



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

November 2, 2016

Mr. Steven Toelle, Director  
Regulatory Affairs  
American Centrifuge Operating, LLC  
6901 Rockledge Drive  
Bethesda, MD 20817-1818

SUBJECT: SEPTEMBER 20, 2016 MEETING SUMMARY - LEAD CASCADE FACILITY  
DECOMMISSIONING (DOCKET 70-07003, SMN-0703)

Dear Mr. Toelle:

On September 20, 2016, at the request of Centrus Energy, Corporation American Centrifuge Operating, LLC (Centrus), the NRC held a category 1 public meeting with Centrus staff on various topics related to the decommissioning of the Lead Cascade Facility. The meeting summary is enclosed.

If you have any questions, please contact me by telephone at: (301) 415-6822 or via e-mail at: [amy.snyder@nrc.gov](mailto:amy.snyder@nrc.gov).

Sincerely,

***/RA M. Meyer for/***

Amy M. Snyder, Senior Project Manager  
Materials Decommissioning Branch  
Division of Decommissioning, Uranium Recovery,  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

Docket Nos. 07007003,  
License Nos. SNM-7003

cc:  
S. R. Penrod, Vice President  
J. Corrado, Regulatory Manager

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OFC	NMSS/DUWP	NMSS/FCSE	NMSS/DUWP	NMSS/DUWP
NAME	A. Snyder	C. Holston	M. Matthew	A. Snyder (M. Meyer for)
DATE	10/19/16	10/25/16	11/2/16	11/2/16

**OFFICE RECORD COPY**

## Meeting Report

DATE: September 20, 2016

TIME: 9:00 – 11:00 a.m.

PLACE: One White Flint North, Room OWFN 11-06B

PURPOSE: Discuss Centrus Energy, Corporation American Centrifuge Operating, LLC licensing and project issues related to the decommissioning of the Lead Cascade Facility located in Piketon, OH

ATTENDEES: Refer to Attachment A

### BACKGROUND:

Before Centrus Energy, Corporation American Centrifuge Operating, LLC (Centrus) submits its amendment application for decommissioning, Centrus requested a meeting with the U.S. Nuclear Regulatory Commission (NRC) technical review team to review its approach for establishing its derived concentration guideline levels (DCGLs). The NRC agreed to review the information and provide feedback with respect to whether the approach appears reasonable and within NRC guidelines. The meeting notice, with agenda, is provided in the Agencywide Documents Access and Management System (ADAMS) (Accession No. [ML16253A057](#)).

### DISCUSSION:

Centrus presented its approach for developing DCGLs (ADAMS Accession No. [ML16251A495](#)). Centrus explained that it considers that natural uranium and its progeny will be the primary concern at the Lead Cascade Facility during the final status survey.

As noted on page 5 of its presentation, Centrus said that it was highly unlikely that the facility would be returned to green fields. The NRC asked for clarification of Centrus' position regarding the term "green fields" and noted that Centrus is required to meet the requirements for license termination in 10 CFR Part 20, Standards for Protection for Against Radiation. Centrus noted that it would be returning the facility to the U.S. Department of Energy (DOE) and that it will be using the baseline survey data as a comparison to the final status survey data. The NRC reiterated that the license requires compliance with Part 20 at the time of license termination and emphasized that it may be that the baseline survey data is below the regulatory dose limit, but the NRC will base its decision on the regulations to make a safety determination.

On Page 8 of its presentation, Centrus described the current radiological status of the Lead Cascade Facility. The NRC asked whether the information presented for "air" on page 8 was representative of the worker air zone or environmental conditions. Centrus said that it represents the worker zone air.

On page 16 of its presentation, Centrus proposes to use 5000 dpm/100 cm<sup>2</sup> rather than the 32,900 dpm/100 cm<sup>2</sup> in the Decommissioning Plan for various reasons, as stated on the slide. The NRC noted that information is specific to Train 3 and alpha contamination only. Centrus confirmed this to be correct.

Centrus indicated (page 18 of its presentation) that it is using data from the 2015 scoping survey (shown on page 21) and factors related to natural uranium in determining instrument background. Centrus also indicated that for Train 6, instrument background that is less than zero would be recorded as zero.

NRC asked Centrus whether it intends to use Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) guidance for its final status survey. Centrus explained that it plans on using MARSSIM guidance for this purpose.

Centrus then described the number of samples that it thought would be needed for a survey unit, based on its 2015 scoping survey. NRC asked if the relative shift shown on the table on page 24 of the Centrus presentation was calculated or the value was taken from the MARSSIM guidance. Centrus explained that the value was calculated from the scoping survey data. NRC asked if Centrus plans on refining this calculation as the work progresses. Centrus indicated that it planned to use new data sets obtained as remediation or decontamination progresses to estimate the standard deviation for the relative shift calculation. NRC asked if Centrus plans on using data quality objective (DQO) process. Centrus indicated that it intends to use DQOs per MARSSIM.

Centrus reviewed the areas that it plans to designate as Class I, II, and III survey areas (page 27 of its presentation). Centrus said that known contamination exists in two small areas in the X-3001 Utility Bay. The NRC asked Centrus to describe this contamination and where it was located. Centrus said that it was fixed contamination in concrete. NRC asked if Centrus has plans to remove the contamination and if so, what method it is planning on using. Centrus said that it probably would remove the contamination using conventional methods such as scabbling.

The NRC questioned why enriched uranium is not addressed being that the operations ran for some time and there may be equipment holdup. Depleted uranium may also be present. NRC would expect that both alpha and beta ratios be evaluated and that the surveying and evaluations would reflect both types of radiation given their operations. Also, the NRC asked if Centrus plans on evaluating aspects of decommissioning, such as shipping, for criticality safety due to potential equipment holdup of enriched uranium. Centrus said that it will address criticality safety in its amendment application. The NRC also remarked that it seems that Centrus will be performing alpha/beta surveying; however it appears as if Centrus is only using alpha survey data to pass or fail a survey unit. Further explanation of its process should be included in the amendment application.

The NRC asked whether the baseline survey data included such things as underground waste lines from the process equipment, ceilings, air ducts, cracks in the concrete, and floor drains where licensed material may be present or was once present. NRC said that such areas should be addressed in some way such as modeling, calculation, measurement, or other means (rationale or justification of why material could not be present at such locations) to demonstrate compliance. The NRC added that the efficiency of the detector for concrete should be evaluated, as well as the type of uranium, (natural, depleted, enriched), as applicable. Centrus said that there were no underground waste lines, but understood that they must address such items.

Separate from this meeting, the NRC contacted Centrus and said that in general, Centrus did not provide detailed calculations so the NRC staff was not able to provide more specific feedback. The use of the MARSSIM approach is an accepted practice for final status surveys.

The NRC asked Centrus for its proposed schedule for submitting its amendment application for decommissioning. Centrus indicated that now it plans to send its amendment application by late November 2016 based on what it heard at this meeting. The NRC described its process for reviewing the amendment application and noted that it would include an acceptance review. The NRC explained that an acceptance review is an administrative review to ensure that the application is complete for the staff to begin its detailed technical review. If accepted, the NRC would notify Centrus via a letter with a review schedule, identifying key milestones. Centrus stated they have already have a decommissioning schedule and began to describe the schedule it has established for waste shipment after approval of the waste shipment plans by both DOE and NRC. The NRC said that the NRC establishes a review schedule for the review of the amendment application. The NRC said that it believes that the shipment of decommissioning wastes, if not covered already in a previous Environmental Assessment (EA) under the National Environmental Policy Act, will need an EA as part of the decommissioning license amendment review before shipment regardless of the DOE's and NRC's approval of the waste shipment transportation plan.

#### ACTIONS:

No decisions were made during this meeting.

NRC will get back to Centrus regarding whether the NRC's environmental assessment (EA) must include centrifuges designated as waste and whether or not the NRC's EA must be finalized as well as the transportation plan approved by NRC before shipments can begin.

#### ATTACHMENTS

Attach is the list of attendees at the meeting.

**Attachment A, List of Meeting Participants****DATE:** September 20, 2016**MEETING:** Decommissioning

<b>NAME</b>	<b>POSITION</b>	<b>ORGANIZATION</b>
Amy Snyder	Senior Project Manager	NMSS/DUWP
Gregory Chapman	Health Physicist	NMSS/DUWP
Adam Schwartzman	Senior Performance Analyst	NMSS/DUWP
Monica Coflin	Environmental Project Manager	NMSS/FCSS
Yawar Faraz	Senior Project Manager	NMSS/FCSS
Dave Fosson	General Manager, American Centrifuge Plant Operations	Centrus Energy Corporation American Centrifuge Operating, LLC Lead Cascade Facility
Mark Keef	Decommissioning Lead	"
Mario Robles	Project Support Manager	"
Rob Jacobs	Special Projects	"
Kelly Wiehle	Regulatory	"
Robin Halverson	Regulatory	"
Jim Thompson	Radiation Protection Manager and Health Physics & Industrial Hygiene Manager	"
Ted Coulter	Quality Assurance Manager	"
Carolyn Hamilton	Industrial Safety & Environmental/Waste Management Manager	"
Nate Banks	Environmental/Waste Management	"
Jeremiah Carpenter	Environmental/Waste Management	"
John Corrado	Manager, Nuclear Regulatory	"
-	Representative	U.S. Department of Energy