US-RUSSIAN HEU PROGRAM
- About the Program
- Missiles to Fuel: Step-by-Step
- Milestones
- News & Speeches
- Fact Sheet
- Progress Report
- Chronology
- FAQs
- Website Links

USEC-DOE HEU PROGRAM
- About the Program
- Progress Report

Progress Report

USEC-DOE
MEGATONS TO MEGAWATTS PROGRAM

Converting Military Nuclear Material into Fuel for Electricity

(As of December 31, 2005)

First Downblending Program (14.2 metric tons of HEU):

- **Completed July 1998**

Second Downblending Program (~50 metric tons of HEU):

- **45.8 MT of weapons-grade HEU** has been delivered to BWXT for downblending
- **605.2 of LEU fuel** has been produced
- **584.5 MT of LEU fuel** has been shipped to fabricators

Background

USEC is involved in the disposition of a portion of the 174.3 metric tons (MT) of highly enriched uranium (HEU) that the U.S. government has declared as surplus military material. Through the Megatons to Megawatts program, this HEU material, taken primarily from dismantled U.S. nuclear warheads, is being recycled into low-enriched uranium (LEU) fuel, used by nuclear power plants to generate electricity.

See About the Program for additional information.

Key Dates

- **December 1994:** USEC and the U.S. Department of Energy (DOE) sign a Memorandum of Agreement providing for the transfer to USEC of about 13.2 (ultimately, 14.2) MT of HEU in the form of uranium hexafluoride (UF6). This HEU (at an average enrichment level of about 75 percent of the fissionable isotope uranium-235) is to be diluted to LEU fuel of less than 5 percent U-235 at USEC's gaseous diffusion plant near Portsmouth, Ohio.

- **December 1997:** International Atomic Energy Agency begins monitoring the HEU dilution process.

- **April 1998:** USEC and DOE sign a Memorandum of Agreement giving USEC title to the equivalent of 50 MT of HEU, primarily in the form of oxide and metal, with an average enrichment level of about 40 percent U-235.

- **July 1998:** First blend-down program (of 14.2 MT HEU) is completed at USEC's Portsmouth plant. This HEU yields approximately 388 MT of LEU fuel at an enrichment level of about 4 percent U-235.

- **August 1998:** USEC contracts with BWX Technologies (BWXT) to dilute the approximately 50 MT of HEU oxide and metal at its Lynchburg, Virginia facility.

- **March 1999:** USEC contracts with Cameco Corp. for delivery of uranium trioxide (UO3) blend-stock to BWXT. Delivery begins in May 1999.

- **December 1999:** Downblending by BWXT begins. Dilution is expected to yield approximately 647 MT of LEU fuel or the equivalent of more than 14 million pounds of natural uranium concentrate and more than 3.1 million separative work units (SWU).

Program Results (Second Downblending Program)

- **December 31, 2000:** Cumulative progress: DOE has delivered 9.2 MT of HEU to BWXT for downblending. 58.9 MT of LEU fuel has been produced. 25.4 MT of LEU has been shipped to fabricators.

- **December 31, 2001:** Cumulative progress: DOE has delivered 15 MT of HEU to BWXT for downblending. 157.2 MT of LEU fuel has been produced. 121.4 MT of LEU has been shipped to fabricators.

- **December 31, 2002:** Cumulative progress: DOE has delivered 23 MT of HEU to BWXT for downblending. 263.6 MT of LEU fuel has been produced. 242.6 MT of LEU has been shipped to fabricators.

- **December 31, 2003:** Cumulative progress: DOE has delivered 33.7 MT of HEU to BWXT for downblending. 378.5 MT of LEU fuel has been produced. 356.1 MT of LEU has been shipped to fabricators.

- **December 31, 2004:** Cumulative progress: DOE has delivered 41.9 MT of HEU to BWXT for downblending. 489.9 MT of LEU fuel has been produced. 463.6 MT of LEU has been shipped to fabricators.

- **December 31, 2005:** Cumulative progress: DOE has delivered 45.8 MT of HEU to BWXT for downblending. 605.2 MT of LEU fuel has been produced. 584.5 MT of LEU has been shipped to fabricators.

For further information, contact USEC Corporate Communications at (301) 564-3391.