

## Fact Sheet

# USEC's American Centrifuge Project

### American Centrifuge Technology

- USEC is investing in advanced technology to provide a long-term, reliable and secure fuel source for the world's nuclear power plants and meet the energy needs of a growing population.
- The American Centrifuge is expected to be the world's most advanced uranium enrichment machine and is expected to produce more enriched uranium per machine than other commercial centrifuges.
- As the only domestic enrichment facility using U.S. technology, the American Centrifuge Plant (ACP) will play a major role in supporting America's energy security and national security.
- The American Centrifuge is based on technology initially developed by the U.S. Department of Energy (DOE) during the 1970s and 80s and successfully demonstrated, but which was ultimately not commercially deployed for reasons unrelated to the technology itself. USEC has modified and improved this technology through the use of modern materials, advanced computer-aided design, digital controls and state-of-the-art manufacturing processes.
- American Centrifuge technology is expected to offer substantial production cost savings compared to USEC's existing gaseous diffusion technology. For example, the American Centrifuge Plant is expected to use about 95 percent less electricity than a comparably sized gaseous diffusion plant.

### American Centrifuge Plant in Piketon, Ohio

- The U.S. Nuclear Regulatory Commission (NRC) issued USEC a construction and operating license in April 2007. USEC began construction on the American Centrifuge Plant in late May 2007.
- The American Centrifuge Plant will feature modular cascade architecture that allows capacity to be added as the use of nuclear energy increases. The Environmental Impact Statement issued by the NRC evaluated the modular expansion of the plant to about double its production capability.
- USEC estimates that the commercial plant, when completed, will employ more than 400 people at the plant site. The project is expected to create approximately 8,000 direct and indirect jobs across the United States.
- USEC has a contract with Fluor Enterprises, Inc., a subsidiary of Fluor Corporation to provide engineering, procurement and construction management services for the commercial plant.

### Project Status

- In 2008, USEC established a baseline project budget for the ACP of \$3.5 billion. This budget included amounts already spent but did not include financing costs or financial assurance. Through December 31, 2009, the Company had invested approximately \$1.7 billion on the project.
- On August 4, 2009, DOE and USEC announced an agreement to delay a final review of the Company's loan guarantee application for the ACP until at least early 2010. As a result, USEC demobilized the American Centrifuge project in order to preserve liquidity. As a result of the demobilization, anticipated higher machine manufacturing costs, anticipated remobilization costs and other factors, USEC expects that the cost of the project as it is currently envisioned will significantly exceed the baseline project budget established in 2008. To complete the project, USEC believes that the Company will require additional capital beyond the \$2 billion in Department of Energy loan guarantee program funding that it has applied for and USEC's internally generated cash flow.

## **American Centrifuge Demonstration Facility in Piketon, Ohio**

- The American Centrifuge Demonstration Facility is a plant prototype that is providing important cost, schedule and performance data for the American Centrifuge Plant.
- The Lead Cascade integrated testing program began operating in August 2007 at the demonstration facility. Tests have demonstrated the capability of the American Centrifuge technology to produce low enriched uranium at product assay levels in a range useable by commercial nuclear power plants.
- The centrifuge machines involved in the Lead Cascade integrated testing program have operated for more than 338,000 machine hours, providing data on equipment reliability and operating experience for our plant operators and technicians.

USEC's production centrifuge machine design is the AC100. Approximately two dozen AC100 machines are operating in a lead cascade in Piketon. This cascade is in a commercial plant configuration and operates under commercial plant conditions. Although this cascade is operating in a closed-loop configuration, where the enriched and depleted streams are recombined after going through the cascade, the flow of uranium feed and tails between individual machines in the cascade is similar to those expected in commercial plant operations. This cascade is intended to provide additional data on equipment operation and reliability that could identify opportunities to further optimize the centrifuge and cascade design. A limited number of additional machines may be added to the cascade to support the machine manufacturing infrastructure. Installation and successful operation of these additional machines will provide the opportunity to further demonstrate that quality control issues in assembly have been rectified. Their operation will add to the number of machine hours for the AC100 centrifuges. These initial AC100 machines are expected to be integrated into a commercial cascade or used for spares.

- USEC has a world-class team of American contractors manufacturing and assembling centrifuge machine components. These include B&W, ATK, Curtiss-Wright, and Major Tool & Machine.
- The NRC issued a license that authorized USEC to construct and operate its American Centrifuge Demonstration Facility in February 2004. In August 2006, the NRC assumed oversight of the Demonstration Facility from DOE.

## **USEC's Testing & Machine Manufacturing Activities in Oak Ridge, Tenn.**

- The technology development work done in Oak Ridge includes making enhancements to the proven technology developed and demonstrated by DOE.
- Improved AC100 machine components and design features are being tested in special test stands. USEC continues to identify opportunities to further optimize the machine and cascade design and also to work on the design for the value-engineered AC100 machine.
- UT-Battelle for Oak Ridge National Laboratory provides assistance with centrifuge design, testing and analysis work under a Cooperative Research and Development Agreement (CRADA).
- It is fitting that USEC is doing its centrifuge development and testing in Oak Ridge, where uranium enrichment technology began in the 1940s and where DOE developed the U.S. centrifuge technology until the 1980s.

**For more information visit [www.americancentrifuge.com](http://www.americancentrifuge.com)**