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OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

March 5, 2007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Docket No. 70-7004-ML

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
USEC Inc.	)	Docket No. 70-7004
	)	
(American Centrifuge Plant)	)	ASLBP No. 05-838-01-ML

NRC STAFF TESTIMONY RELATED TO
HTE-1: PURPOSE AND NEED OF THE FACILITY

Q1: Please state your name, occupation, by whom you are employed and your professional qualifications.

A1: (MB) Matthew Blevins. I am employed as a Senior Project Manager in the Environmental and Performance Assessment Branch, Division of Waste Management and Environmental Protection, Office of Federal and State Materials and Environmental Management Programs Office, U.S. Nuclear Regulatory Commission (NRC). A statement of my professional qualifications is attached.

A1: (SE) My name is Stan Echols. I am employed as a Senior Project Manager in the NRC's Office of Nuclear Materials Safety and Safeguards, Division of Fuel Cycle Safety and Safeguards. A statement of my professional qualifications is attached.

A1: (SW) Stephen Wyngarden. I am employed as a Senior Vice President with ICF International (ICF). I am providing testimony under a technical assistance contract with the NRC Staff. A statement of my professional qualifications is attached.

Q2: Please describe your professional responsibilities with regard to the review of the application by USEC, Inc.

A2: (MB) I am the NRC Senior Project Manager for the environmental review of USEC's ACP application. I was responsible for overseeing the preparation of NUREG-1834,

TEMPLATE = SECY-05b

SECY-02

"Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketion, Ohio," April 2006 ("FEIS"), attached as Staff Exhibit 2.

A2: (SE) I was the Project Manager (PM) for the Staff's review of the USEC Application from late 2005 until November 2006 and from January 2007 until the present. During the time that I was the PM, I led the effort to complete the Safety Evaluation Report (SER) for the ACP. NUREG-1851, "Safety Evaluation Report for the American Centrifuge Plant in Piketon, Ohio" (2006), Staff Exhibit 1.

A2: (SW) I served as ICF's Program Manager on its contract with the NRC Staff to provide technical assistance for the preparation of the FEIS. In this role, I was responsible for overseeing all ICF activities supporting the NRC Staff's review of the USEC Environmental Report (ER) and performed quality assurance reviews of all sections of the FEIS. I also served as the lead ICF analyst responsible for assisting the NRC Staff in its review of aspects of the Applicant's ER that concerned the project purpose and need.

Q3: What is the purpose of your testimony?

A3: The purpose of our testimony is to discuss the Staff's evaluation in the FEIS of the Applicant's statements in connection with the purpose and need of the proposed ACP.

Q4: Verify the capacity of the facility that was evaluated for the FEIS, and, if it varied, indicate which capacity related to specific FEIS sections, and the rationale for selecting that specific capacity.

A4: As noted in Section 1.1.3 of the SER, the Staff's review and safety and safeguards evaluation of the proposed plant is based on the nominal production capacity of 3.5 million Separative Work Units (SWU) per year, which is based on the description of the plant provided by the Applicant in its Application. Staff Exhibit 1. However, as noted in Section 1.2 of the FEIS, the Applicant indicated in its ER the potential for future expansion to 7 million SWU per year if market conditions warrant. Staff Exhibit 2. The Staff examined the potential environmental impacts of the plant based on the larger value of production capacity because, under the

National Environmental Policy Act (NEPA), a federal agency should not only evaluate the environmental impacts of the proposed action, but also of any action that would be considered to be reasonably foreseeable. Therefore, the Staff evaluated the environmental impacts of the larger production capacity as part of its current review.

The Applicant has not amended its Application to reflect an increase of production capacity from 3.5 million SWU to 3.8 million SWU, although it has made public announcements that such an increase is likely due to increased efficiency of its design. *See* News Release, "USEC Updates Cost Estimate and Schedule for American Centrifuge Plant," February 12, 2007, Staff Exhibit 11. If the Applicant anticipates such a change for its license (if issued), it would evaluate the change through the change process identified in 10 C.F.R. § 70.72 and notify the Staff as appropriate. Any potential change to decommissioning funding would be addressed during the periodic review of the Applicant's Decommissioning Funding Plan. There would be no need for an additional environmental review because the current evaluation in the FEIS is already bounding.

Q5: Address the topics covered by USEC in their ER Section 1.1, indicating with specificity whether and why the NRC Staff agrees with that information.

A5: (SW, MB) Section 1.1 of USEC's ER discusses "Purpose and Need." This section of the ER covers topics such as current U.S. nuclear electrical generation rates, national energy security and the role of the ACP, current sources of enriched uranium, updated technology, and projected future needs.

As discussed in the FEIS, Section 1.3, the Staff further evaluated these statements. Staff Exhibit 2. The Staff agrees that nuclear power generates approximately 20% of electricity for the United States. Section 1.3.1 provides the Staff's analysis that there is a future need for additional SWU's based on the growing generation capacity (e.g., power uprates and capacity factors). The Staff agrees that there appears to be a world-wide demand for additional SWU.

The Staff reviewed the current sources of enriched uranium compared to future needs. Staff Exhibit 2 at 1-4 to 1-5). As of 2004, the U.S. demand for enriched uranium is 12 million SWUs per year. Energy Information Administration, "Uranium Marketing Annual Report," U.S. Department of Energy (2004), available at http://tonto.eia.doe.gov/FTPROOT/nuclear/umar2004.pdf, Staff Exhibit 27. Annually, the United States Enrichment Corporation produces approximately 10.5 million SWUs, of which 6.7 million SWUs is sold for use in the U.S. and 3.8 million SWUs is exported (USEC, 2005). That means that the United States Enrichment Corporation currently fulfills approximately 56 percent of the U.S. demand. Of the amount sold for use in the U.S., 1.7 million SWUs (14 percent of U.S. demand) comes from the Paducah Gaseous Diffusion Plant and 5 million SWUs (42 percent of U.S. demand) from the Megatons-to-Megawatts program, which is dependent on deliveries from Russia. Staff Exhibit 27. Therefore, up to 86 percent of the U.S. demand is currently supplied by foreign sources. However, the United States Enrichment Corporation produces approximately 5 million SWUs (which constitute 42 percent of U.S. demand) at the Paducah Gaseous Diffusion Plant. Theoretically, this enrichment capacity could be sold only to the U.S. market, thus reducing the overall foreign dependence to approximately 7 million SWUs (58 percent of U.S. demand).

DOE anticipates "the inevitable cessation of all domestic gaseous diffusion enrichment operations" due to the higher cost of aging diffusion facilities like Paducah relative to new centrifuge technology. U.S. Department of Energy, "Effect of U.S./Russia Highly Enriched Uranium Agreement," December 31, 2001, Staff Exhibit 28. Existing U.S. sources will not be able to provide a dependable and economical domestic supply to meet the continuing U.S. demand for enriched uranium in the future. The Megatons-to-Megawatts program is only planned to be available until 2013, after which the nation could have a significant shortfall in supply if the agreement is not renewed. Therefore, new domestic sources of enriched uranium

are needed to replace the aging, energy-intensive Paducah gaseous diffusion facility even if the Megatons-to-Megawatts program is extended beyond 2013.

The Staff further elaborates on national energy security in Section 1.3.2 of the FEIS. Staff Exhibit 2. At the time the FEIS was completed, the U.S. was solely dependent on the aging Paducah Gaseous Diffusion Plant. Subsequently, the NRC has issued a license to LES to operate a uranium enrichment facility in New Mexico. This was considered in the Staff's analysis. Staff Exhibit 2 at 1-5. As the LES facility could contribute up to 25% of the domestic SWU needs, there would still be significant room for USEC to contribute to the domestic supply of SWU (the ACP operating at the 7 million SWU capacity would provide 58% of the domestic needs). Staff further considered DOE's statements that further domestic sources were necessary for the reasons discussed in FEIS. Staff Exhibit 2 at 1-6. The Staff agrees that the proposed ACP could contribute to national energy security.

Finally, the Staff reviewed USEC's statements that more efficient technology is necessary and was in agreement. Staff Exhibit 2 at 1-6. This was premised on the large resource requirements of gaseous diffusion plants (e.g., electricity, Freon, and cooling water).

The ER also discusses Milestones in the DOE-USEC agreement and business related comments (e.g., "USEC is committed to being competitive on price") that NRC did not analyze in their FEIS (i.e., it was not relevant to the Staff's review of environmental impacts).

Q6: Discuss what changes have occurred in the purpose and need for ACP now that the LES facility has been licensed.

A5: (SW, MB) Licensing of the LES facility will have no effect on the no-action alternative evaluated in the FEIS. The no-action alternative explicitly addressed the anticipated licensing of the LES facility. Staff Exhibit 2 at 2-36. In addition, as discussed in the FEIS, with or without the LES facility, the no-action alternative would result in a shortfall in U.S. domestic supply of enriched uranium against U.S. domestic demand. Staff Exhibit 2 at 1-4 and 1-5. The LES facility would satisfy only about 25% of the U.S. demand. The ACP is intended to help

offset the eventual cessation of operation of the Paducah GDP and the U.S. reliance on the Megatons to Megawatts program which relies on foreign sources of uranium. The Megatons to Megawatts program is scheduled to end in 2013. Staff Exhibit 28 at 1.

Q7: In regard to the impact of the ACP on meeting U.S. demands for enriched uranium, discuss what controls or agreements are in place to assure that ACP's enrichment capacity would be dedicated to U.S. markets. If there are none, explain how the construction of the plant can be allocated to meeting DOE's goal of fulfilling domestic supplies of EU.

A7: (SW, MB) There are no statutory or regulatory requirements prohibiting the sale of enriched uranium produced in the U.S. for peaceful use in foreign countries. Such exports are authorized under the Atomic Energy Act of 1954, as amended (AEA) in accordance with Agreements for Cooperation entered into by the U.S. Government under Section 123 of the AEA. Section 193 of the AEA prohibits the issuance of a license to the Applicant if such issuance would be "inimical to ... the maintenance of a reliable and economical domestic source of enrichment services." 42 U.S.C. § 2243. The ACP will clearly provide a new domestic source of such services. It will be constructed in the U.S. using U.S. technology and will be owned and operated by a U.S. company that is not foreign owned, controlled or influenced. The ACP will serve both the domestic and foreign markets. In 2005 the Applicant's estimated market share of the SWU component of low enriched uranium purchased by and shipped to utilities in North America was 53% and its estimated market share in the world was 27%. No NRC regulation prohibits foreign sales. As discussed in the FEIS, licensing of the ACP expands and diversifies U.S. domestic sources of enriched uranium. Staff Exhibit 2 at 7-7.

Q8: Does this conclude your testimony?

A8: Yes.

I declare under penalty of perjury that the foregoing is true and correct. Executed on March 5, 2007.

Matthew Blevins

I declare under penalty of perjury that the foregoing is true and correct. Executed on March 2, 2007.

Stan Echols

I declare under penalty of perjury that the foregoing is true and correct. Executed on March 8, 2007.

Stephen Wyngarden