



January 6, 2010
AET 10-0001

ATTN: Document Control Desk
Mr. Michael F. Weber
Director, Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

**American Centrifuge Lead Cascade Facility
Docket Number 70-7003; License Number SNM-7003
Supplemental Information Related to USEC Inc.'s Response to a Request for Additional
Information Regarding the Revised Decommissioning Funding Plan for the American
Centrifuge Lead Cascade Facility (TAC L32891)**

Purpose

USEC Inc. (USEC) hereby submits to the U.S. Nuclear Regulatory Commission (NRC) supplemental information related to responses to the requests for additional information (RAI) related to the Decommissioning Funding Plan (DFP) for the American Centrifuge Lead Cascade Facility.

Background

Title 10 *Code of Federal Regulations* (CFR) 70.25(a) and Material License SNM-7003, License Condition 15, require USEC to provide a periodic update to USEC's DFP for the Lead Cascade. This proposed change to the DFP was provided to the NRC for review and approval by Reference 1 to meet the three year periodicity requirement of both 10 CFR 70.25(a) and our License Condition 15. The NRC's review of this submittal identified additional information needed before final action could be taken by the NRC (Reference 2). Subsequently, Reference 3 provided USEC's responses to the identified RAIs.

Discussion

Pursuant to Reference 4, Enclosure 1 of this letter provides supplemental information related to USEC's responses to the NRC's RAIs. Proposed changes to the DFP identified as part of these revised RAI responses are being provided in Enclosure 2 of this letter. Only those revised proposed changed pages dealing with the revised responses are being provided. However, all the proposed DFP changes, as referenced within USEC letters AET 09-0060, AET 09-0081, and AET 09-0082, are depicted with revision bars in the right hand margin.

N145501


Action

USEC requests NRC review and acceptance of the enclosed revised RAI responses and proposed changes to the Lead Cascade Decommissioning Funding Plan related to the DFP cost estimate. As previously stated in Reference 3, upon NRC acceptance of the updated DFP cost estimate, USEC will, within 90 days, issue the proposed change, formally issue a revised DFP, make conforming changes to Chapter 10.0, "Decommissioning," of the Lead Cascade Facility License Application, and will forward executed revised Financial Assurance Mechanisms for Decommissioning Funding.

Contact

If you have any questions regarding this matter, please contact me at (301) 564-3470 or Terry Sensue at (740) 897-2412.

Sincerely,



Peter J. Miner
Director, Regulatory and Quality Assurance

cc: J. Downs, NRC HQ
J. Henson, NRC Region II
O. Siurano, NRC HQ
B. Smith, NRC HQ

Enclosures: As Stated

References:

1. USEC letter AET 09-0060 to M.F. Weber (NRC) from P.J. Miner (USEC) regarding Transmittal of Decommissioning Funding Plan and Cost Estimate, dated July 14, 2009
2. NRC letter to P.J. Miner (USEC) from J.R. Downs (NRC) regarding Request for Additional Information Regarding the Revised Decommissioning Funding Plan for the American centrifuge Lead Cascade (TAC No. L32891), dated October 6, 2009
3. USEC letter AET 09-0081 to M.F. Weber (NRC) from P.J. Miner (USEC) regarding Submittal of USEC Inc.'s Response to a Request for Additional Information Related to the Revised Decommissioning Funding Plan for the American Centrifuge Lead Cascade Facility (TAC L32891), dated November 4, 2009
4. NRC e-mail to P.J. Miner (USEC) from O. Siurano (NRC) regarding USEC Responses to RAIs on DFP for LC (TAC #L32891), dated December 1, 2009

Enclosure 1 of AET 10-0001

**Supplemental Information Related to USEC's Responses to the Request for Additional
Information Regarding the Revised Decommissioning Funding Plan
for the American Centrifuge Lead Cascade Facility**

- (1) **Restatement of NRC Question** – ICF found the USEC response on page 3 of 7 to be somewhat imprecise, when it states that “unit quantities were developed from Gas Centrifuge Enrichment Plant (GCEP) clean-out data, and ... unit costs were developed from calendar year (CY) 2009 cost data or industry standard labor rates escalated to CY 2009 dollars” (emphasis added). The sentence would be clearer if the “or” were changed to “and.” The tables now specify the sources of information on which they are based, although the note to Table 3-7 could specify 2009 scrap metal disposal costs instead of “current” scrap metal disposal costs.

USEC Response:

- USEC agrees with the suggested response wording change. USEC’s previous response, as provided by USEC letter AET 09-0081 dated November 4, 2009, should be changed as follows:

Wording in Section 3.0 of the Lead Cascade (LC) Decommissioning Funding Plan (DFP) was changed to provide clarification that the unit quantities were developed from GCEP clean-out data, and that unit costs were developed from CY 2009 cost data ~~or~~ **and** industry standard labor rates escalated to CY 2009 dollars.

- USEC has modified the fifth assumption listed on the DFP Table 3-7 entitled “Packaging, Shipping, and Disposal of Radioactive Wastes” to clarify the reference cost. The assumption now states:

\$32.67/ft³ (~~Current scrap metal~~ **SCY09** disposal **and transportation** cost);
\$1,161.60/m³

Supplemental proposed changes to the LC DFP Table 3-7 is provided by Enclosure 2 of this letter.

- (2) **Restatement of NRC Question** – ICF notes that in footnote 2 to Section 4.0 of the DFP, USEC continues to cite NUREG-1727 as the source of model documentation for the financial assurance instruments. (See comment #1 in ICF's review of the USEC DFP, dated September 3, 2009.) USEC states: "In the event the Licensee ultimately selects another form of decommissioning funding, model documentation from NUREG-1727 will also be used as guidance in the preparation of funding instruments." Because NUREG-1727 has been superseded by NUREG-1757, Volume 3, USEC's commitment should be to use NUREG-1757.

USEC Response:

USEC has modified footnote 2 in Section 4.0 of the DFP to cite NUREG-1757 as the source of model documentation for the financial assurance instruments. The footnote now states:

- ² The model documentation is derived from NRC guidance in **NUREG-1757, Volume 3, Consolidated NMSS Decommissioning Guidance, Financial Assistance, Recordkeeping, and Timeliness, dated** September 2003. The Licensee will consider this model documentation as guidance in preparing and executing funding instruments for the Lead Cascade. In the event the Licensee ultimately selects another form of decommissioning funding, model documentation from **NUREG-1757** will also be used as guidance in the preparation of funding instruments.

Supplemental proposed changes to the LC DFP text is provided by Enclosure 2 of this letter.

Enclosure 2 to AET 10-0001

**Proposed Changes to the Decommissioning Funding Plan for the
Lead Cascade Facility**

Table 3-7
Packaging, Shipping, and Disposal of Radioactive Wastes
(Excluding Labor Costs)

| Waste Type | [A] Disposal Volume (m ³) | [B] Number of Containers | Type of Container | [C] Unit Cost (\$/m ³) | [D] Surcharges (\$/container) | [E] Total Disposal Costs |
|---------------------|---------------------------------------|--------------------------|-------------------|------------------------------------|-------------------------------|--------------------------|
| Machine - Internals | 270 | 100 | B-25 Box | \$ 1,161.60 | \$ 2,800.00 | \$ 593,632.00 |
| Machine - Casings | 270 | 100 | B-25 Box | \$ 1,161.60 | \$ 2,800.00 | \$ 593,632.00 |
| Total | 540 | 200 | B-25 Box | \$ 1,161.60 | \$ 2,800.00 | \$ 1,187,264.00 |

Disposal Path is Energy Solutions Clive, UT

Assumptions:

Based on previous USEC GCEP Cleanout efforts
 ≈80 Centrifuge Machines anticipated, Disposal Cost estimate based on 100 Centrifuge Machines
 1 Centrifuge Machine/2 B-25 Boxes; (1: internals; 2: casing)
 1 B-25 Box = 96 ft³ = 2.7 m³
 \$32.67/ft³ (\$CY09 disposal and transportation cost); \$1,161.60/m³
 Surcharge includes Cost of B-25 Boxes + Radiological Assessment + Transportation Fees
 E=B((AC)+D)

Table 3-8
Laboratory Costs

| Phase | Activity | # Workers | # Yr | Routine Freq (Samples/y) | Recall Freq (Samples/y) | Incident Freq (Samples/y) | Sample Factor | Unit Cost (\$) | Total Cost |
|---------------|-----------------------------------|-----------|-------|--------------------------|-------------------------|---------------------------|---------------|----------------|------------------|
| 1 | Planning & Preparation | 9 | 0.314 | 4 | 0.2 | 2 | 6.2 | 115 | \$ 2,015 |
| 2 | Decontamination or Dismantling | 40 | 0.231 | 12 | 0.6 | 6 | 18.6 | 115 | \$ 19,764 |
| 3 | Restoration of Contaminated Areas | 3 | 0.297 | 12 | 0.6 | 4 | 16.6 | 115 | \$ 1,701 |
| 4 | Final Radiation Survey | 3 | 0.198 | 12 | 0.6 | 4 | 16.6 | 115 | \$ 1,134 |
| 5 | Long Term Surveillance | 0 | 0.000 | 4 | 0.2 | 2 | 6.2 | 115 | - |
| TOTALS | | 55 | | | | | | | \$ 24,614 |

Assumptions:

- ▲ The utilization of the 'On-Site' laboratory facility is anticipated; therefore, there are no associated transportation costs included in the derivation of the Unit Cost. On-Site laboratory facility is open for use by third-party contractors.
- ▲ Routine Frequency is the anticipated number of samples per individual per year (see Table 4.7-3 of the ACP License Application).
- ▲ Recall Frequency assumes 5% recall rate; Recall = an individual sample submitted when analysis results exceed a predetermined urinalysis program action level (see Table 4.7-3 of the ACP License Application).
- ▲ Incident Frequency assumes 2 samples submitted for each incident; Incident = a special sample submitted for analysis due to an incident (for example, a personnel contamination event or an airborne release of radioactive material event occurs).
- ▲ Sample Factor = Routine freq % + Recall % + Incident %; Total Cost = (# workers/phase) * (# yr) * Sample Factor * Unit Cost
- ▲ # samples = (# workers/phase) * (Routine freq % + Recall % + Incident %) * # yr
- ▲ Analytical Unit Cost = \$115 / sample [Amount based for uranium isotopic analysis by alpha spectrometry and includes analysis performance, labor, and cost of materials plus overheads](SCY09). Unit costs for laboratory work currently fixed for CY08 and CY09.

4.0 DECOMMISSIONING FUNDING MECHANISM

The Licensee presently intends to utilize a surety bond and/or letter of credit to provide reasonable assurance of decommissioning funding, pursuant to 10 CFR 70.25(f)(2). Accordingly, the Licensee provides with this application model documentation related to the use of the surety method of providing decommissioning financial assurance.² Upon acceptance of this cost estimate and finalization of the specific funding instruments to be utilized, the Licensee will supplement its application to include the executed documentation.

As noted, the Licensee presently intends to utilize a surety bond and/or letter of credit to provide financial assurance for decommissioning. The surety bond and/or letter of credit will provide an ultimate guarantee that decommissioning costs will be paid in the event the Licensee is unable to meet its decommissioning obligations at the time of decommissioning. A copy of a model surety bond and a letter of credit is provided in Appendix A to this plan. The Licensee describes below the particular attributes it presently anticipates including in these instruments.

With respect to the surety bond and letter of credit, the Licensee presently anticipates providing for the following attributes: First, for the surety bond, a Company that is listed as a qualified surety in the Department of Treasury's most recent edition of Circular 570 for the State where the Surety was signed with an underwriting limitation greater than or equal to the level of coverage specified in the bond will issue the bond. For a letter of credit, a financial institution whose operations are regulated and examined by a Federal or State agency as determined by the Federal Deposit Insurance Company (FDIC) Institution Directory or as determined by the appropriate district office of the Office of the Comptroller of the Currency (OCC) for federal regulation or the applicable State banking authority for state regulation will issue the letter of credit. Second, the bond and letter of credit will be written for a specified term and will be renewable automatically unless the issuer serves notice at least 90 days prior to expiration of intent not to renew. Such notice must be served upon the NRC, the trustee of the external or Standby Trust, and the Licensee. Further, in the event the Licensee is unable to provide an acceptable replacement within 30 days of such notice, the full amount of the bond and the letter of credit will be payable automatically, prior to expiration, without proof of forfeiture.

The surety bond and letter of credit will require that the financial institution will deposit any funds paid under its terms directly into a standby trust fund. A copy of a model Standby Trust is provided as Appendix B to this plan.

5.0 ADJUSTING DECOMMISSIONING COSTS AND FUNDING

Pursuant to 10 CFR 70.25(e), the Licensee will update the decommissioning cost estimate for the Lead Cascade and the funding levels over the life of the facility. The cost estimate will be adjusted periodically and no less frequent than every three years consistent with the requirements of 10 CFR 70.25(e) and the recent NRC proposed change to financial assurance amendments for materials licensees (67 FR 62403, October 7, 2002). The method for adjusting the cost estimate will consider the following:

² The model documentation is derived from NRC guidance in NUREG-1757, Volume 3, Consolidated NMSS Decommissioning Guidance, Financial Assistance, Recordkeeping, and Timeliness, dated September 2003. The Licensee will consider this model documentation as guidance in preparing and executing funding instruments for the Lead Cascade. In the event the Licensee ultimately selects another form of decommissioning funding, model documentation from NUREG-1757 will also be used as guidance in the preparation of funding instruments.