United States Department of Energy
Uranium Inventories

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The Office of Nuclear Fuel Supply Security, within the Office of Nuclear Energy, Science & Technology (NE), is responsible for monitoring the uranium, conversion and enrichment markets, as well as monitoring the implementation of the U.S./Russia Highly Enriched Uranium (HEU) Purchase Agreement. We also oversee Department's inventory of surplus natural uranium and prepare the market analysis used by the Secretary of Energy to determine whether a sale of uranium can take place from U.S. Government inventories.

Since the U.S. Government has significant quantities of uranium in various forms, it is understandable that the nuclear fuel industry has been concerned with how and when the Department expects to use these inventories. To the extent possible, the Department's inventory and disposition plans are open and transparent to the market. Current law, with limited exceptions, requires the Department to prepare a market analysis and Secretarial Determination prior to any sale of uranium into the market. Our analysis examines whether the sale will have an adverse material impact on the domestic nuclear fuel industry and whether the Department will receive full market value for its uranium.

Uranium Inventory Management

The Department intends to be a good steward of its uranium inventory and recognizes that proper management of its inventory is very important. We have established safeguards to ensure the Department's inventories do not adversely alter the supply and demand dynamics in the market. Our policy stipulates that:

- Security of supply is important. The Department should ensure its actions have a minimum effect on the marketplace.
- Uranium inventories will not be used to solve strictly commercial shortfalls of supply when market forces can attract more supply. However, in the event that supply is unavailable at any price, we may consider stepping in to resolve a crisis.
- The Department will obtain the highest value for its uranium inventory to the benefit of the taxpayers to the extent practical.

It is important to note that the Department has a limited amount of commercially usable uranium inventory available. In the event of a major supply disruption, the Department may not have sufficient uranium to meet a severe uranium shortage in the United States. In any event, we may not have the material in the right form depending upon where the shortfall takes place in the supply chain. In addition, much of the Department's natural uranium inventory is currently under a moratorium established by the U.S./Russia Feed Transfer Agreement until March 24, 2009.

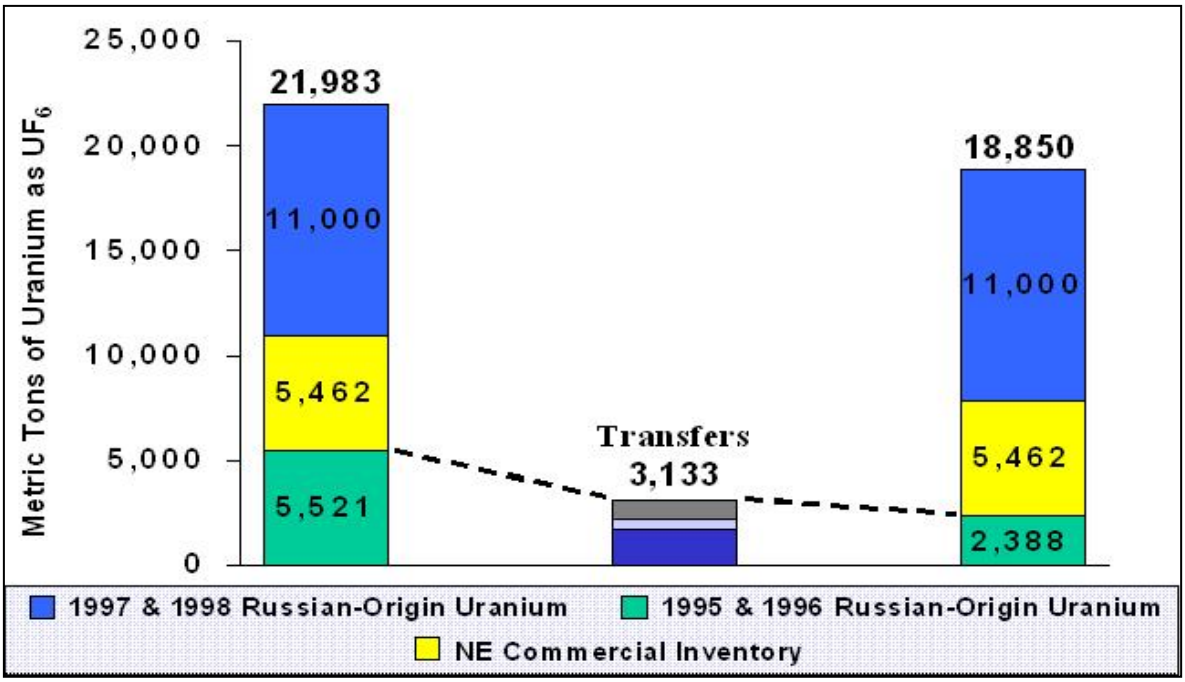
Natural Uranium Excess Inventories

As reflected in Figure 1, NE oversees the disposition policy for about 18,850 metric tons of uranium (MTU) in the form of natural uranium hexafluoride (UF_6). This uranium is separated into three categories. The first category, commonly referred to as the "1995 and 1996 Russian-origin uranium," was transferred to the Department by the U.S. Enrichment Corporation (USEC) in 1996 as required under section 3112(b) of the USEC Privatization Act. Initially, the Department received about 5,521 MTU from USEC. However, there is only about 272 MT of the original uranium in inventory today. Over the years, several sales or transfers of this material have taken place, such as the sale of 1,743 MTU back to Russia and the transfer of about 485 MTU to the Tennessee Valley Authority (TVA) as a part of the off-specification HEU program.

As a result of these transfers, the Department was left with approximately 3,293 MTU. In the June 2002 agreement with USEC, the Department exchanged 2,116 MT of its in-spec uranium with uranium containing high levels of Technetium-99 (Tc-99) that belonged to USEC. This agreement reduced the Department's obligations to USEC and provides for the Tc-99 cleanup of uranium. In 2005, the Department provided USEC with 905 MTU of this material to sell commercially as part of a barter arrangement to allow USEC to continue the cleanup of Tc-99 by operating the Shipping and Transfer facility located at the Portsmouth Gaseous Diffusion Plant (GDP) site in Ohio.

The second category of uranium inventory, commonly referred to as the "NE Commercial Inventory," is an inventory of 5,462 MTU left over from the old Uranium Enrichment Enterprise. It is included in the moratorium established by the March 1999 Feed Transfer Agreement. High levels of Tc-99 are believed present in this uranium.

Figure 1: DOE's Natural Uranium Inventory Allocation



The remaining category of uranium inventory is referred to as the "1997 and 1998 Russian-origin uranium". This 11,000 MTU stockpile was purchased by the Department from Russia under requirements of Public Law 105-277 for $325 million. The material was placed into the moratorium until March 29, 2009. Presently, the Department has no plans regarding the disposition of this uranium.

HEU Excess Inventories

The National Nuclear Security Administration (NNSA) is responsible for managing the government's HEU declared excess to U.S. Government defense needs. In the fall of 2004, NNSA issued a request for Expressions of Interest (EOI) for the sale and downblending of between 15 and 17.4 MT of HEU. Secretary Bodman announced at the September 26, 2005 International Atomic Energy Agency (IAEA) 49th Session of the General Conference that the Department will instead reserve the 17.4 MT of HEU for an IAEA verifiable assured supply arrangement for countries that forgo enrichment and reprocessing. When blended down under IAEA verification, this material would result in approximately 220 MT of net LEU, or enough fuel for about 8 reactor core reloads.

NNSA's next step in this process will be to issue an RFP in the near future to seek a contractor to blend down the HEU. The blend down could begin in 2006 and continue for three years. Additional details will be provided in the RFP.

In addition, on November 7, 2005, Secretary Bodman announced the Department will remove up to 200 MT of HEU from further use as fissile material in U.S. nuclear weapons and prepare this material for other uses in the coming decades. Presently the Department expects to dispose this HEU in the following ways:

- About 160 MT will be provided for use in naval ship power propulsion,
- About 20 MT will be blended down into LEU for eventual use in civilian nuclear power reactors, research reactors or related research, and
- Approximately 20 MT will be reserved for space and research reactors that currently use HEU.

No further details have been announced regarding the details of disposition of this HEU. Due to weapon dismantlement schedules, it is expected to take until approximately 2030 for all of the HEU designated for downblending to become available.

Tc-99 Cleanup Program

The Shipping and Transfer facility at Portsmouth GDP site is used to process uranium containing high levels of Tc-99. Several reports in the media have erroneously stated that the uranium to be transferred to USEC under this barter program is either new uranium, or somehow was uranium unfairly made available only to USEC. However, I would characterize our interest in bartering as: using some of the Department's uranium to cleanup its contaminated uranium in an attempt to maximize the Department's inventory value to the taxpayer.

In December 2000, USEC notified the Department that 9,550 MTU of natural UF_6 transferred to USEC between 1993 and 1998 was unusable because of Tc-99 levels in excess of ASTM[1] specifications.

On June 17, 2002, the Department and USEC signed an Agreement, in part, establishing a path forward for resolving the Tc-99 uranium clean up. As part of the Agreement, USEC committed to operate the Portsmouth Shipping and Transfer facility for a 15-month period and remove the Tc-99 from a portion of the 9,550 MTU. Since then, additional agreements have been executed to continue operation of these facilities through Fiscal Year (FY) 2005 and beyond.

Barter Arrangement with USEC

As part of Department's FY 2005 budget request, the Department offered USEC a "barter arrangement" to continue operating the Portsmouth Shipping and Transfer facility. The Department provided USEC with 905 MTU of uranium as reimbursement for the operating cost associated with the Portsmouth Shipping and Transfer facility. This is part of the previously referred to 3,293 MTU. Although details of the transaction are confidential, any amount of uranium transferred from the Department to USEC is subject to a three million pound U_3O_8 limit pursuant to the USEC Privatization Act.

The continued processing of the off-specification uranium at the Portsmouth Shipping and Transfer facility is the only economical means to remove excess levels of Tc-99. Because the Tc-99 cleanup cost is approximately one-fifth of the current market value of the uranium, the Department believes a barter arrangement helps to achieve greater economic value for the uranium for US taxpayers, and as an added benefit, it maintains employment at the operating facilities.

With regard to the Department's exchange of 2,116 MTU with USEC, the exchange of material that meets ASTM specifications in return for a similar amount that does not meet specifications decreases the Department's liability associated with the 9,550 MTU by 2,116 MTU. USEC is currently processing the Department's Tec contaminated material resulting from the exchange. In 2005, USEC sold the 905 MTU provided by DOE to continue the Tc-99 cleanup activities at the Portsmouth Shipping and Transfer facility. An additional quantity of uranium will be sold in 2006; the quantity sold will depend on the market prices of uranium at the time of sale. However, we hope to be able to continue this program until all the contaminated uranium is cleaned.

B**onneville Power Administration's Pilot Project**

In the summer of 2005, the Department entered into an agreement for a pilot project with Energy Northwest (EN), a wholly owned subsidiary of Bonneville Power Administration (BPA). Under this agreement the Department sold 8,500 MTU of higher assay (above 0.4% ^{235}U) UF_6 tails material to EN. EN has arranged to have the depleted uranium contained in the tails enriched for future use as fuel at its Columbia Generating Station.

[1] American Society for Testing and Materials

The Department's Office of Environmental Management is responsible for the disposition of about 700,000 MTU of tails material and plans to construct two conversion facilities to process the depleted UF_6. These facilities will be located at the Portsmouth GDP and the Paducah GDP sites. Several years ago EN approached the Department about purchasing some of the higher assay tails. The project is estimated to produce the equivalent of 1,900 MT of natural uranium and after further enrichment the LEU will subsequently be loaded as fuel into an EN reactor between 2009 and 2017.

The benefits of this agreement to the Department include cost avoidance (conversion & disposal) on tails and additional compensation for successful cylinder processing. In addition, the Department gains knowledge as to the viability of reusing tails based on data generated on elemental contamination levels, cylinder material condition, and overall cylinder rejection rate.

We anticipate this project will be successful based on data received from USEC's processing of the Department's cylinders over the nine month period.

In Summary

The Department recognizes the importance of managing the its uranium assets in a manner that not only achieves a higher return on investment to the U.S. Government, but avoids an adverse material impact to the domestic nuclear fuel industry. While its inventory of excess uranium is limited, from time to time the Department may sell excess uranium into the market to achieve program objectives. However, when the Department considers uranium as an option, we will attempt to consult with market participants to ensure that it is done in a responsible manner that will minimize any negative impact to the market.

The Department understands the importance of limiting the quantity of material entering the market and the benefits of long-term contracting. We recognize the importance of new investment in developing and expanding uranium production centers and the risks the financial community evaluates in making their funding decisions. Most importantly, we understand the need to balance the important national and energy security program objectives with the realities of the complex uranium, conversion, and enrichment markets.