



February 12, 2016  
ACO 16-0008

ATTN: Document Control Desk  
Mr. Scott Moore, Acting 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**

**Submittal of Revision to the Decommissioning Program for the American Centrifuge Lead Cascade Facility – Security-Related Information and Proprietary Information**

**INFORMATION TRANSMITTED HERewith IS PROTECTED FROM PUBLIC  
DISCLOSURE AS CONFIDENTIAL COMMERCIAL OR FINANCIAL INFORMATION  
AND/OR TRADE SECRETS PURSUANT TO 10 CFR 2.390**

Dear Mr. Moore:

**Purpose**

The purpose of this letter is to request the U.S. Nuclear Regulatory Commission (NRC) review of proposed changes to Chapter 10.0, “Decommissioning” of the License Application and the Decommissioning Funding Plan (DFP) for the American Centrifuge Lead Cascade Facility (Lead Cascade), in accordance with 10 *Code of Federal Regulations* (CFR) 70.25(e) and 40.36(d).

**Background**

On February 27, 2014 (Reference 1) a change in commitment related to decommissioning for the Lead Cascade was submitted to the NRC for review and approval. After several discussions between NRC and the American Centrifuge Operating, LLC (ACO), on September 8, 2014 (Reference 2) the NRC requested that this change in commitment be withdrawn and resubmittal of a new request addressing the issues identified for NRC staff review. Consequently, NRC review efforts under Technical Assignment Control Number L34282 were previously closed.

Based upon the above and the ongoing commitment to update the DFP at least every three years, by this letter ACO formally withdraws the change in commitment contained within Reference 1 from the docket and submits a revised decommissioning cost estimate to ensure full funding for existing and future decommissioning liabilities at the Lead Cascade.

Information transmitted herewith contains  
~~Security-Related Information - Withhold Under 10 CFR 2.390~~  
~~Proprietary Information~~

When separated from the Enclosures 3, 4, and 6, this cover letter is uncontrolled.

NM5520

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**Discussion**

Enclosure 1 to this letter provides a detailed description, justification for the proposed change, and ACO's determination that the proposed change associated with this request is not significant.

Enclosure 2 of this letter contains the proposed changes to Chapter 10.0 of the License Application, the DFP, and Appendix C, "Environmental Impact of Decommissioning," of the Environmental Report for the Lead Cascade.

Enclosure 3 of this letter provides proposed changes for Appendix D, "Decommissioning Cost Estimate Tables," of the DFP for the Lead Cascade.

Enclosure 4 of this letter provides ACO's in-depth calculations related to the annual labor by classification and staffing estimated in phased man-days.

Enclosure 5 of this letter provides a draft Surety Bond Rider; All-Purpose Acknowledgement; Power of Attorney; Standby Trust Agreement; Standby Trust Agreement Schedules; Letter of Acknowledgement; and an unexecuted Model Specimen Certificate of Events and Model Specimen Certification of Resolution associated with this decommissioning cost estimate.

Enclosure 6 of this letter contains a draft Certification of Financial Assurance.

Enclosures 3 and 4 contain Proprietary Information; therefore, ACO requests that these enclosures be withheld from public disclosure pursuant to 10 CFR 2.390(a)(4). An affidavit required by 10 CFR 2.390(b)(1)(ii) is provided as Enclosure 7 of this letter. Enclosure 6 contains Security-Related Information and ACO requests this enclosure be withheld from public disclosure pursuant to 10 CFR 2.390(d)(1).

**Action**


ACO requests NRC review and approval of the proposed changes to the License Application, DFP, and Environmental Report. ACO requests NRC review and acceptance of the enclosed decommissioning cost estimate at your earliest convenience. Within 60 days following approval and acceptance of the proposed changes and estimate, ACO will, in accordance with Materials License SNM-7003, Condition 15, submit a final executed financial assurance instrument for the approved decommissioning cost estimate to the NRC.

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**Contact**

If you have any questions regarding this matter, please contact me at (301) 564-3250 or Mario Robles, Jr. at (740) 897-3285.

Sincerely,



Steven A. Toelle  
Director, Regulatory Affairs

Enclosures: As Stated

cc (without enclosures, unless otherwise noted):

J. Downs, NRC HQ  
T. Grice, NRC HQ  
K. Kline, NRC HQ (Enclosures)  
L. Pitts, NRC Region II (Enclosures)  
O. Siurano-Perez, NRC HQ (Enclosures)  
M. Sykes, NRC Region II  
T. Vukovsky, Region II

**References:**

1. Letter ACO 14-0009 from P.J. Miner to (NRC) regarding Change in Commitment Related to the Decommissioning of the American Centrifuge Lead Cascade Facility (TAC Number L34282), dated February 27, 2014
2. NRC letter from B.W. Smith to P.J. Miner (ACO) regarding Non-acceptance of Proposed Changes to Chapter 10.0, Decommissioning Funding Plan for the American Centrifuge Lead Cascade Facility – Technical Assignment Control Number L34282, dated September 8, 2014

**Enclosure 1 of ACO 16-0008**

**Detailed Description, Justification for Change, and Significance Determination**

**Information contained within  
does not contain  
Export Controlled Information**

**Reviewer: R.S. Lykowski  
Date: 02/03/2016**

The American Centrifuge Lead Cascade Facility (Lead Cascade) Decommissioning Funding Plan (DFP), Chapter 10.0 of the License Application, Appendix C of the Environmental Report, and the Decommissioning Cost Estimate (DCE) are being revised in support of the three-year update commitment and to ensure full funding for existing and expected decommissioning liabilities at the Lead Cascade in the event that American Centrifuge Operating, LLC is unable to perform decommissioning activities.

### **Detailed Description of Change**

The proposed changes to Chapter 10.0 of the License Application, DFP, Appendix C of the Environmental Report, and DCE for the Lead Cascade cover existing and expected increases in equipment in use, area in use, contaminated material volume, and material and labor cost to perform decommissioning; based on calendar year 2016 dollars.

The proposed changes contained within Enclosures 2 and 3 of this letter are identified by the following method:

- ~~Blue Strikeout~~ - Identifies text to be removed
- Red underline – Identifies text to be added

### **Justification for Change**

The Lead Cascade DFP is being revised to satisfy Nuclear Regulatory Commission's (NRC) Materials License Condition #15, which states, "no later than every three years the licensee shall update the Decommissioning Funding Plan and provide it to the NRC for review. After resolution of any NRC comments, the licensee shall submit final executed copies of the financial assurance instruments."

A change in methodology occurred within this DCE related to Table C3.18, *Total Decommissioning Costs*. The costs have been revised to account for the "use of a third party" contractor for performing each decommissioning task scope similar to other enrichment facilities. This adjustment includes an Overhead rate of 110 percent on Total Labor (contained within Table D3.13, *Total Labor Costs by Major Decommissioning Task*) plus Contractor Profitability of 15 percent on Total Labor and Overhead. The previous methodology applied General & Administrative (7.5 percent) and Contractor Profitability (15 percent) on the entire estimate subtotal. Contingency remains at 25 percent for the entire estimate subtotal.

The proposed changes to Chapter 10.0 of the License Application, DFP, Appendix C of the Environmental Report, and DCE for the Lead Cascade reflect operations up to this time and provide an update to the decommissioning cost estimate for the Lead Cascade to ensure it bounds the anticipated costs to decommission the Lead Cascade. These proposed changes do not introduce an undue risk to the public health and safety, the environment, or common defense and security.

### **Significance Determination**

American Centrifuge Operating, LLC has reviewed the proposed changes associated with this request and has determined the following:

1. No significant change to any condition to the License.

Material License SNM-7003, Condition 15, states “No later than every three years the licensee shall update the Decommissioning Funding Plan and provide it to the NRC for review. After resolution of any NRC comments, the licensee shall submit final executed copies of the financial assurance instruments.” The proposed changes meet this condition and do not make changes to any conditions to the license.

2. No significant increase in the probability of occurrence or consequences of previously evaluated accident.

The proposed changes will not change any accident scenarios identified in the Integrated Safety Analysis (ISA) Summary or exceed the performance requirements of 10 CFR 70.61; therefore, there is no significant increase in the probability of occurrence or consequences of the previously evaluated accident.

3. No new or different type of accident.

The proposed changes do not create new or different types of accident sequences that, unless mitigated or prevented, would exceed the performance requirements of 10 CFR 70.61 and that have not previously been described in the ISA Summary for the Lead Cascade.

4. No significant reduction in margins of safety.

The proposed changes revise the DCE only; therefore, the proposed changes do not decrease the margin of safety associated with any Items Relied On For Safety that are being credited to ensure the performance requirements of 10 CFR 70.61 are met.

5. No significant decrease in the effectiveness of any programs or plans contained in the licensing documents.

The proposed changes will not decrease the overall level of security system performance needed to protect against the loss or compromise of classified matter. Other than the DFP, Appendix C of the Environmental Report, and Chapter 10.0 of the License Application, the proposed changes do not affect any other plant safety, safeguards, or security programs or any other programs or plans contained in the License Application and its supporting documents for the Lead Cascade. The proposed changes will not decrease the effectiveness of the Emergency Plan, Security Program/Plans, Fundamental Nuclear Material Control Plan, or Quality

Assurance Program Description.

6. The proposed changes do not result in undue risk to: 1) public health and safety; 2) common defense and security; and 3) the environment.

There is no increase in the probability of occurrence or consequences of a previously evaluated accident or malfunction of equipment important to safety. The proposed changes will not increase the likelihood the protected material or special nuclear material will be accessible to unauthorized personnel. There are no new accident initiators, increases in hazardous materials or waste streams. Therefore, the proposed changes do not result in undue risk to public health and safety, the environment, or to the common defense and security.

7. There is no change in the type or significant increases in the amounts of any effluents that may be released off-site.

The proposed changes do not create any new or unusual sources of hazardous substances, hazardous waste, or new waste streams that could be generated or used in unacceptable levels that exceed applicable regulatory requirements. Therefore, there is no change in the type or significant increases in the amounts of any effluents that may be released off-site.

8. There is no significant increase in individual or cumulative occupational radiation exposure.

The proposed changes will not increase radiological or chemical releases beyond applicable regulatory limits and will not create any new or unusual sources of radioactive waste. Therefore, the proposed changes will have no significant increase in individual or cumulative occupational radiation exposure.

9. There is no significant construction impact.

The proposed changes related to the DCE of the Lead Cascade would occur after operations have ceased; therefore, the proposed changes can not have any significant construction impact on the Lead Cascade.

**Enclosure 2 of ACO 16-0008**

**Proposed Changes for Chapter 10.0 of the License Application,  
Decommissioning Funding Plan, and Appendix C of the Environmental Report  
for the Lead Cascade**

**Information contained within  
does not contain  
Export Controlled Information**

**Reviewer: R.S. Lykowski  
Date: 02/03/2016**



## 10.0 DECOMMISSIONING

The Lead Cascade is located on the U.S. Department of Energy (DOE) Portsmouth Gaseous Diffusion Plant (PORTS) reservation. The Licensee has operated the Lead Cascade since June 6, 2007. Materials License SNM-7003 provides the expiration date for the license. Information on the Licensee, the location of the site, and the types and authorized uses of licensed material is provided in Section 1.2, Institutional Information, and a description of the site and immediate environs is provided in Section 1.3, Site Description.

Consistent with the Agreement between ~~USEC~~ the Licensee and the DOE, any Commercial Plant would be sited either at the PORTS or the Paducah Gaseous Diffusion Plant. PORTS was chosen as the location for the Commercial Plant. Consequently, the Lead Cascade would likely be included in the Commercial Plant license and would be decommissioned as part of the Commercial Plant construction efforts. If no Commercial Plant is deployed, then at the end of Lead Cascade operation, the Lead Cascade would be decommissioned prior to being de-leased and returned to DOE. For conservatism, it was assumed that centrifuges and other installed equipment would be removed and the Lead Cascade decommissioned in accordance with the lease agreement with DOE.

Centrifuges, service modules, process headers, vacuum pumps, and traps are the typical equipment to be removed by the Licensee; only the building shells and the facility infrastructure, including equipment that existed at the time of lease (e.g., rigid mast crane, utilities, etc.) will remain. The cascade area floor will be monitored for contamination, and will be decontaminated, if required. The remaining facilities will be decontaminated where needed to comply with lease turnover requirements. Confidential and Secret Restricted Data material, components, and documents will be transferred to the Commercial Plant or dispositioned in accordance with the Security Program for the American Centrifuge Plant, Chapter 2: Security Plan for the Protection of Classified Matter. Uranium hexafluoride (UF<sub>6</sub>) material will be transferred to an authorized facility. Radioactive wastes will be disposed of at licensed low-level waste disposal sites. Hazardous wastes will be treated or disposed of at licensed hazardous waste facilities. Following the Licensee's decommissioning activities, the facilities will be de-leased and returned to DOE in accordance with Lease Agreement requirements.

Activities required for decommissioning have been identified and decommissioning costs have been estimated. Costs projected were developed based on the experience at PORTS during the transition to Cold Standby operation. Other activities and estimated costs for decommissioning were developed based on an evaluation prepared by ~~USEC~~ the Licensee concerning removal of the DOE centrifuges that previously remained at the PORTS site in the former Gas Centrifuge Enrichment Plant (GCEP) process buildings. Additionally, ~~USEC~~ the Licensee has performed dismantling and decontamination work at the gaseous diffusion plants; data and experience from these activities allowed a realistic estimation of decommissioning financial expenditures. Using the cost data as a basis, financial arrangements are made to cover costs required for returning the Lead Cascade facilities to DOE in accordance with the terms of the Lease Agreement. Updates on cost and funding will be provided periodically as costs or funding mechanisms change significantly. A more detailed Decommissioning Plan for the Lead Cascade will be submitted in accordance with 10 *Code of Federal Regulations* (CFR) 70.38 in order to terminate the license.

## **10.2 Decommissioning Steps**

Implementation of decommissioning may begin immediately following facility shutdown, since only low radiation levels exist at this facility. Overall, the decommissioning period is estimated to require slightly greater than six months from facility shutdown to completion of the final radiation survey. The order of activities to support decommissioning will generally be: process system purging, equipment dismantling and removal, decontamination, disposition of Confidential and Secret Restricted Data equipment and material, disposal of wastes, and completion of a final radiation survey. The next paragraphs provide an overview and explanation of each of these steps in more detail.

### **10.2.1 Overview**

The intent of decommissioning the Lead Cascade is to turnover the buildings and facility infrastructure to the DOE as required by the Lease Agreement. The removed equipment includes: piping and components from systems providing UF<sub>6</sub> containment, systems in direct support of the centrifuges (e.g., cooling water), radioactive and hazardous waste handling systems, contaminated air filtration systems, etc. to the extent they are required to be removed by the Lease Agreement. The remaining facility infrastructure will include services such as electrical power supply, sanitary water, fire suppression, ventilation, communications, and sewage treatment.

Decontamination of facility components and structures will not require the installation of a new facility dedicated for that purpose since the Lead Cascade DSA will be designed to accommodate repetitive equipment decontamination of up to the currently expected number of centrifuge machines to be deployed in the Lead Cascade (e.g., up to ~~120-155~~ operable/being centrifuge machines plus an additional ~~173-127~~ machines in storage, and ~~3~~ contingent machines), for a total of ~~293-285~~ centrifuge machines and other components. The DSA is one of the two locations described in Section 10.0 of this license application. It will be the primary location for decontamination activities.

Although components may be reused in the Commercial Plant, for conservatism this plan assumes that these components will be decontaminated in accordance with radiation protection requirements and classified parts will be dispositioned in accordance with the Security Program. Table 10.2-1, Items for Potential Decontamination at Decommissioning, lists major items from the facility that are expected to require decontamination.

Contaminated portions of the buildings will be decontaminated as required. Structural contamination should be limited to the areas indicated on Figure 10.1-1 inside the CCZ of the facility. The remainder of the Lead Cascade facility is not expected to require decontamination. Good housekeeping practices during normal operation will maintain the other areas contamination free. When decontamination is complete, the Lead Cascade facilities will be surveyed to verify that further decontamination is not required. Decontamination activities will continue until Lead Cascade facilities are demonstrated to be suitable for de-leasing and turnover to DOE in accordance with Lease Agreement requirements.

remains in the facility will be treated as scrap and disposed of appropriately. Smaller amounts of steel, copper, and other metals can be recovered at market price. However, no credit is taken for salvage value in the Decommissioning Funding Plan (DFP), which is submitted separate from this license application. Likewise, no credit is taken for reduced taxes that might result from payment of decommissioning costs or site control and maintenance costs.

Other items are considered waste. Wastes have no intrinsic salvage value.

#### **10.2.6 Disposal**

Wastes produced during decommissioning will be collected, handled, and disposed of in a manner similar to that described for those wastes produced during normal operation. Wastes will consist of normal industrial trash, non-hazardous chemicals and fluids, radioactive wastes and very small amounts of hazardous materials. The radioactive waste will primarily be accumulated centrifuge components, trash, and citric cake. Citric cake consists of uranium and metallic compounds precipitated from citric acid decontamination solutions. It is estimated that approximately ~~4,900,600~~ cubic meters (m<sup>3</sup>) of radioactive waste will be generated during the decommissioning operation. This waste may be subject to further volume reduction prior to disposal.

Radioactive wastes will ultimately be disposed of in licensed low-level radioactive waste disposal facilities. Hazardous wastes will be disposed of in hazardous waste disposal facilities. Non-hazardous and non-radioactive wastes will be disposed of in a manner consistent with good industrial practice and in accordance with applicable regulations. A more complete estimate of the wastes and effluent to be produced during decommissioning will be provided in the Licensee's plan for completion of decommissioning, to be submitted prior to the time of license termination.

Confidential and Secret Restricted Data components and documents at the facility not transferred to the Commercial Plant will be dispositioned in accordance with the requirements of 10 CFR Part 95 and the Security Program.

#### **10.2.7 Final Radiation Survey**

A final radiation survey is performed to verify proper decontamination to allow the facilities to be returned to DOE in accordance with Lease Agreement requirements. The evaluation of the final radiation survey is based, in part, on an initial radiation survey performed prior to operation. The initial survey determines the background radiation of the area; providing a datum for measurements that determine any increase in levels of radioactivity.

The final survey will systematically measure radioactivity over the Lead Cascade. The intensity of the survey will vary depending on the location (i.e., the buildings/facilities, the immediate area around the buildings/facilities, the controlled fenced area, and the remainder of the site). The survey procedures and results will be documented in a report. The report will include a map of the survey site, measurement results, and the site's relationship to the surrounding area. The results will be analyzed and shown to be below allowable residual radioactivity limits; otherwise, further decontamination will be performed.

**Table 10.2-1**  
**Items for Potential Decontamination at Decommissioning**

Utilization	Category	Description	Estimated Quantity
LC Plant / Facility <sup>45</sup>	Centrifuges <sup>1</sup>	Casings, Rotor Assemblies, Motors, Suspensions, and Mounts	<del>293</del> 285
	<u>Miscellaneous Centrifuge Sub-Components</u> <sup>3</sup>	<u>Upper Suspension (including Transfer Head Spool Piece), Upper Column Test Stand, Column Assemblies, Lower Column Assemblies, Lower Tip Assemblies, Lower Column Assembly – Cover Plates, and Miscellaneous Column Hardware</u>	448
	Structure	Service Modules (sections + aisle module)	621
	Piping	Less than 1 in. Process Piping length (Lft) and Includes Tubing <sup>3</sup>	9,500
		1 – 8 in. Process Piping length (Lft)	12,340
	Pumps	Evacuation Vacuum Pumps (Leybold)	4
		Purge Vacuum Pumps (Leybold)	8
		Tuthill Vacuum Pumps	7
		Miscellaneous Vacuum Pumps (used sample, dump, and feed cart vacuum pumps), used-mass spec pumps, calibration buggy pumps, and helium leak detector pumps, etc.)	<del>344</del> 8
	Ventilation Ductwork	Ductwork length (Lft) [4' x 3']	810
	Electrical Equipment / Panels	<u>Motor Drive Units, Machine Instrument Packages, Power Quality Filters, Motor Control Centers, Transfer Switches, Distribution Panels, Distributed Control System (DCS) Control Cabinets, Human Machine Interface (HMI) Panels, Machine Isolation Control Cabinet, and Server Cabinets</u>	<del>54</del> 3
	Transformers	Transformers (225KVA and 150 KVA)	4
	<u>Battery Systems / Components</u> <u>Uninterruptable Power Supply (UPS)</u>	<u>Uninterruptible Power Supply (UPS)UPS Batteries, UPS Bypass Switch, UPS Bypass Maintenance Transformer, and Batteries (Station), Charger/Inverter, and Battery Racks</u>	<del>416</del> 159
	Diesel Generators & <u>and Auxiliaries</u>	Diesel Generators including <u>Day and Fuel Tanks, Air Storage Tanks, Air Compressors, Fuel Pumping Systems, and Other System Auxiliaries</u>	17
	Building Surfaces <sup>2</sup>	Floors (ft <sup>2</sup> )	57,700

**Table 10.2-1**  
**Items for Potential Decontamination at Decommissioning**

Utilization	Category	Description	Estimated Quantity
LC Plant / Facility <sup>2</sup>	Valves	Process Valves ( <u>Machine Isolation Valve [MIV] Sets</u> ) <sup>34</sup>	187
		Miscellaneous Valves: <u>Specified Leased Personality - Cascade Isolation Valves (CIV), Sample Valves (SV), Sensor Manifold Valve Assembly (SMVA), Sensor Calibration Valves (SCV), Back Pressure Control Valves (BPCV), Pressure Control Valves (PCV – current name), and MIV sets</u>	7341,623
	Traps	Chemical Traps (1 Set of 4)	4
	<u>Carts</u> <sup>6, 8</sup>	<u>Centrifuge Machine Transport Carts</u>	3
	<u>Other Equipment and Fixtures</u> <sup>3</sup>	<u>12" Cylinders, UF<sub>6</sub> Portable Carts, Buffer Storage Stands, Mass Spectrometers, Mass Spectrometer Enclosure, Vent Monitor Traps, X-3001 New Air Compressor, and Miscellaneous Fixtures; South Bend Radial Drill and Lathe; Machine Mount Hardware and Process Piping Flexible Connector Sets</u>	351,346
	<u>Other Commercial Demonstration Cascade Additional Equipment</u>	<u>Machine Cooling Water (MCW) System (T4) Heat Exchanger(s), Pump(s), Filter Housing, Strainer(s), Associated Valves; Auxiliary Standby Generator (ASG) Termination Cabinet, Circuit Breaker(s), Receptacle Boxes, Frame Posts, Post Bases, Channels, and Power Cables</u>	80
	Miscellaneous- Accumulated Waste	Accumulated, Classified and Contaminated Waste in B-25 Boxes	5459
Leased Personality Equipment <sup>5</sup>	Other Equipment	South Bend Radial Drill and Lathe	2
	<u>Carts</u> <sup>6</sup>	<u>Centrifuge Machine Transport Carts</u>	3
	Valves	<u>Cascade Isolation Valves (CIV), Sample Valves (SV), Sensor Manifold Valve Assembly (SMVA), Sensor Calibration Valves (SCV), Back Pressure Control Valves (BPCV), Pressure Control Valves (PCV – current name) and Machine Isolation Valve sets (MIV)</u>	889
	Structure	Service Modules (sections + aisle module)	15
	Fixtures	Machine Mount Hardware and Process Piping Flexible Connector Sets	1,288

**Table 10.2-1**  
**Items for Potential Decontamination at Decommissioning**

Utilization	Category	Description	Estimated Quantity
	Misc. Centrifuge Sub-Components	Upper Suspension (including Transfer Head Spool Piece), Upper Column Test Stand, Column Assemblies, Lower Column Assemblies, Lower Tip Assemblies, Lower Column Assembly Cover Plates, and Miscellaneous Column Hardware	448
Decontamination Equipment	Cart <sup>67</sup>	Centrifuge Machine Transport Cart	1
	Other Equipment	Centrifuge Disassembly Stands	2
		Centrifuge Dismantling Equipment	4
		Cutting Machines	2
		Degreasers	2
		Decontamination Tanks	3
		Wet Blast Cabinet	1

Note 1: The current project quantity consists of Train 3 storage – 88, CTF Storage – 14, Buffer Storage – 256, Demonstration Cascade – 99120 and 5645 additional assembled centrifuge machines plus 3 contingent centrifuge machines that could be assembled or associated storage for a total of 285293 centrifuge machines. This includes all centrifuge machines and spares built for the research, development, and demonstration (RD&D) scope and testing to-date.

Note 2: The quantity floor space listed is contained within the X-3001 Lead Cascade footprint and is a subset of the total area as specified in Table C3.5(A). The amount of wall area (ft<sup>2</sup>) is not provided because it is not anticipated to need decontamination at the time of decommissioning.

Note 3: Process Valve sets follow the estimated number of positions utilized (Lead Cascade-1 – 25, Lead Cascade-3 – 42, and Demonstration Cascade – 120 for a total of 187). Miscellaneous valves quantity is an estimated count. Items described are located on pallets in boxes or crates and dispositioned in B-25 boxes. Miscellaneous Fixtures are also captured in B-25 boxes.

Note 4: Some of the USEC equipment was transferred to DOE as Leased Personalty items as part of the RD&D project support agreement, but these items are not separately specified as the other Leased Personalty items. Process Valve sets follow the estimated number of positions utilized (Lead Cascade-1 – 25, Lead Cascade-3 – 42, and Demonstration Cascade – 120 for a total of 187). Miscellaneous valves quantity is an estimated count.

Note 5: Leased Personalty is equipment requested by the Licensee as part of the facility lease process, but the Licensee is responsible for its disposition. Some of the Licensee equipment was transferred to DOE as Leased Personalty items as part of the RD&D project support agreement, but these items are not separately specified as the other Leased Personalty items.

Note 6: There are 3 Centrifuge Transport Carts accumulated as waste/disposal. Only 1 cart is needed/considered to support further Decontamination efforts. Leased Personalty is equipment requested by the Licensee as part of the facility lease process, but the Licensee is responsible for its disposition.

Note 7: There are 3 Centrifuge Machine Transport Carts accumulated as waste/disposal. Only 1 cart is needed/considered to support further Decontamination efforts.

Note 8: Structural steel is not considered waste. These items are to be removed, disassembled, decontaminated to NRC 'Free Release' criteria, and stored for later disposition (i.e., salvage, though no credit is taken).

The centrifuges will be processed and the following operations will be performed:

- Removal of external fittings;
- Removal of bottom flange, motor and bearings, and collection of contaminated oil;
- Removal of top flange, and withdrawal and disassembly of internals;
- Weld flanges to casing to make the casing a permanent disposal “cask”; and
- Destruction of classified parts by burial.

### 10.8.3 Results

Recoverable items will be externally decontaminated and suitable for reuse except for a very small amount of intractably internal contaminated material that severely limits potential customers. Other than centrifuge machines, there is potentially a small amount of salvageable scrap material (i.e., service modules, etc.). Material requiring disposal will primarily be process piping, trash, and residue from the effluent treatment systems. No problems are anticipated which will prevent the Lead Cascade facilities from being released to DOE in accordance with Lease Agreement requirements.

### 10.9 Agreements with Outside Organizations

This decommissioning plan and the funding arrangements described below, provide for decontamination of the Lead Cascade for turnover to DOE. As such, no agreements with outside organizations are required for control of access to the facility following shutdown and decommissioning.

### 10.10 Arrangements for Funding

This section provides an estimate of decommissioning costs and explains the arrangements made to assure funding is available to cover these costs.

#### 10.10.1 Decommissioning Costs

Table 10.10-1, provides a summary listing of the estimated costs of the major decommissioning activities described in Section 10.2. A more detailed breakdown of the cost estimates is provided in Section 3.0 of the DFP submitted with this application. Costs are in 20126 dollars and with a 7.5110 percent overhead rate applied to the total labor plus general and administrative cost, a 15 percent contractor profitability rate applied to the total labor and overhead factor, and. Additionally, a 25 percent contingency factor on the subtotal is added based on the NRC guidance of NUREG-1757, Volume 3, Consolidated NMSS Decommissioning Guidance, Financial Assistance, Recordkeeping, and Timeliness, dated September 2003. As shown in the table, the estimated total cost is \$18.765.98 million. Costs

may change between the time of license application and decommissioning. 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 recent NRC changes to financial assurance amendments for materials licensees (Federal Register, Volume 68 Number 192, October 3, 2003). The method for adjusting the cost estimate will consider the following:

- Changes in general inflation (e.g., labor rates, consumer price index)
- Changes in price of goods (e.g., packing materials)
- Changes in price of services (e.g., shipping and disposal costs)
- Changes in facility condition or operations
- Changes in decommissioning procedures or regulations

Costs are estimated as explained below:

**Planning and Preparation: \$0.~~153~~4 million**

This is based upon utilizing exempt workers at the current average cost distribution amounts for ~~586-162~~ man-days of exempt and ~~34-162~~ man-day of non-exempt work to be completed in a three-month duration. Scope includes developing Project Execution Plan and schedule (including organization, ~~and~~ staffing plan, and needed services); initial implementation of the Project Support/organization structure; developing and submitting to the U.S. Nuclear Regulatory Commission (NRC), a detailed decommissioning plan; developing/implementing Site Characterization Plan; developing/implementing decommissioning activity procedures; developing/implementing security disposition plans; and designing DSA.

**Decontamination or Dismantling of Radioactive Facility Components: \$2.~~511~~96 million**

This is based upon utilizing both exempt and non-exempt workers at their respective current average cost distribution for ~~1,820~~1,710 man-days of exempt and ~~3,200~~3,870 man-days of non-exempt work over a five-month duration. This does not include any costs associated with cranes, platforms, fencing, etc. because they would already exist and be in place. Scope includes erecting DSA; decontamination of facilities – internals; dismantling centrifuge machines; waste segregation/staging; ~~and dismantling facilities/components; and continued Project and Security Support.~~

**Restoration of Contaminated Areas on Facility Grounds: \$0.~~284~~1 million**

This is based upon utilizing both exempt and non-exempt workers at their respective current average cost distribution for ~~69-270~~ man-days of exempt and ~~180-270~~ man-days of non-exempt work over a five-month duration. This also assumes the contamination of the facility grounds from the Lead Cascade operations will be minimal. Scope includes decontamination of facilities; performing health physics interim surveys; and removal of ~~fixed~~ contamination, as required.

**Final Radiation Survey: \$0.170 million**

This is based upon utilizing both exempt and non-exempt workers at their respective current average cost distribution for ~~65-128~~ man-days of exempt and ~~135-192~~ man-days of non-exempt work over a three and a half-month duration. Scope includes developing/implementing survey



plans; collecting/analyzing data; performing confirmatory surveys; developing final survey report; and terminating the NRC license.

**Site Stabilization and Long-Term Surveillance: N/A**

As previously stated, the intent of decommissioning is to turnover the buildings and facility infrastructure to the DOE as required by the Lease Agreement. Hence, no long-term surveillance or site stabilization is required.

**Cost of Third Party Use: \$3.94 million**

This includes an adjustment to account for the use of a third party contractor for performing each decommissioning task scope described above. An overhead rate of 110 percent is applied to the total labor plus a contractor profitability rate of 15 percent is applied to the total labor and overhead.

**Indirect Services: \$2.271.25 million**

This includes services such as human resources; ~~procurement~~; material management support; respirator issue and use; emergency and fire services; security support; sanitary water; sewage; and power and power operations utilities.

**Packing, Shipping, and Disposal of Radioactive Wastes: \$4.785.10 million**

This is based upon disposition of 293-285 centrifuge machines and becoming a total of approximately 4,9003,500 m<sup>3</sup> of wastes at current packaging, shipping, and disposal rates.

**Equipment/Supply Costs: \$0.3753 million**

This includes the purchase or lease of cutting machines, degreasers, decontamination tanks, wet blast cabinets, B-25 containers, and 55-gallon barrels.

**Laboratory Costs: \$0.096 million**

This includes the costs for laboratory analysis of contamination samples taken during various decommissioning activities.

**Miscellaneous Costs: \$0.451.39 million**

This includes other direct costs of \$0.154 million for miscellaneous material for decommissioning and \$0.301.25 million for other indirect costs, such as NRC review fees for the submitted DP, ~~license fees, DOE lease fees,~~ and taxes on procured equipment and supplies.

**Total Decommissioning Cost Estimate \$18.765.98 million**

The total cost is a rounded-up summation of the individual costs plus a ~~7.5 percent general and administrative cost, 15 percent contractor profitability, and a 25 percent contingency on the subtotal.~~

## 10.10.2 Funding Arrangements

The funds for decommissioning the facility will be provided by one or more of the methods described in 10 CFR 40.36(e) and 10 CFR 70.25(f). The selected method(s) is(are) described in the DFP, included as part of this license application. In the DFP, methods are described for periodic adjustments in the cost estimate and resulting necessary adjustments to the funding method.

**Table 10.10-1**  
**Estimated Total Decommissioning Costs and Duration**

Task	Cost Estimate (Millions, 2016 dollars)	Approx. Percentage
Planning and Preparation	\$0.1534	13%
Decontamination or Dismantling of Radioactive Facility Components	\$2.51496	178%
Restoration of Contaminated Areas on Facility Grounds	\$0.2811	21%
Final Radiation Survey	\$0.170	1%
Site Stabilization and Long-Term Surveillance	-	0%
Cost of Third Party Use <sup>1</sup>	\$3.94	26%
Indirect Services	\$2.27125	152%
Packaging, Shipping, and Disposal of Radioactive Wastes Costs	\$4.78510	3247%
Equipment/Supply Costs	\$0.3753	25%
Laboratory Costs	\$0.096	1%
Miscellaneous Costs—Other Direct Costs	\$0.154	1%
Miscellaneous Costs—Other Indirect Costs	\$0.30125	211%
<b>Subtotal<sup>1</sup></b>	<b>\$15.01084</b>	<b>100%</b>
G&A (7.5 percent) <sup>2</sup>	\$0.81	
Contractor Profit (15 percent) <sup>3</sup>	\$1.13	
Contingency (25 percent) <sup>42</sup>	\$3.7520	
<b>Total Decommissioning Cost Estimate</b>	<b>\$18.76598</b>	

Note 1: Subtotal includes labor/material/overhead allocation costs. An adjustment has been applied to account for the 'Use of

a Third Party' contractor for performing each task scope. The adjustment includes an Overhead rate of 110% on Total Labor plus Contractor Profitability of 15% on Total Labor and Overhead. This is a different methodology than previously employed on using General & Administrative (G&A) and Contractor Profitability on the entire subtotal.

~~Note 2: General & Administrative (G&A) cost assumed to be 7.5% based upon current company's experience.~~

~~Note 3: Contractor profit assumed to be 15% of subtotal plus General and Administrative minus Other Indirect Costs [excluding insurance] minus the outside services portion of the Packaging, Shipping, and Waste Disposal Costs (15% \* [10.84 + 0.81 - 1.25 - 2.90] = \$1.13 M).~~

~~Note 42: Contingency assumed to be 25% on subtotal, plus General and Administrative and contractor profit.~~

For related information, reference also the DFP, contained in the License Application for the American Centrifuge Lead Cascade Facility.

## 10.11 References

1. Federal Register, Volume 68 Number 192, *Financial Assurance for Materials Licensees*, Final Rule, October 3, 2003
2. NR-2605-0003, Fundamental Nuclear Material Control Plan for the American Centrifuge Lead Cascade Facility
3. NR-2605-0004, Decommissioning Funding Plan for the American Centrifuge Lead Cascade Facility
4. NR-3605-0004, Security Program -for the American Centrifuge Plant
5. NRC Regulatory Guide 1.159, Revision 0, *Assuring the Availability of Funds for Decommissioning Nuclear Reactors*
6. NUREG-1520, *Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility*, Revision 1
7. NUREG-1757, Volume 3, Consolidated NMSS Decommissioning Guidance, Financial Assistance, Recordkeeping, and Timeliness, ~~dated September 2003~~

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**Enclosure 5 to ACO 16-0008**

**Draft Financial Assurance Instruments**

**Information contained within  
does not contain  
Export Controlled Information**

**Reviewer: R.S. Lykowski  
Date: 02/03/2016**

**RIDER**

To be attached to and form part of:

Bond Number K07228582  
Dated 04/25/2006

issued by the WESTCHESTER FIRE INSURANCE COMPANY

in the amount of \$15,980,000.00

on behalf of American Centrifuge Operating, LLC  
(Principal)

and in favor of U.S. Nuclear Regulatory Commission  
(Obligee)

Now therefore, it is agreed that in consideration of the premium charged, the attached bond shall be amended as follows:

**The bond amount shall be increased as follows:**

**FROM: \$15,980,000.00**

**TO: \$18,760,000.00**

It is further understood and agreed that all other terms and conditions of this bond shall remain unchanged.

This Rider is to be Effective this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

Signed, Sealed, and Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

AMERICAN CENTRIFUGE OPERATING, LLC  
(Principal)

By: \_\_\_\_\_

WESTCHESTER FIRE INSURANCE COMPANY  
(Surety)

By: \_\_\_\_\_  
K.D. Conrad, Attorney-in-Fact

**DRAFT**

**CALIFORNIA ALL PURPOSE ACKNOWLEDGMENT**

**State of California**

**County of Los Angeles**

On \_\_\_\_\_ before me, \_\_\_\_\_  
personally appeared \_\_\_\_\_ who proved to me  
on the basis of satisfactory evidence to be the person(s) whose  
name(s) is/are subscribed to the within instrument and  
acknowledged to me that he/she/they executed the same in  
his/her/their authorized capacity(ies), and that by his/her/their  
signature(s) on the instrument the person(s), or the entity upon  
behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of  
California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature \_\_\_\_\_



# WESTCHESTER FIRE INSURANCE CO.

RESOLVED, that the following authorizations are related to the execution of, and on behalf of the Company, of bonds, indentures, recognitions, commitments and other written commitments of the Company entered into in ordinary course of business (each a "Written Commitment"):

- FURTHER RESOLVED, that the foregoing Resolution shall not be deemed to be an exclusive statement of the powers and authority of officers, employees and other persons acting on behalf of the Company, and such Resolution shall not fail to otherwise affect the exercise of any such power or authority otherwise validly granted or vested.

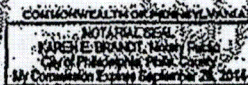
IN WITNESS WHEREOF, the said Stephen M. Hancey, Vice President, has hereunto subscribed his name and affixed the Corporate Seal of the said WESTCHESTER FIRE INSURANCE COMPANY this 19 day of January 2011.

**WESTCHESTER FIRE INSURANCE COMPANY**

Stephen M. Hancy, Vice President

On this 19 day of January, AD 2011 before me, Notary Public of the Commonwealth of Pennsylvania and for the County of Philadelphia came Stephen M. Haney, Vice-President of the WESTCHESTER FIRE INSURANCE COMPANY (a company personally known to be the individual and officer who executed the preceding instrument, and he acknowledged that he executed the same, and that the seal affixed to the preceding instrument is the corporate seal of said Company; that the said corporate seal and his signature were duly affixed by the authority and direction of the said corporation, and that Resolution, adopted by the Board of Directors of said Company, referred to in the preceding instrument, is now in force).

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal at the City of Philadelphia, the day and year first above written.



In witness whereof, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of the Corporation, this 20 day of February, 2011.

\_\_\_\_\_

THIS POWER OF ATTORNEY MAY NOT BE USED TO EXECUTE ANY BOND WITH AN INCEPTION DATE AFTER January 19, 2013



## STANDBY TRUST AGREEMENT

TRUST AGREEMENT, the Agreement entered into as of February 12, 2016 by and between American Centrifuge Operating, LLC, a Delaware corporation, herein referred to as the "Grantor," and U.S. Bank National Association, 425 Walnut Street, Cincinnati, OH 45202, the "Trustee."

WHEREAS, the U.S. Nuclear Regulatory Commission (NRC), an agency of the U.S. Government, pursuant to the *Atomic Energy Act* of 1954, as amended, and the *Energy Reorganization Act* of 1974, has promulgated regulations in Title 10, Chapter I of the *Code of Federal Regulations*, Part 70. These regulations, applicable to the Grantor, require that a holder of, or an applicant for, a materials license issued pursuant to 10 CFR Part 70 provide assurance that funds will be available when needed for required decommissioning activities.

WHEREAS, the Grantor has elected to use a surety bond to provide all of such financial assurance for the facilities identified herein; and

WHEREAS, when payment is made under a surety bond, this standby trust shall be used for the receipt of such payment; and

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this Agreement, and the Trustee is willing to act as trustee;

NOW, THEREFORE, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

- (a) The term "Grantor" means the NRC licensee who enters into this Agreement and any successors or assigns of the Grantor.
- (b) The term "Trustee" means the trustee who enters into this Agreement and any successor Trustee.

Section 2. Costs of Decommissioning. This Agreement pertains to the costs of decommissioning the materials and activities identified in License Number SNM-7003 issued pursuant to 10 CFR Part 70, as shown in Schedule A.

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a standby trust fund (the Fund) for the benefit of NRC. The Grantor and the Trustee intend that no third party have access to the Fund except as provided herein.

Section 4. Payments Constituting the Fund. Payments made to the Trustee for the Fund shall consist of cash, securities, or other liquid assets acceptable to the Trustee. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee are referred to as the "Fund," together with all earnings and profits thereon, less any payments or

distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount of, or adequacy of the Fund, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by NRC.

Section 5. Payment for Required Activities Specified in the Plan. The Trustee shall make payments from the Fund to the Grantor upon presentation to the Trustee of the following:

- (a) A certificate duly executed by the Secretary of the Grantor attesting to the occurrence of the events, and in the form set forth in the attached Certificate of Events, and
- (b) A certificate attesting to the following conditions;
  - (1) that decommissioning is proceeding pursuant to an NRC-approved plan;
  - (2) that the funds withdrawn will be expended for activities undertaken pursuant to that plan; and
  - (3) that NRC has been given 30 days prior notice of American Centrifuge Operating, LLC's intent to withdraw funds from the escrow fund.

No withdrawal from the Fund for a particular license can exceed 10 percent of the remaining funds available for that license unless NRC written approval is attached.

In addition, the Trustee shall make payments from the Fund as NRC shall direct, in writing, to provide for the payment of the costs of required activities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by NRC from the Fund for expenditures for required activities in such amounts as NRC shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as NRC specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 6. Trust Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge its duties with respect to the Fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims, except that:

- (a) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the *Investment Company Act* of 1940, as amended (15 U.S.C. 80a-2(a)), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;

- (b) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal government, and in obligations of the Federal government or State and Municipal bonds rated BBB or higher by Standard & Poor's or Baa or higher by Moody's Investment Services; and
- (c) For a reasonable time, not to exceed 60 days, the Trustee is authorized to hold uninvested cash, awaiting investment or distribution, without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

- (a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and
- (b) To purchase shares in any investment company registered under the *Investment Company Act* of 1940 (15 U.S.C. 80a-1 et seq.), including one that may be created, managed, underwritten, or to which investment advice is rendered, or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretion conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

- (a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale, as necessary to allow duly authorized withdrawals at the joint request of the Grantor and NRC or to reinvest in securities at the direction of the Grantor;
- (b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;
- (c) To register any securities held in the Fund in its own name, or in the name of a nominee, and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, to reinvest interest payments and funds from matured and redeemed instruments, to file proper forms concerning securities held in the Fund in a timely fashion with appropriate government agencies, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee or such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the U.S. Government, or any agency or instrumentality thereof, with a Federal Reserve Bank, but the books and records of the Trustee shall at all times show that all such

securities are part of the Fund;

- (d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal government; and
- (e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation. After payment has been made into this standby trust fund, the Trustee shall annually, at least 30 days before the anniversary date of receipt of payment into the standby trust fund, furnish to the Grantor and to NRC a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days before the anniversary date of the establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the NRC shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to the matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting on the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing with the Grantor. (See Schedule C).

Section 13. Successor Trustee. Upon 90 days notice to the NRC and the Grantor, the Trustee may resign; upon 90 days notice to NRC and the Trustee, the Grantor may replace the Trustee; but such resignation or replacement shall not be effective until the Grantor has appointed a successor Trustee, the successor accepts the appointment, the successor is ready to assume its duties as Trustee, and NRC has agreed, in writing, that the successor is an appropriate Federal or State government agency or an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency. The successor Trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. When the resignation or replacement is effective, the Trustee shall assign, transfer, and pay over to the successor Trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor Trustee or for instructions. The successor Trustee shall specify the

date on which it assumes administration of the trust, in a writing sent to the Grantor, the NRC, and the present Trustee, by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are signatories to this Agreement or such other designees as the Grantor may designate in writing. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. If the NRC issues orders, requests, or instructions to the Trustee these shall be in writing, signed by the NRC or its designees, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the NRC hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or the NRC, except as provided for herein.

Section 15. Amendment of Agreement. The Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the NRC, or by the Trustee and the NRC if the Grantor ceases to exist. All amendments shall meet the relevant regulatory requirements of the NRC.

Section 16. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 15, this trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the NRC, or by the Trustee and the NRC if the Grantor ceases to exist. Upon termination of the trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor or its successor.

Section 17. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with and act or omission, made in good faith, in the administration of this trust, or in carrying out any directions by the Grantor or the NRC issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the trust fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 18. This Agreement shall be administered, construed, and enforced according to the laws of the State of Pennsylvania.

Section 19. Interpretation and Severability. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement. If any part of this agreement is invalid, it shall not affect the remaining provisions which will remain valid and enforceable.

Section 20. Notices. Notices to the Trustee should be sent to the following:

U.S. Bank National Association  
c/o Melody M. Scott  
Assistant Vice President and Account Manager  
U.S. Bank Corporate Trust Services  
Two James Center  
1021 E. Cary Street, 18<sup>th</sup> Floor  
Richmond, VA 23219  
Phone: (804) 343-1560  
Fax: (804) 343-1572  
Email: [melody.scott@usbank.com](mailto:melody.scott@usbank.com)

IN WITNESS WHEREOF the parties have caused this Agreement to be executed by the respective officers duly authorized and the incorporate seals to be hereunto affixed and attested as of the date first written above.

American Centrifuge Operating, LLC (Grantor)

ATTEST:

\_\_\_\_\_  
Dennis J. Scott, Deputy General  
Counsel & Assistant Secretary

\_\_\_\_\_  
Stephen S. Greene, Sr. Vice President  
& Chief Financial Officer

U.S. Bank National Association (Trustee)  
(Trustee)  
ATTEST:

\_\_\_\_\_  
Monique L. Green  
Vice President

\_\_\_\_\_  
Melody M. Scott, Assistant Vice President and  
Account Manager

## STANDBY TRUST AGREEMENT SCHEDULES

### Schedule A

This Agreement demonstrates financial assurance for the following cost estimates or certification amounts for the following licensed activities:

<b>U.S. NUCLEAR REGULATORY COMMISSION LICENSE NUMBER(S)</b>	<b>NAME AND ADDRESS OF LICENSEE</b>	<b>ADDRESS OF LICENSED ACTIVITY</b>	<b>COST ESTIMATES FOR REGULATORY ASSURANCES DEMONSTRATED BY THIS AGREEMENT</b>
SNM-7003	American Centrifuge Operating, LLC 6903 Rockledge Drive, Suite 400 Bethesda, MD 20817	American Centrifuge Lead Cascade Facility 3930 U.S. Route 23 South P.O. Box 628 Piketon, OH 45661-0628	\$18,760,000.00

The cost estimates listed here were last adjusted on February 12, 2016 and submitted for NRC approval.

### Schedule B

DOLLAR AMOUNT: \$18,760,000.00

AS EVIDENCED BY: Payment surety bond number K07228582 dated April 25, 2006 by Westchester Fire Insurance Company, as filed with NRC.

### Schedule C

#### TRUSTEE:

U.S. Bank National Association  
c/o Melody M. Scott, Assistant Vice President and Account Manager  
U.S. Bank Corporate Trust Services  
Two James Center  
1021 E. Carey Street, 18<sup>th</sup> Floor  
Richmond, VA 23219  
Phone: (804) 343-1560  
Fax: (804) 343-1572  
Email: [melody.scott@usbank.com](mailto:melody.scott@usbank.com)

Trustee's fees shall be \$1,500.00 plus expenses, which are not to exceed 10% of the annual fee, per year. These fees are subject to change upon funding of the trust.

**Letter of Acknowledgment**

STATE OF \_\_\_\_\_

To Wit: \_\_\_\_\_

CITY OF \_\_\_\_\_

On this \_\_\_\_\_ day of \_\_\_\_\_, before me, a Notary Public in and for the city and state aforesaid, personally appeared Melody M. Scott, and she did depose and say that she is the Trust Officer, of U.S. Bank National Association, Trustee, which executed the above instrument, that she knows the seal of said association, that the seal affixed to such instrument is such corporate seal, that it was so affixed by order of the association, and that she signed her name thereto by like order.

\_\_\_\_\_  
[Signature of Notary Public]

My Commission Expires: \_\_\_\_\_  
[Date]



**MODEL SPECIMEN CERTIFICATE OF EVENTS**

[Insert name and address of trustee]

Attention: Trust Division

Gentlemen:

In Accordance with the terms of the agreement with you dated \_\_\_\_\_, I, \_\_\_\_\_,  
Secretary of [insert name of licensee], hereby certify that the following events have occurred:

1. [Insert name of licensee] is required to commence the decommissioning of its facility located at [insert location of facility] (hereinafter called the decommissioning)
2. The plans and procedures for the commencement and conduct of the decommissioning have been approved by the United States Nuclear Regulatory Commission, or its successor, on \_\_\_\_\_ (copy of approval attached).
3. The board of Directors of [insert name of licensee] has adopted the attached resolution authorizing the commencement of decommissioning.

\_\_\_\_\_  
Secretary of [insert name of licensee]

\_\_\_\_\_  
Date

**MODEL SPECIMEN CERTIFICATE OF RESOLUTION**

I, \_\_\_\_\_, do hereby certify that I am Secretary of [*insert name of licensee*], a [*insert State of incorporation*] corporation, and that the resolution listed below was duly adopted at a meeting of this Corporation's Board of Directors on \_\_\_\_\_, 20\_\_\_\_.

IN WITNESS WHEREOF, I have hereunto signed my name and affixed the seal of this Corporation this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Secretary

RESOLVED, that this Board of Directors hereby authorized the President, or such other employee of the Company as he may designate, to commence decommissioning activities at [*insert name of facility*] in accordance with the terms and conditions described to this Board of Directors at this meeting and with such other terms and conditions as the President shall approve with and upon the advice of Counsel.

**Enclosure 7 to ACO 16-0008**

**Affidavit**

**Information contained within  
does not contain  
Export Controlled Information**

**Reviewer: R.S. Lykowski  
Date: 02/03/2016**

**AFFIDAVIT OF STEVEN A. TOELLE  
SUPPORTING APPLICATION TO WITHHOLD FROM  
PUBLIC DISCLOSURE CERTAIN INFORMATION CONTAINED  
IN ENCLOSURES 3 AND 4 OF ACO 16-0008 FOR THE  
AMERICAN CENTRIFUGE LEAD CASCADE FACILITY**

I, Steven A. Toelle, of American Centrifuge Operating, LLC (ACO), having been duly sworn, do hereby affirm and state:

1. I have been authorized by ACO to (a) review the information owned by the ACO and is referenced herein relating to the worker unit cost and total labor costs as part of the decommissioning cost estimate for the American Centrifuge Lead Cascade Facility (Lead Cascade), which ACO seeks to have withheld from public disclosure pursuant to section 147 of the *Atomic Energy Act* (AEA), as amended, 42 U.S.C § 2167, and 10 CFR 2.390(a)(4), and 9.17(a)(4), apply for the withholding of such information from public disclosure by the U.S. Nuclear Regulatory Commission (NRC) on behalf of ACO.
2. Consistent with the provisions of 10 CFR 2.390(b)(4) of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.
  - i. The information sought to be withheld from public disclosure is owned and has been held in confidence by ACO.
  - ii. The information is of a type customarily held in confidence by ACO and not customarily disclosed to the public. ACO has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitute ACO policy and provide the rational basis required. Under that system, information is held in confidence if it falls in one or more of

several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

- a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where presentation of its use by any of ACO's competitors without license from ACO constitutes a competitive economic advantage over other companies.
  - b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage (e.g., by optimization or improved marketability).
  - c) Its use by a competitor would reduce their expenditure of resources or improve their competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.
  - d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of ACO, its customers or suppliers.
  - e) It reveals aspects of past, present, or future ACO or customer funded development plans and programs of potential commercial value to ACO.
  - f) It contains patentable ideas, for which patent protection may be desirable.
  - g) It reveals information concerning the terms and conditions, work performed, administration, performance under or extension of contracts with its customers or suppliers.
- iii. There are sound policy reasons behind the ACO system which include the following:
- a) The use of such information by ACO gives ACO a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the ACO competitive position.

- b) It is information, which is marketable in many ways. The extent to which such information is available to competitors diminishes ACO's ability to sell products and services involving the use of the information.
  - c) Use by our competitors would put ACO at a competitive disadvantage by reducing their expenditure of resources at ACO expense.
  - d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components or proprietary information, any one component may be the key to the entire puzzle, thereby depriving ACO of a competitive advantage.
  - e) Unrestricted disclosure would jeopardize the position of prominence of ACO in the world market, and thereby give a market advantage to the competition of those countries.
  - f) The ACO capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.
- iv. The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390, it is to be received in confidence by the Commission.
- v. The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.
3. The proprietary information sought to be withheld is contained in Enclosures 3 and 4 to ACO letter ACO 16-0008. Enclosure 3 contains ACO's decommissioning worker unit cost and total labor costs captured in Appendix D of the Decommissioning Funding Plan for the Lead Cascade. Enclosure 4 contains ACO's in-depth calculations related to the annual labor by classification and staffing estimated in phased man-days as used in the development of

the Decommissioning Cost Estimate for the Lead Cascade. The information contained within Enclosures 3 and 4 have not been previously disclosed and is likely to cause substantial harm to the competitive position of ACO because it contains details of our labor rates which may provide insights into ACO's forward pricing rates.

This information is part of that which will enable ACO to:

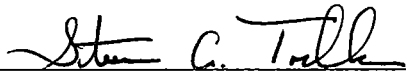
- Continue to deploy the Lead Cascade; and
- Ensure adequate funding is available for decommissioning activities for the Lead Cascade.

Further, this information has substantial commercial value as follows:

- The development of the information described in part is the result of applying many person-hours and expenditure of thousands of dollars on analysis to develop the information which is sought to be withheld; and
- In order for a competitor of ACO to duplicate this information sought to be withheld, a similar process would have to be undertaken and a significant effort and resources would have to be expended.

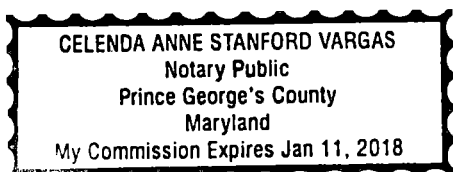
Further the deponent sayeth not.

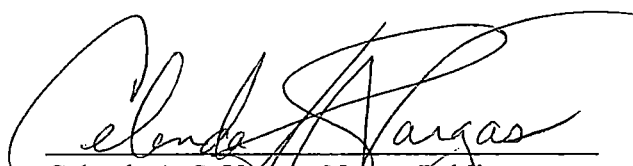
Steven A. Toelle, having been duly sworn, hereby confirms that I am the Director, Regulatory Affairs of ACO, that I am authorized on behalf of ACO to review the information attached hereto and to sign and file with the Nuclear Regulatory Commission this affidavit and the attachments hereto, and that the statements made and matters set forth herein are true and correct to the best of my knowledge, information, and belief.

  
Steven A. Toelle

On this 12<sup>th</sup> day of February 2016, Steven A. Toelle personally appeared before me, is known by me to be the person whose name is subscribed to within the instrument, and acknowledged that he executed the same for the purposes therein contained.

In witness hereof I hereunto set my hand and official seal.



  
Celenda A. S. Vargas, Notary Public  
State of Maryland, Montgomery County  
My commission expires January 11, 2018