

[6450-1-P]

DEPARTMENT OF ENERGY

**Sale of Surplus Natural and Low Enriched Uranium
Finding of No Significant Impact**

AGENCY: U.S. Department of Energy

ACTION: Finding of No Significant Impact

SUMMARY: The U.S. Department of Energy (DOE) has prepared an Environmental Assessment (EA) evaluating the impacts associated with the proposed sale or disposition of surplus uranium, both natural and low enriched, stored at the Department's gaseous diffusion plants in Piketon, Ohio, and Paducah, Kentucky. This EA, entitled DOE Sale of Surplus Natural and Low Enriched Uranium, was issued in draft form for public comment. The availability of the draft EA was announced in the *Federal Register* on August 12, 1996 [61 FR 41,776-777], with a thirty-day comment period extending through September 11, 1996. The Department received 14 letters commenting on the draft EA. These comments were evaluated and changes have been incorporated into the final EA as appropriate. The comments and the Department's responses to them are included as an appendix to the EA.

The EA evaluates the impacts of selling uranium from the Department's inventory and uranium to be transferred to DOE. The uranium from the Department's inventory being considered for sale or disposition in this EA was declared surplus to national security needs and therefore can be used for commercial purposes. In addition to this uranium, DOE is proposing to sell "Russian" natural uranium transferred from the United States Enrichment Corporation (USEC) pursuant to the *USEC Privatization Act*, which requires the Secretary to sell this material within seven years of the date of enactment (April 26, 1996).

Based on the analysis in the EA, the Department has decided to proceed with the sale or disposition of the surplus uranium consistent with the proposed action. In addition, DOE has determined that the proposed action does not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act (NEPA) of 1969 (42 USC 4321 *et seq.*). Therefore, the preparation of an Environmental Impact Statement (EIS) is not required.

FOR FURTHER INFORMATION CONTACT:

Copies of the Environmental Assessment for the DOE Sale of Surplus Natural and Low Enriched Uranium (DOE/EA-1172) are available from:

Mr. John F. Kotek
Office of Nuclear Energy, Science
and Technology, NE-1
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Mr Kotek may also be reached by calling (202) 586-6823.

For further information regarding the DOE NEPA process, contact:

Ms. Carol M. Borgstrom
Office of NEPA Policy and Assistance, EH-42
U.S. Department of Energy
1000 Independence Ave, SW
Washington, DC 20585

Ms. Borgstrom may also be reached by calling (202) 586-4600, or by leaving a message at (800) 472-2756.

SUPPLEMENTARY INFORMATION

Proposed Action

DOE proposes to sell approximately 35.7 million pounds of natural uranium equivalent ($U_3O_8(e)$), in the form of uranium hexafluoride. The uranium available for sale under this action consists of the following types: 20.3 million pounds of $U_3O_8(e)$; 1.2 million pounds of $U_3O_8(e)$ in the form of 4.5 percent low enriched uranium (LEU); and 14.2 million pounds of “Russian” $U_3O_8(e)$ ¹ that DOE will receive from USEC pursuant to the *USEC Privatization Act*.

All of the uranium is located at the gaseous diffusion plants at Portsmouth, Ohio, and Paducah, Kentucky. Sale of this surplus uranium would take place between 1996 and the end of 2004, depending upon market conditions. In order to sell uranium from DOE’s inventory, the Secretary must determine that the sale will not have an adverse material impact on the domestic uranium industry. Other conditions apply to the sale of the 14.2 million pounds of “Russian” U308(e). The uranium would be sold to buyers for subsequent enrichment, if needed, and fabrication into commercial nuclear power fuel. Potential buyers include USEC, over 60 domestic and foreign utilities, and various uranium traders and producers. The proposed action is fully described in the EA.

Alternatives Analyzed

The EA analyzed in detail the following alternatives to the proposed action:

¹ This 14.2 million pounds of $U_3O_8(e)$, stored at the Portsmouth Gaseous Diffusion Plant, is associated with the *Russian Highly Enriched Uranium (HEU) Agreement*. Under this Agreement, highly enriched uranium from Russian nuclear weapons is blended down in Russia and shipped to USEC for use in satisfying its enrichment contracts. Under the terms of these contracts, utility companies send natural uranium to the gaseous diffusion plants to be enriched. Since USEC started receiving Russian LEU under the *Russian HEU Agreement*, some of its contracts have been and will continue to be filled with the already-enriched Russian material. As a result, some of the natural uranium supplied by the utilities remains unenriched. It is being held in storage by USEC and is deemed by law to be of “Russian” origin. As a result, this “Russian” uranium is subject to restrictions on its sale in the United States under the *USEC Privatization Act* and the *Russian Uranium Antidumping Suspension Agreement*.

1. Selling only the transferred “Russian” uranium;
2. Selling all of DOE’s inventory of surplus natural and low enriched uranium for domestic use in a single year, selling half of the “Russian” uranium in 1996 for future use as the “Russian” component in matched sales, and selling the remainder of the “Russian” uranium in 2001 for domestic use in 2002 and later;
3. Selling all of DOE’s inventory of surplus natural and low enriched uranium for foreign use either in a single year or over a number of years between 1996 and 2004, and selling half of the “Russian” uranium in 1996 and the remainder at the same time as the DOE surplus inventory uranium; or
4. Taking no action, which would result in indefinitely storing the uranium or holding it for future use in other DOE activities such as for blending down highly enriched uranium.

Environmental Consequences of the Alternatives

The EA analyzes the impacts of selling or disposing of the uranium in terms of radiological effects on uranium industry workers and the public, socioeconomic impacts on the domestic uranium industry, transportation impacts from shipments of uranium to and from the enrichment plants, accident analyses at various facilities, environmental justice considerations, cumulative impacts and avoided environmental impacts.

The EA demonstrates that the proposed action would not have a significant impact on collective radiological doses to workers or the public as the result of transportation or normal operations. In some cases, including the proposed action, there would be a decrease in radiological dose due to reduced handling and transportation activities. Sale of all of the material in one year could result in a substantial reduction in the collective radiological dose to workers in the mining and conversion industries. Only if the uranium were all sold for foreign end use and shipped abroad for enrichment

would there be an increase in risk due to transportation. The analysis shows a slight increase in dose to port workers and cylinder handlers at the gaseous diffusion plants under this alternative. Impacts resulting from a transportation accident and effects on the global commons are analyzed and shown to be minimal.

The analysis of severe accidents for all alternatives indicates that potentially fatal exposures to hydrofluoric acid (HF) could result if a cylinder were to fall and be punctured while its UF₆ contents were temporarily in liquid form (heated) for purposes of sampling; however, the probability of such accidents is very low. In addition, administrative and procedural controls are in place at Portsmouth and Paducah to protect against such accidents, and emergency response procedures have been established to reduce or eliminate potential health effects to workers, neighboring populations and the environment.

In terms of socioeconomic effects, the greatest impact to the domestic uranium industry would occur under Alternative 2, selling all of the Department's surplus uranium for domestic use in a single year. This alternative could result in an estimated 46 - 53 percent decrease in domestic employment in the uranium production industry or a projected decrease of from 295 to 410 workers nationwide for that one year. The potential socioeconomic impacts of the proposed action would be substantially less than those anticipated from Alternative 2, because the sale of uranium in the proposed action would occur over a number of years, thereby minimizing any potential impacts on the domestic uranium industry. Under the proposed action, the overall employment level will still be expected to increase above 1995 employment levels.

In terms of cumulative impacts, the uranium that would be introduced into the market under the proposed action, when added to the uranium available as a result of other government actions considered in the EA (e.g., U.S. HEU blend down, *Russian HEU Agreement*, etc.), would not significantly affect the domestic uranium market and industry because demand is projected to increase for the near-term and DOE's sales are dependent upon existing market conditions. In addition, for DOE to sell the uranium from its inventory (which is all but 14.2 million pounds of

the 35.7 million pounds proposed for sale or disposition), the Secretary must determine that the sale will not have an adverse material impact on the domestic uranium industry. Such determinations may be made on a periodic basis (for example, for all contemplated sales over a certain period), as opposed to a sale-by-sale basis. The requirement for a determination prior to sales of inventory uranium operates as a mitigation measure against potential adverse material impacts on the domestic uranium industry. Thus, there will be no significant adverse cumulative impacts from the proposed action.

FINDING:

Based upon the information and analyses in the EA (DOE/EA-1172), the Department of Energy has determined that the proposed sale or disposition of the surplus uranium at Portsmouth and Paducah does not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969. Therefore, the preparation of an Environmental Impact Statement on the proposed action is not required.

Issued in Washington, D.C. this _____ day of October 1996.

Terry R. Lash
Director, Office of Nuclear Energy,
Science and Technology
U.S. Department of Energy