USEC
A Global Energy Company

June 6, 2006
AET 06-0064

Mr. Jack R. Strosnider
Director, Office of Nuclear Material Safety and Safeguards
Attention: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

American Centrifuge Plant
Docket Number 70-7004
Submittal of Planned Changes to the License Application and Supporting Documents for the American Centrifuge Plant (TAC Nos. L32306, L32307, and L32308)

Dear Mr. Strosnider:

Pursuant to requests from the U.S. Nuclear Regulatory Commission (NRC) staff on May 24, 2006, USEC Inc. hereby submits planned changes for the License Application and Emergency Plan for the American Centrifuge Plant as Enclosure 1 of this letter. These planned changes will be finalized and submitted to the NRC in the next revision of the License Application and supporting documents.

If you have any questions regarding this matter, please contact Peter J. Miner at (301) 564-3470.

Sincerely,

S. A. Toelle

Steven A. Toelle
Director, Regulatory Affairs

cc: S. Echols, NRC HQ
N. Garcia-Santos, NRC HQ
T. Johnson, NRC HQ
B. Smith, NRC HQ

Enclosure: As Stated

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Enclosure 1 of AET 06-0064

Planned Changes for the License Application and Emergency Plan for the American Centrifuge Plant

1.1.9 Material of Construction

The ACP facilities are designed and built in a manner to ensure an operating life of at least 30 years. Materials of construction are chosen in accordance with the guidance provided in GAT-901 and GAT-T-3000 (References 10 and 11) to ensure piping and other equipment can maintain a minimum wall thickness during the operating life of the ACP. Corrosion and erosion rates are not anticipated to exceed 0.0025 millimeter per year depending upon material of construction, equipment configurations and flow rates.

This portion of the text has been determined to contain Export Controlled Information and is located in Appendix B of this license application.

An example of the use of steel in this fashion is UF_6 cylinders. While steel will corrode and not produce a protective fluoride film, the design compensates for the corrosion by increasing the thickness of the cylinder wall. Operational requirements for periodic retesting of the cylinders every five years ensures that the residual wall thickness is still adequate even under high temperature conditions experienced during cylinder heating. Corrosion of steel is greatly increased if moisture is introduced into the UF_6 cylinders; however, controls are in place to minimize the presence of moisture to address criticality and chemical reaction concerns.

Soldering and brazing alloys must be considered for the effects of operational conditions, material compatibility, and corrosion over the expected life of the associated equipment to ensure the integrity of the equipment is maintained. These metals are also exposed to UF_6 and elevated temperature conditions which affect their corrosion rates. KY/L-1990 (Reference 12) is used as guidance in selecting soldering and brazing materials for process equipment. Experience from GDP operations with these materials of construction supports the expectation there should be no corrosion and erosion related breaches during the lifetime of the ACP because the design effort has considered the compatibility of materials, equipment, and process gas and its constituents.

1.1.10 Use of Lubricants

The ACP is designed and constructed to use oilless pumps and compressors as much as possible in the processing of UF_6. Where lubrication is required and the associated equipment can potentially see process gas, the preferred lubricants are compatible with UF_6 and HF. Compatible lubricants are polyfluoropolyethers (PFPE), known by shelf names such as Fomblin or Krytox. These lubricants are fluorinated which minimizes their ability to react with the fluorine associated with UF_6 and HF. The chemical components are carbon, fluorine, and oxygen. Also, PFPEs have minimal flammability and toxicity concerns.

When the process equipment cannot achieve the desired performance parameters utilizing fluorinated lubricants, hydrocarbon based lubricants can be used. Performance parameters include, but are not limited to, pressure, mass flow, and availability. Where hydrocarbon-based lubrication is required, the amounts in use are small enough such that criticality and combustible loading concerns are minimal.

Furthermore, granting this exemption request will not endanger life or property or the common defense and security, in that the exemption request does not relieve the ACP from other requirements contained in 10 CFR 70.50 (a) or (b) or by 10 CFR 70.74 and Appendix A of Part 70, such as 1-hour, 4-hour, and 24-hour reporting requirements for defined events.

The proposed exemption would result only in written reports being submitted within the time limit currently allowed under 10 CFR 50.73 for commercial nuclear power plants. It would be consistent with the exemption granted to the gaseous diffusion plants for reporting of events pursuant to 10 CFR 76.120(d)(2) (67 Federal Register 68699, November 12, 2002) and the exemption granted to the Lead Cascade during licensing.

This proposal allows for completion of required root cause analyses after event discovery and fewer supplemental reports, thereby reducing regulatory burden and confusion. Thus, it is clearly consistent with the public interest.

USEC notes that the requirements of 10 CFR 20.2201 and 20.2203 require written reports of certain events within 30 days after their occurrence. USEC is not requesting an exemption from these reporting requirements.

The following exemption from the requirements of 10 CFR 70.25(e) and 10 CFR 40.36(d) addressing the decommissioning funding requirements is identified in Section 10.10.4 and the Decommissioning Funding Plan (DFP) of this license application:

- 10 CFR 70.25(e) and 10 CFR 40.36(d) require, in part, that "The decommissioning funding plan must also contain a certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning...". As noted in Section 10.10.4 of this license application, the financial assurance for a portion of the decommissioning costs, to include the disposition of centrifuge machines and UF_6 tails, which constitutes a major portion of the decommissioning liability, will be provided incrementally as centrifuges are built/installed and UF_6 tails generated. Full funding for decommissioning of the facilities will be provided in the initial executed financial assurance instrument.

  This exemption is justified for the following reasons: 1) It is authorized by law because there is no statutory prohibition on incremental funding of decommissioning costs. 2) The requested exemption will not endanger life or property or the common defense and security for the following reasons: the unique modular aspects of the American Centrifuge technology allow enrichment operations to begin well before the full capacity of the plant is reached. Thus, the decommissioning liability for centrifuge machines and UF_6 tails is incurred incrementally as more centrifuge machines are added to the process, until full capacity of the facility is reached; at which point the UF_6 tails are generated at a relatively constant rate throughout the life of the plant. As such, requiring full funding for decommissioning liability, to include centrifuge machines and UF_6 tails disposition, incurred over the lifetime of the plant,

Table 1.2-1 Possession Limits for NRC Regulated Materials and Substances

Type of Material	Atomic Number	Physical State	Chemical Form	Possession Limit	Description
	27 Co-60	Sealed Source		10 Ci	Calibration, NDA, Process sources
		Unsealed Source		0.5 Ci	Laboratory chemicals Analysis of samples[e]
	28 Ni-63	Sealed Source		10 Ci	Process sources, internal instrument Standards
	38 Sr-90	Sealed Source		0.5 Ci	Calibration
	43 Tc-99	Sealed Source		10 Ci	Calibration
		Unsealed Source		5 Ci	Laboratory chemicals, Analysis of samples[e]
		Any	Any	180 Ci	Process contamination and wastes, material held in cylinders from previous operations or from processing FSU or recycled uranium.
	55 Cs-137	Sealed Source		10 Ci	Calibration, NDA Process sources
		Unsealed Source		0.5 Ci	Laboratory chemicals Analysis of samples[e]
	70 Yb-169	Sealed Source		5.0 Ci	Calibration, NDA
	81 Tl-207	Sealed Source		1.0 Ci	Calibration
	88 Ra-226	Sealed Source		1 Ci	Calibration
	93, 96, 97, 99, 100	Sealed source		0.5 Ci	Calibration
		Unsealed source		1.0 Ci	Laboratory Chemicals Analysis of samples[d]

Table A-3 Possession Limits for NRC Regulated Materials and Substances

Type of Material	Atomic Number	Physical State	Chemical Form	Possession Limit	Description
	28 Ni-63	Sealed Source		10 Ci	Process sources, internal instrument Standards
	38 Sr-90	Sealed Source		0.5 Ci	Calibration
	43 Tc-99	Sealed Source Unsealed Source		10 Ci 5 Ci	Calibration Laboratory chemicals, Analysis of samples[e]
		Any	Any	180 Ci	Process contamination and wastes, material held in cylinders from previous operations or from processing FSU or recycled uranium.
	55 Cs-137	Sealed Source		10 Ci	Calibration, NDA Process sources
		Unsealed Source		0.5 Ci	Laboratory chemicals Analysis of samples[e]
	70 Yb-169	Sealed Source		5.0 Ci	Calibration, NDA
	81 Tl-207	Sealed Source		1.0 Ci	Calibration
	88 Ra-226	Sealed Source		1 Ci	Calibration
	93, 96, 97, 99, 100	Sealed source Unsealed source		0.5 Ci 1.0 Ci	Calibration Laboratory Chemicals Analysis of samples[d]
	93, 95-100	Any	Any	0.5 Ci	Process contaminants and wastes, material held in cylinders from previous operations or from processing FSU or recycled uranium.
	95	Sealed source Unsealed source	Oxides, metals Oxides, metals, Solutions	15 Ci 0.5 Ci	Calibration, process source Analysis of samples[e] Laboratory chemicals