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# Highly Enriched Uranium Transparency Program

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# Highly Enriched Uranium Transparency Program

## - Mission -

Provide assurance that the low enriched uranium (LEU) being purchased under the 1993 U.S. / Russian Highly Enriched Uranium (HEU) Purchase Agreement is derived from HEU extracted from dismantled nuclear weapons.



## - Transparency Objectives -

- Build confidence that the Russian HEU is extracted from dismantled nuclear weapons;
- Build confidence that this same HEU is oxidized;
- Build confidence that the declared quantity of HEU is blended down to LEU; and
- Demonstrate that the LEU delivered to the U. S. is fabricated into fuel for commercial nuclear reactors.



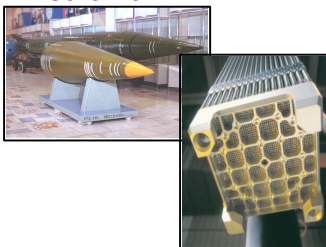
The Program has monitored a total of 261.7 metric tons (MT) of HEU being converted to LEU and delivered to the United States from 1995 through December 2005.

## - Scope -

### In the United States

Five facilities are subject to monitoring by the Russian Federation:

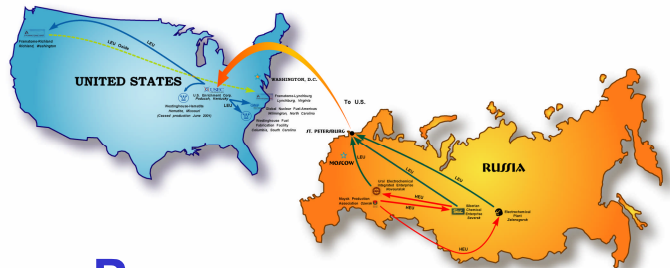
- Paducah Gaseous Diffusion Plant in Kentucky
- Global Nuclear Fuel-Americas in North Carolina
- Framatome-Lynchburg in Virginia
- Framatome-Richland in Washington
- Westinghouse Fuel Fabrication Facility in South Carolina



### In Russia

Four Russian Federation facilities are subject to monitoring by the United States:

- Electrochemical Plant (ECP) in Zelenogorsk
- Mayak Production Association (MPA) in Ozersk
- Siberian Chemical Enterprise (SChE) in Seversk
- Ural Electrochemical Integrated Enterprise (UEIE) in Novouralsk



## - Transparency Process -

- Special Monitoring Visit (SMV) teams use portable non-destructive assay (NDA) equipment to assure that the Russian HEU being processed is weapons material.
- The SMV and the Transparency Monitoring Office (TMO) monitors observe the processing of Russian HEU to assure material conversion to a fluoride for blending.
- The SMV/TMO monitors and the Blend Down Monitoring System (BDMS) assure that the processed HEU is blended to the LEU which is then shipped to the United States.
- Data retrieval and analysis further assure that observed and declared plant operations are consistent with the annual rate of LEU deliveries to the United States.
- An assessment of these elements provides a level of assurance that nonproliferation objectives are met.

# Highly Enriched Uranium Transparency Program 1995 - 2006



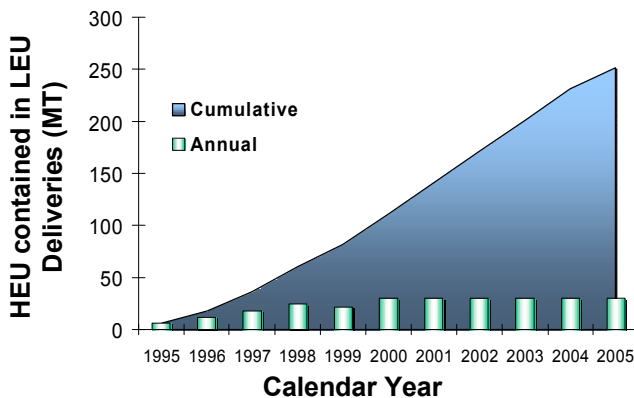
## - FY 2005 Results -

- The BDMS continued to monitor UEIE and ECP blending operations. A third BDMS began operation at SChE. Equipment was operable 100% of time.
- U.S. experts conducted 22 of the 24 allowed monitoring visits to Russian facilities.
- TMO coverage of 80% at UEIE exceeded the 76% performance goal.
- The Program monitored the conversion of 30 MT of HEU into LEU and acquired accountability and transparency data and documents.

## - FY 2006 Goals -

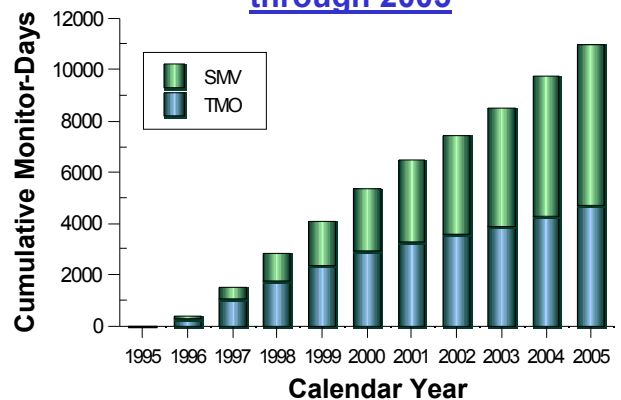
- The BDMS will monitor blending operations at all three blending sites, UEIE, ECP, and SChE. Equipment operability target is 95%.
- U.S. experts will conduct 28 monitoring visits to Russian facilities.
- TMO coverage at UEIE is scheduled at 77% of plant operational time.
- The Program will monitor the conversion of 30 MT of HEU into LEU and acquire, archive, and analyze accountability and transparency data and documents.

### Quantity of HEU to LEU Monitored



**30 MT HEU Annual Projection (2000 - 2013)**

### Program Monitoring Efforts at the Four Russian Facilities through 2005



**184 SMV trips  
(1996 - 2005)**