in 2005 (available on the DFAIT web site) found that significant achievements had been made in meeting Program objectives and outlined some recommendations for improvements, most of which have since been implemented. An outside evaluation was also commissioned and specific project audits are regularly undertaken. Such reviews strengthen the basis of the Program and assist its future development, ensuring that the highest standards of stewardship and accountability are being met and are underpinning Canada's continuing ability to be a Global Partnership leader.

As a whole-of-government priority, the Global Partnership Program works with two formal domestic consultation mechanisms: the interdepartmental Global Partnership Advisory Group and the more specialized Science, Technology and Trade Advisory Group. Terms of reference have been revised and formally approved for both groups. The Program also has formal relationships with departments and agencies, such as Health Canada, Natural Sciences and Engineering Research Council of Canada (NSERC) and the Canadian Nuclear Safety Commission, to ensure access to highly specialized expertise on an ongoing basis.

GLOBAL PARTNERSHIP PROGRAM – ACTUAL EXPENDITURES ($ THOUSANDS)

DIRECT SPENDING BY GPP PROGRAM AREA		2003-2004	2004-2005	2005-2006
Chemical Weapons Destruction	Railway Project (Shchuch'ye)	4,000.0	–	20,000.0
	Infrastructure Projects (Shchuch'ye)	–	250.0	3,000.0
	Main Destruction Building 2 (Shchuch'ye)	–	–	33,749.4
	Outreach Support	–	120.4	127.5
	Project Monitoring & Administration	40.6	85.2	192.7
	Subtotal: Chemical Weapons Destruction	4,040.6	455.6	57,069.6
Nuclear Submarine Dismantlement	Nuclear Submarine Dismantlement Project	–	9,457.7	29,218.0
	EBRD Northern Dimension Environmental Partnership	32,000.0	–	–
	Project Monitoring & Administration	25.1	1,191.3	1,531.2
	Subtotal: Nuclear Submarine Dismantlement	32,025.1	10,649.0	30,749.2
Nuclear & Radiological Security	IAEA Nuclear Security Fund	2,983.5	1,016.5	65.0
	Nuclear Reactor Shutdown (Zheleznogorsk)	–	9,000.0	–
	Institute of Theoretical and Experimental Physics (ITEP)	–	–	25.0
	Petersburg Institute of Nuclear Physics (PNPI)	–	–	15.1
	Radioisotope Thermoelectric Generators (RTGs)	–	–	554.3
	Project Monitoring & Administration	64.2	187.3	581.9
	Subtotal: Nuclear & Radiological Security	3,047.7	10,203.8	1,241.3
Redirection of Former Weapons Scientists	Projects	11,380.3	–	589.7
	Supplemental Programs	4,658.0	2,854.1	–
	ISTC Administration & Operations	2,433.2	456.0	997.2
	Project Monitoring & Administration	7.8	233.9	327.7
	Subtotal: Redirection of Former Weapons Scientists	18,479.3	3,544.0	1,914.6
Biological Non-Proliferation	Biosafety & Biosecurity	–	80.5	117.2
	Program Administration	12.3	17.5	105.5
	Subtotal: Biological Non-Proliferation	12.3	98.0	222.7
Operational Costs		2,045.1	2,349.9	2,774.6
TOTAL DIRECT SPENDING (EXPENDITURES BY GPP)		**59,650.1**	**27,300.3**	**93,972.0**
Indirect Spending by GPP	Audit & Evaluation	–	250.0	750.0
	Indirect Operational Costs*	2,330.0	2,733.7	2,261.2
TOTAL INDIRECT SPENDING (FUNDED BY GPP)		**2,330.0**	**2,983.7**	**3,011.2**
TOTAL GPP ACTIVITIES FUNDED		**61,980.1**	**30,284.0**	**96,983.2**

** Includes costs associated with the GPP office in Moscow; prior year expenditures have been adjusted slightly.*

Canadian and British monitoring teams with Russian military officials

APPENDIX A

Summary of Other Global Partnership Member Commitments[3]

Australia: Australia has provided to date US$7.4 million for submarine dismantlement.

Belgium: Belgium has pledged almost €6.8million to Global Partnership projects in the areas of nuclear safety, securing nuclear waste, submarine dismantlement and plutonium disposition, as well as participating in the Chornobyl shelter fund and the construction at Shchuch'ye.

Denmark: Denmark has pledged €18 million, most of which is being used for nuclear-related projects, such as securing nuclear waste and contributing to the NDEP, and has also contributed to CW public outreach activities.

European Union: The European Union's €1 billion pledge is supporting projects to improve the safety of nuclear installations in Armenia, Kazakhstan, Russia and Ukraine. Through the TACIS[4] Program, the EU is contributing to the redirection of former weapons scientists, via the ISTC and STCU, and to export control and border security in FSU countries. The EU is also contributing to the NDEP. The EU Joint Action is funding CW destruction and physical protection and fissile material disposition in Russia.

Finland: Finland has pledged €15 million, and is most active in supporting nuclear projects (mainly in northwestern Russia and Ukraine), including the NDEP, nuclear material safeguards, waste management and nuclear safety, shutting down the Zheleznogorsk reactor, and contributing to the Chornobyl Shelter Fund. Finland is also contributing to the CWDF at Gorny and to public outreach projects.

France: France's €750 million pledge will be used for nuclear projects including the NDEP, plutonium dispositioning and dismantlement of nuclear weapons and securing RTGs. France is providing funds to remediate the Gremikha naval base, is undertaking an environmental survey of the Shchuch'ye CWDF, and is implementing biosecurity and biosafety projects in Russian biological facilities.

Germany: Germany has committed up to €1.5 billion, funding construction of a long-term interim storage facility at Sayda Bay to support submarine dismantlement, contributing to the NDEP and upgrading the security of nuclear material and facilities. Funds have been committed for the construction and support of CWDFs at Gorny, now operating, and Kambarka (€126,380).

Italy: Italy has pledged €1 billion, and is now engaged in submarine dismantlement activities, including safe management of radioactive waste and spent nuclear fuel (a commitment of €360 million over 10 years). Italy has also committed up to €350 million over five years to CWDF construction at Pochep and is also supporting construction of portions of the gas pipeline at Shchuch'ye.

Japan: Japan has pledged US$200 million, including US$100 million for the plutonium disposition program and has dismantled one Victor-III class submarine, with plans for five more in the Pacific Fleet.

Netherlands: The Netherlands has committed some €34 million, a significant portion of which is funding CW destruction projects (Gorny, Kambarka and Shchuch'ye CWDFs) and social infrastructure and outreach. In the nuclear area, contributions have been made to the NDEP, the IAEA for nuclear and radiological safety projects in Russia and the FSU, and to the Chornobyl Shelter Fund.

New Zealand: New Zealand has contributed US$1.5 million in the period 2004-06 for CW destruction, refurbishing the electrical substation to support the Shchuch'ye CWDF, and towards the shutdown of the Zheleznogorsk nuclear reactor.

[3] *Information for this appendix was drawn from Annex A to the 2006 Global Partnership Annual Report to G8 Leaders, July 2006 (http://g8russia.ru/i/Annex_to_GP_Report_-_final-eng.doc). Please refer to the report for more detailed information.*

[4] *TACIS refers to Technical Assistance to the Commonwealth of Independent States, a European Union assistance program for countries of the FSU, which was launched in 1991.*

Norway: Norway has pledged €100 million for nuclear projects, and is active in submarine dismantlement, having completed three submarines and begun a fourth, as well as transportation, infrastructure projects at Andreyev Bay, securing RTGs, nuclear safety and security projects, and contributing to the NDEP. Norway has also contributed to infrastructure construction at the Shchuch'ye CWDF.

Republic of Korea: The Republic of Korea has expended US$2 million to date, and has committed US$500,00 for 2006, to fund the dismantlement of one submarine, the shutdown of the Zheleznogorsk nuclear reactor and redirection of former weapons scientists through the ISTC.

Russia: Russia has pledged US$2 billion and focuses on nuclear submarine dismantlement and CW destruction. With foreign assistance and a Russian pledge of US$650million, 132 submarines have been successfully dismantled in the Northern and Pacific fleets. Russia has used the CWDFs constructed with support from Global Partnership countries at Gorny and Kambarka to destroy its CW stockpiles. As of December 2005, 100 percent of the stockpiles of Category 1 CW at Gorny had been destroyed, and destruction begun at Kambarka in March 2006.

Sweden: Sweden has committed approximately €15 million in the period 2006-08, for the NDEP, physical protection, safeguards, illicit trafficking and export control projects in Russia and Ukraine, reactor safety and safe disposal of nuclear waste and spent nuclear fuel and other activities in NW Russia, and to the Shchuch'ye CWDF construction.

Switzerland: Switzerland has committed €11 million in the period 2002-2006 to a variety of CW projects, for construction at Shchuch'ye, Kambarka, Maradikovsky and Leonidovka and for outreach.

Ukraine: Activity in Ukraine has taken place through projects via the IAEA and the STCU. Ukraine, the Global Partnership's second recipient country, has proposed a number of projects to partners.

United Kingdom: The U.K. pledged up to US$750 million to the Global Partnership, and is active in all areas. To date, the U.K. has committed £63 million for nuclear submarine dismantlement and spent fuel management. This includes studies relating to the management of spent nuclear fuel (SNF), the continued development of the SNF storage site at Andreeva Bay, and the dismantling of nuclear-powered submarines.

The U.K. committed £7.45million to nuclear security and physical protection, to be spent on activities that include training courses for guards and physical protection programs at several institutions. Some £33 million has also been committed for the implementation of projects through the ongoing Nuclear Safety Program across the FSU, including the Chornobyl Shelter. Along with several other donor countries, the U.K. has committed £12 million to fund the closure of the Zheleznogorsk reactor.

The U.K. has committed up to US$100 million for CW destruction in Russia and has to date committed approximately £14 million at Shchuch'ye for electricity, water and equipment procurement projects. The U.K. and Canada are working in close partnership at Shchuch'ye, with Canada funding through the U.K.'s program. The U.K. is also implementing a number of important projects on behalf of other donors.

The U.K. has also committed some £20 million for the redirection of former weapons scientists. The Closed Nuclear City Partnership has, as of June 2006, supported 80 U.K.-funded projects, which will create 1,200 jobs in Russia. The program is not limited to Russia, however, with parallel pilot programs in Kazakhstan, Uzbekistan and Ukraine.

United States: The U.S. is by far the largest contributor to the Global Partnership, having pledged US$10 billion and undertaken extensive activities. To date, the U.S. has committed over US$1 billion for assessments of nuclear facilities, the installation of modern equipment, as well as training to support such upgrades. The U.S. has also committed over US$240 million for the destruction of weapons delivery systems and nuclear-powered ballistic missile submarines. US$331 million is funding the shutdown of plutonium production reactors in Seversk and Zheleznogorsk, to which a number of donors are contributing.

Nearly US$1 billion has been committed so far to CW destruction activities, most notably the construction of the Shchuch'ye CWDF and the installation of enhanced security for weapons stored at Planovy/Shchuch'ye and Kizner. This commitment also includes the dismantling of former CW production facilities at Volgograd and Novocheboksarsk.

US$260 million is allocated for the redirection of former weapons scientists, engineers and technicians through the ISTC and STCU, with 293 projects to date. BW proliferation prevention activities include a US$287 million commitment to research projects; in addition, redirection activities include projects to prevent the proliferation of BW technology and expertise in Georgia, Kazakhstan, Uzbekistan, Russia and Ukraine.

The U.S. also supports projects in Ukraine. To date, the U.S. has committed approximately US$120 million for export control programs, border security, the redirection of scientists and elimination of strategic weapons delivery systems. As well, export control and other projects are supported in other FSU countries.

For further information, visit Canada's Global Partnership Program web site at http://www.globalpartnership.gc.ca. Select "links" to reach a list of other organizational and government web pages containing material related to the Global Partnership.

APPENDIX B

Acronyms and Initialisms

ABSA	American Biological Safety Association
BW	Biological weapons
CBRN	Chemical, biological, radiological, and nuclear
CERBA	Canada Eurasia Russia Business Association
CRTI	CBRN Research and Technology Initiative
CW	Chemical weapons
CWC	Chemical Weapons Convention
CWDF	Chemical weapons destruction facility
DFAIT	Department of Foreign Affairs and International Trade
DPL	Demilitarized process line
EBRD	European Bank for Reconstruction and Development
EU	European Union
FSU	Former Soviet Union
FSUE EP	Federal State Unitary Enterprise Engineering Plant
GPWG	Global Partnership Working Group
HEU	Highly enriched uranium
IAEA	International Atomic Energy Agency
ISTC	International Science and Technology Center
ITEP	Institute of Theoretical and Experimental Physics
MTTDPL	Munitions thermal treatment demilitarization process line
NGO	Non-governmental organization
NDEP	Northern Dimension Environmental Partnership
NPS	Nuclear-powered submarines
NSERC	Natural Sciences and Engineering Research Council of Canada
NSF	Nuclear Security Fund
NTI	Nuclear Threat Initiative
PNPI	Petersburg Institute of Nuclear Physics
RANSAC	Russian American Nuclear Security Advisory Council
RBAF	Risk-Based Audit Framework
RMAF	Results-Based Management and Accountability Framework
Rosatom	Russian Federal Agency for Atomic Energy
RTG	Radioisotope thermoelectric generator
SNF	Spent nuclear fuel
STCU	Science and Technology Center in Ukraine
WMD	Weapons of mass destruction