

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. Romyantsev, 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 projects 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

