

**From:** [Faraz, Yawar](#)  
**To:** [Lee Blackburn](#); [Trefethen, Jean](#)  
**Cc:** [Quintero, Jessie](#); [Lubinski, John](#)  
**Subject:** RE: Re: Centrus High-Assay Low-Enriched Uranium Demonstration Program  
**Date:** Friday, June 04, 2021 2:31:00 PM  
**Attachments:** [image001.png](#)

---

Dear Mr. Blackburn,

Thank you for your e-mails dated March 27, 2021, May 5, 2021, and May 30, 2021 regarding the American Centrifuge Operating (ACO) high-assay low-enriched uranium (HALEU) Demonstration Program license amendment request. Your e-mails have been placed in the Agencywide Documents Access and Management System (ADAMS) under Accession No. ML21154A095.

The NRC is completing an Environmental Assessment (EA) and a Safety Evaluation Report (SER) documenting the NRC's review of the ACO's license amendment request in accordance with the NRC's normal licensing process. We plan to complete the EA and SER and make a final decision on the amendment request in June 2021.

ACO is a wholly owned indirect subsidiary of Centrus Energy Corp. (Centrus). We maintain a public webpage that provides information on the Centrus enrichment facility license on the NRC's website at: <https://www.nrc.gov/materials/fuel-cycle-fac/usecfacility.html>. The webpage contains information on the proposed HALEU Demonstration Program, including the license amendment application currently under review.

The NMSS staff has posted a set of frequently asked questions (FAQs) on the NRC public website at <https://www.nrc.gov/docs/ML2114/ML21147A067>. The purpose of the FAQs is to address topics raised in comments and concerns that you and other interested stakeholders have raised on the NRC staff's licensing review of the amendment application. The NRC plans to post additional FAQs in the future. Additionally, as Jean Trefethen had indicated in her April 6, 2021 e-mail to you, we have added your email address to the Centrus listserv so that you will receive publicly available Centrus-related documents issued by the NRC.

In accordance with Title 10 of the Code of Federal Regulations Section 2.390, "Public inspections, exemptions, requests for withholding" of the NRC's "Agency Rules of Practice and Procedure," a copy of this message will be available electronically for public inspection in ADAMS. ADAMS is accessible from the NRC Web site at: <http://www.nrc.gov/readingrm/adams.html> (the Public Electronic Reading Room).

Yawar Faraz  
Senior Project Manager  
U.S. Nuclear Regulatory Commission  
301-415-7220

---

**From:** Lee Blackburn <[leeblackburn@live.com](mailto:leeblackburn@live.com)>  
**Sent:** Tuesday, June 01, 2021 3:22 PM

**To:** Trefethen, Jean <Jean.Trefethen@nrc.gov>

**Cc:** Quintero, Jessie <Jessie.Quintero@nrc.gov>; Faraz, Yawar <Yawar.Faraz@nrc.gov>; Lubinski, John <John.Lubinski@nrc.gov>

**Subject:** [External\_Sender] Re: Centrus High-Assay Low-Enriched Uranium Demonstration Program

Good afternoon Ms. Trefethen,

I have not heard anything from you or your colleague since you sent your initial response on April 6, 2021 or some 8 weeks ago. Am I to assume no response will be forthcoming???

Thank you,

**Lee Blackburn**

---

**From:** Lee Blackburn <[leeblackburn@live.com](mailto:leeblackburn@live.com)>

**Sent:** Wednesday, May 5, 2021 3:37 PM

**To:** Trefethen, Jean <[Jean.Trefethen@nrc.gov](mailto:Jean.Trefethen@nrc.gov)>

**Cc:** Quintero, Jessie <[Jessie.Quintero@nrc.gov](mailto:Jessie.Quintero@nrc.gov)>; Faraz, Yawar <[Yawar.Faraz@nrc.gov](mailto:Yawar.Faraz@nrc.gov)>

**Subject:** Re: Centrus High-Assay Low-Enriched Uranium Demonstration Program

Good afternoon Ms. Trefethen,

It's been over four weeks since your below email saying a response to email was being worked on. When might I expect to receive a response?

Respectfully,

**Lee Blackburn**

---

**From:** Trefethen, Jean <[Jean.Trefethen@nrc.gov](mailto:Jean.Trefethen@nrc.gov)>

**Sent:** Tuesday, April 6, 2021 3:44 PM

**To:** Lee Blackburn <[leeblackburn@live.com](mailto:leeblackburn@live.com)>

**Cc:** Quintero, Jessie <[Jessie.Quintero@nrc.gov](mailto:Jessie.Quintero@nrc.gov)>; Faraz, Yawar <[Yawar.Faraz@nrc.gov](mailto:Yawar.Faraz@nrc.gov)>

**Subject:** RE: Centrus High-Assay Low-Enriched Uranium Demonstration Program

Good afternoon Mr. Blackburn,

Thank you for your email dated March 27, 2021. My colleague and I are working on a response to your requests for clarification. We added your email to the project ListServe and will add you to the distribution list for the Final EA when it is issued.

Kind regards,

*Jean Trefethen*

Environmental Project Manager

U.S. Nuclear Regulatory Commission

301-415-0867



---

**From:** Lee Blackburn <[leeblackburn@live.com](mailto:leeblackburn@live.com)>  
**Sent:** Saturday, March 27, 2021 7:30 PM  
**To:** Trefethen, Jean <[Jean.Trefethen@nrc.gov](mailto:Jean.Trefethen@nrc.gov)>  
**Subject:** [External\_Sender] Centrus High-Assay Low-Enriched Uranium Demonstration Program

Ms. Trefethen,

On March 6, 2021, Mr. Tom Clements of Savannah River Site Watch wrote you about the Centrus Energy Corp. (Centrus) High-Assay Low-Enriched Uranium (HALEU) Demonstration Program and the License Amendment Request (LAR) for license SNM-2011 being considered by the U.S. Nuclear Regulatory Commission (NRC) and the draft environmental assessment (EA) that was prepared (ML21076A430).

In your response to Mr. Clements, on March 21, 2021, you made a number of statements for which I would very much appreciate further clarification. In your second paragraph, you state: "If the LAR is approved, ACO (American Centrifuge Operating, LLC) will be allowed to enrich small amounts of uranium up to 25% to factor in process fluctuations." As you indicated previously in paragraph two, the initial 3-year demonstration program would entail the use of only 16 centrifuges but you then say in paragraph three: "At full capacity, the commercial ACP (American Centrifuge Plant) would utilize about 11,500 centrifuges." Based on a "...ratio of LEU (Low Enriched Uranium) cascades to HALEU cascades...of...approximately 6 to 1." (Proposed Changes for LA-3605-0001, License Application for the American Centrifuge Plant, ML20301A438, pg. 1-31), Centrus would definitely not be enriching small amounts of HALEU. Centrus goes on to say: "As the final commercial ACP phase, the Licensee (ACO) plans to construct the plant and install centrifuges in increments until the ACP reaches a capacity of up to 3.8 million SWU (Separative Work Units) production annually." (ML20301A438, pg. 1-67). So it would appear the LAR is for much more than just 16 centrifuges. Please clarify.

In paragraph three, you state: "In 2007, the NRC issued a 30-year license, SNM-2011, to USEC (currently maintained by ACO) to construct and operate the commercial ACP using the same gas centrifuge technology as the LCF (Lead Cascade Facility) for enrichment of uranium up to 10% uranium-235. The NRC issued an environmental impact statement (EIS) for the commercial ACP license in 2006 (ML061250131, ML061250101), which included a public comment and review period." You then state in paragraph seven: "While the enrichment level is higher for the HALEU cascade, the technology and enrichment process are the same as those previously evaluated and approved for the LCF and ACP, in that uranium enrichment in the HALEU cascade will be conducted in similar centrifuges and piping." At 25%, the enrichment level is significantly higher and calls into question issues of safety and criticality, yet I see no discussion of that in your response. Please clarify.

You also state in paragraph five: "Because the HALEU LAR activities would take place in a small portion of an existing building that housed the LCF, involve smaller quantities of material than the previously approved licensing actions, and will produce minimal waste, the environmental impacts of the HALEU cascade would be bounded by those considered in the LCF EA and the ACP EIS." Centrus however, states: "The ACP uses portions of the Portsmouth Gaseous Diffusion Plant (GDP) and the former DOE Gas Centrifuge Enrichment Plant (GCEP) along with eight new facilities...for feed, withdrawal, sampling and blending/transfer operations." (ML20301A438 pg. 1-2). Please clarify.

In addition, in paragraph six, you state: "The 16- centrifuge ACP HALEU demonstration would produce

enriched product at the upper end of the low-enriched uranium (LEU) scale...", yet 25% enrichment is clearly outside "...the upper end of the low-enriched uranium (LEU) scale..." Please clarify.

Finally, I should think the public would want to know that as part of the HALEU demonstration program, the U.S. Department of Energy (DOE) modified the GCEP Lease Agreement to: "...assume(s) all liability for the decontamination and decommissioning of such facilities and equipment installed, and any worked performed, under the Demonstration Contract with the Department including any materials or environmental hazards on the site." (ML20301A438 pgs. 1-70 & 71).

Your clarifications would be appreciated. Please add my email address

**Lee**