

March 5, 2007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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 HTS-4: EXEMPTION REQUESTS

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

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: (ID) My name is Ira Dinitz. I am employed as a Insurance / Indemnity Analyst in the NRC's Office of Nuclear Reactor Regulation, Division of Policy and Rulemaking. A statement of my professional qualifications is attached.

A1: (TJ) My name is Timothy Johnson. 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: (ML) My name is Michael Lamastra. I am employed as a Senior Project Manager (Health Physics) 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: (CT) My name is Christopher Tripp. I am employed as a Senior Nuclear Process Engineer (Criticality) 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.

Q2: Please describe your professional responsibilities with regard to the NRC staff's ("Staff") review of the USEC, Inc.'s ("the Applicant") license application ("Application") for the proposed American Centrifuge Plant (ACP) in Piketon, Ohio.

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: (ID) I reviewed the Applicant's request for an exemption from 10 C.F.R. §§ 40.31(I) and 70.22(n).

A2: (TJ) I reviewed the information provided by the Applicant in connection with their decommissioning funding plan and prepared Section 10.3.2 of the SER. My review included the Applicant's request for an exemption from 10 C.F.R. §§ 40.36(d) and 70.25(e).

A2: (ML) I reviewed the portions of the Application related to radiation protection and prepared Chapter 4 of the SER. My review included the Applicant's requests for exemptions from 10 C.F.R. § 20.1904.

A2: (CT) I was the nuclear criticality safety reviewer for the Staff's review of the Application for the ACP from its receipt until the present. My review included the Applicant's request for an exemption from 10 C.F.R. § 70.24.

Q3: What is the purpose of your testimony?

A3: The purpose of our testimony is to provide information with regard to the Applicant's requests for exemptions from the provisions of 10 C.F.R. §§ 20.1904, 40.31(I), 40.36(d), 70.22(n), 70.24, 70.25(e), and 70.50(c)(2).

Q4: What is the current status of the Staff's review of the Applicant's exemption requests?

A5: (SE) The Staff has completed its review of the six exemption requests submitted by the Applicant, and there are no further pending reviews. The Staff recommends granting the requested exemptions.

Q5: For each exemption request, please provide USEC's analysis regarding the potential adverse impact on safety by the requested exemption, if any, to support its request, and, in addition, an explanation of the Staff's rationale in deciding whether or not to grant the request.

A5: USEC provided information on six exemption requests related to radiation protection, criticality monitoring alarms, event reporting, liability insurance, and decommissioning funding. 10 C.F.R. §§ 40.14 and 70.17 permit the NRC to grant exemptions from the requirements of the regulations if it is determined that the exemption is authorized by law and that the exemption will not endanger life or property or the common defense and security and is otherwise in the public interest. The Staff determined that each exemption request is authorized by law. Staff Exhibit 1 at 1-12 to 1-14, 4-15 to 4-16, 5-27, and 10-14.

The Staff also conducted a detailed review of each exemption to determine that the requested exemption will not endanger life or property of the common defense and security and is otherwise in the public interest. This review is included in the SER (Staff Exhibit 1), and is also summarized in the table below, along with USEC's analysis regarding the potential adverse impact on safety.

EXEMPTION REQUEST	EXPLANATION OF EXEMPTION REQUEST	USEC ANALYSIS OF IMPACT ON SAFETY	NRC STAFF RATIONALE	SER SECTION DOCUMENTING STAFF REVIEW
10 CFR 20.1904	USEC has requested that UF ₆ feed, product, and depleted uranium cylinders not be required to be routinely labeled as containing radioactive material.	No safety impact because UF ₆ feed, product, and depleted uranium cylinders are readily identifiable due to their size and unique construction. Qualified radiological workers will attend UF ₆ cylinders during movement.	The provisions in 10 CFR 20.1905(c) allow this exemption request. The Staff agrees that the cylinders are readily identifiable. Qualified radiological workers will attend UF ₆ cylinders during movement.	4.3.7 Radiation Survey and Monitoring Programs. See also Staff's response to Board question S3.B.
10 CFR 20.1904	USEC has requested that containers located in Restricted Areas within the ACP be exempt from container labeling requirements.	No safety impact because Restricted Areas will have a sign posted stating that every container may contain radioactive material will be posted. By procedure, when containers are to be removed from contaminated or potentially contaminated areas, a survey will be performed to ensure that contamination is not spread around the reservation.	The large number of potential containers that would be required to be labeled in any area would confront a worker with a sea of radiation signs. These signs as required by 10 C.F.R. § 20.1901, would use the colors magenta, or purple, or black on yellow background. These colors were chosen by the NRC because they are very bright and eye catching. There is a concern that wherever a worker looked they would	4.3.7 Radiation Survey and Monitoring Programs. See also Staff's response to Board question S3.B.

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			see radiation labels with these bright colors everywhere, such that they would cease to have any safety meaning. As such, workers would be desensitized to radiation signs. This exemption is essentially identical to exemptions previously approved for the gaseous diffusion plants.	
10 CFR 70.50(c)(2)	In lieu of the 30-day requirement described in 10 CFR 70.50(c)(2), USEC requests to submit the required written reports within 60 days of the initial notifications.	No safety impact because this proposal allows for completion of required root cause analyses after event discovery and, thus, would require fewer supplemental reports, thereby reducing regulatory burden on the licensee and confusion due to incomplete information. This exemption is consistent with the exemption granted to the gaseous diffusion plants under 10 CFR Part 76.120(d)(2) and the exemption granted to the Lead Cascade. The exemption is consistent with the time limit provided in 10 CFR 50.73 for commercial power reactors.	An additional 30 days would provide more time to complete the required root cause analyses and would result in fewer supplemental reports thereby reducing regulatory burden on the licensee and confusion due to incomplete information. This exemption is consistent with exemptions granted to other licensees.	1.2.3.6 Special Exemptions or Special Authorizations
10 CFR 70.25(e) and	Instead of providing the full amount of	No safety impact because sufficient financial assurance will be available at	The staff agrees that it is not necessary to provide	10.3.2.2 Financial

EXEMPTION REQUEST	EXPLANATION OF EXEMPTION REQUEST	USEC ANALYSIS OF IMPACT ON SAFETY	NRC STAFF RATIONALE	SER SECTION DOCUMENTING STAFF REVIEW
10 CFR 40.36(d)	decommissioning financial assurance prior to operation of the ACP, USEC has requested to provide full funding for decommissioning the plant and to provide incremental funding for centrifuges as they are added in the plant and depleted uranium tails as they are generated on an annual forward looking basis.	any time.	the full amount of decommissioning financial assurance prior to operation of the ACP. The approach proposed by USEC ensures that the decommissioning financial assurance at any time will adequately cover the costs for decommissioning the facility and disposition of the depleted uranium tails.	Assurance for Decommissioning See also staff written testimony for HTS-7.
10 CFR 70.24	USEC has requested to be exempt from the criticality monitoring requirements (i.e., use of a criticality accident alarm system (CAAS)) for the cylinder storage yards.	No safety impact because controls will be applied so that transportation, handling, and storage of full solid UF ₆ cylinders meet the double contingency principle. The increased vehicular and pedestrian traffic in support of CAAS maintenance and calibration requirements would cause a subsequent increased likelihood for impact events involving cylinders, and additionally, there would be an increased safety risk for workers from radiation exposure due to the ongoing CAAS maintenance and calibration requirements. The UF ₆ cylinders stored in storage yards are not covered by a criticality monitoring system unless those	USEC has demonstrated that based on several natural and institutional factors, the likelihood of a criticality event in the UF ₆ cylinder storage yards is sufficiently low to justify this exemption request. Similar exemptions have been granted at other fuel cycle facilities. CAAS alarms can be very expensive, raising the price of nuclear fuel and the requirements to	5.3.6 CAAS Exemption. See also Staff's response to Board question S4.A.2.

EXEMPTION REQUEST	EXPLANATION OF EXEMPTION REQUEST	USEC ANALYSIS OF IMPACT ON SAFETY	NRC STAFF RATIONALE	SER SECTION DOCUMENTING STAFF REVIEW
		cylinders contain licensed material greater than 5.0 weight percent ²³⁵ U.	maintain CAAS alarms would result in greater risk to workers because of increased vehicular and foot traffic in the cylinder storage yards (i.e., increased exposure to radiation, increased possibility of rupturing a cylinder due to a vehicle accident.	
10 CFR 40.31(l) and 10 CFR 70.22(n)	USEC has requested to be exempt from the requirement that the ACP have and maintain liability insurance. In lieu of this requirement, the ACP will be indemnified by DOE.	No safety impact because, in accordance with Section 3107 of the USEC Privatization Act, the Lease with DOE for the DOE-owned facilities that will be used for the ACP includes an indemnity agreement from DOE under Section 170d of the Atomic Energy Act (AEA) for liability claims.	Under the terms of the lease agreement, DOE will provide indemnity for the ACP unless liability insurance is commercially available at commercially reasonable rates.	1.2.3.3.3 Liability Insurance See also Staff's response to Board question S1-2.

Staff Exhibit 1.

Q6: How did the Staff examine the potential adverse impact on plant safety from the granted exemptions when viewed collectively, if the Staff grants some or all of these exemption requests.

A6: (SE) Because the Staff considers these exemption requests to be independent of one another, the Staff did not examine the potential adverse impact on plant safety from the granted exemptions when viewed collectively. One of the exemption requests, liability insurance, is not directly related to safety, but rather compensation to individuals following an accident. Another exemption request related to decommissioning funding does not impact safety of the plant while operating, but ensures adequate funding for decommissioning of the plant following cessation of operations. The reporting requirement exemption does not impact safety due to the fact that this exemption just requests additional time in which to submit written reports following a reported event.

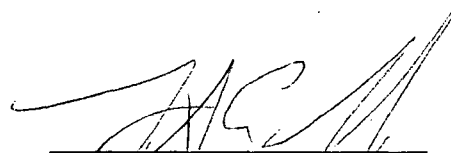
There are three exemptions that directly relate to plant safety: cylinder labeling, container labeling, and criticality monitoring alarms (i.e., CAAS). All containers will be treated as containing radioactive material and the cylinders are readily recognizable and will be attended by qualified radiological workers during movement. The ISA Summary analyzed the criticality accident sequences with containers and IROFS were identified as necessary. The CAAS exemption will not adversely interact with the two labeling exemptions because the ISA Summary analyzed credible criticality scenarios involving cylinders and these scenarios are not dependent on labeling the containers (rather, they depend on cylinder integrity, personnel response to breached cylinders, etc.). Due to these reasons, each exemption request is considered independent of each other, and thus considered not to produce a combined adverse interaction that could exceed applicable regulations. Each exemption was granted based on specific conditions

ensuring that public health and safety and the environment and common defense and security will be protected, while also meeting the applicable regulatory requirements.

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.



Francis Stanley Echols


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

Ira Dinitz

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

Timothy Johnson

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



Michael Lamastra

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

Christopher Tripp