



HEU REPATRIATION PROJECT

RATIONALE

In April 2010, the governments of Canada and the United States (U.S.) committed to work cooperatively to repatriate spent highly-enriched uranium (HEU) fuel currently stored at the Chalk River Laboratories in Ontario to the U.S. as part of the Global Threat Reduction Initiative, a broad international effort to consolidate HEU inventories in fewer locations around the world. This initiative promotes non-proliferation by removing existing weapons-grade material from Canada and transferring it to the U.S., which has the capability to reprocess it for peaceful purposes. In March 2012, Prime Minister Harper announced that Canada and the U.S. were expanding their efforts to return additional inventories of HEU materials, including those in liquid form.



PROJECT BACKGROUND

This HEU is the result of two decades of nuclear fuel use at the Chalk River Laboratories for AECL's research reactors, the National Research Experimental (NRX) and National Research Universal (NRU), and for the production of medical isotopes in the NRU, which has benefitted generations of Canadians. Returning this material to the U.S. in its existing solid and liquid forms ensures that this material is stored safely in a secure highly guarded location, or is reprocessed into other forms that can be used for peaceful purposes.

Alternative approaches have been carefully considered and repatriation provides the safest, most secure, and fastest solution for the permanent disposition of these materials, thereby eliminating liability for future generations of Canadians.





PROJECT GOAL

To repatriate highly-enriched uranium (HEU) materials to the United States as part of the Global Threat Reduction Initiative.

THE PLAN

HEU is transported in packages (casks) that are specifically designed and certified by the Canadian Nuclear Safety Commission (CNSC), the U.S. Nuclear Regulatory Commission (NRC) and the U.S. Department of Transportation in accordance with international safety requirements established by the International Atomic Energy Agency (IAEA).

Canada has an excellent safety record for the transport of radioactive material. The CNSC will not allow the shipment of any radioactive material unless it is convinced the safety and security of both Canadians and the environment will be protected.

Furthermore, stringent security plans for each shipment are required to avoid any risk of material falling into the hands of unauthorized persons or organizations. Specific details on

shipments are considered sensitive, and are limited to persons who have a legitimate need to know, such as police or emergency response forces. The transportation routes and security measures put in place are pre-approved and agreed to by authorities in both Canada and the U.S.

ACTIVITIES

1996 – The Global Threat Reduction Initiative established, since then 3,500 kilograms of HEU and plutonium have been removed from 22 countries (Austria, Brazil, Bulgaria, Chile, Colombia, Denmark, Greece, Latvia, Libya, Mexico, Philippines, Portugal, Romania, Serbia, Slovenia, South Korea, Spain, Sweden, Taiwan, Thailand, Turkey, and Ukraine).

2010 – Formal commitment to repatriate spent highly-enriched uranium located at Chalk River Laboratories.

2012 – Completed the repatriation of used Highly Enriched Uranium fuel from AECL's shut down research Pool Test Reactor.

2013 – Completed the repatriation of two disassembled Highly Enriched Uranium SLOWPOKE research reactor fuel cores to the U.S.

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