



# IAEA

International Atomic Energy Agency

*Atoms for Peace*

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## ***Research reactor fuel repatriation in Europe***

### ***The challenge...***

IAEA Member States are seeking to advance nuclear non-proliferation objectives by eliminating stockpiles of highly enriched uranium (HEU) nuclear fuel from research reactors. The Russian Research Reactor Fuel Return (RRRFR) programme, which is part of the Global Threat Reduction Initiative, is being coordinated by the Russian Federation, USA and IAEA. The challenge is to return (repatriate) Russian-origin HEU nuclear fuel stored outside Russia at research reactors around the globe to the Russian Federation by the end of 2010.

### ***The project...***

HEU repatriation shipments are among the most challenging and complex of all IAEA technical assistance projects. Through the technical cooperation mechanism, internal experts, IAEA partners and experts from the Russian Federation, USA and 15 other countries successfully collaborated to implement this highly complex programme.

The programme included a combination of international and country specific activities, including technical and safety meetings, workshops, working groups and expert assistance. The project improved technical capabilities in nuclear fuel management, enhanced cooperation and communications between the licensing and operating bodies and improved skills on international shipment by different modes of transport. Regional skills were also improved with regard to the repackaging of degraded irradiated nuclear fuel, as well as the preparation, loading, handling and testing of transport casks at reactor sites, in transit, and at waste receiving sites.



*Transport package for HEU fuel.*

### ***The impact...***

At the international level, coordination and assistance also provided for the development and negotiation of international agreements for fuel repatriation. As of mid-2009, the IAEA has contributed to successful HEU fuel repatriation projects in Bulgaria, China, Czech Republic, Germany, Hungary, Latvia, the Libyan Arab Jamahiriya, Poland, Romania, Serbia, Uzbekistan and Vietnam. Other shipments are also in progress or are on the near horizon. Successful repatriation of unneeded HEU nuclear fuel has and will continue to reduce the potential for nuclear weapons development and contribute to increased public safety and security by eliminating the possibility of using the material in a radioactive dispersal device (or so-called 'dirty bomb').