



An easily carried, highly radioactive heat source is extracted from a RTG inside a special hot chamber

Photo Credit: Country Governor - Norway

Project: Physical Protection of Nuclear Material

The very real possibility that even small quantities of Russia's vast stockpile of nuclear material could be stolen and passed to terrorists or states of proliferation concern constitutes a major threat to international security. In July 2004, DFAIT and Rosatom successfully negotiated critical access and information transfer procedures to facilitate nuclear security cooperation. Canada is currently working with Rosatom to improve physical protection measures (e.g. barriers, key-card access, fences) at two Russian nuclear sites, and plans to support physical protection upgrades at two to three Russian nuclear facilities per year in the future.

Project: Securing Highly Radioactive Sources in Northern Russia

Radioactive materials have been used in small-scale power sources for decades in the FSU. For example, hundreds of lighthouses along Russia's northern coastline are currently powered by radioisotope thermoelectric generators (RTGs). These highly radioactive sources often have inadequate physical protection.

Reports of breaches involving RTGs have raised serious security and environmental concerns. As noted earlier, highly radioactive material that falls into the wrong hands could be used to make a "dirty bomb." Securing these vulnerable sources and replacing them with a sustainable alternative energy source is a leading priority for Canada and other *Global Partnership* donors.

Canada has made progress in developing projects to secure RTGs in the White Sea and Arctic regions, working bilaterally with Russia and in cooperation with other partners. To help ensure effective coordination of donor efforts in this area, Rosatom has established a multilateral RTG working group.



Solar cell panels provide a sustainable alternative power source for lighthouses formerly powered by highly radioactive material

Photo Credit: Country Governor - Norway



Highly radioactive materials that could be used in a "dirty bomb" are currently used to power lighthouses in the remote Russian north

Photo Credit: Country Governor - Norway