

**UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

OHIO NUCLEAR-FREE)
NETWORK and BEYOND)
NUCLEAR,)

Case No. 21-1162

Petitioners,)

v.)

UNITED STATES NUCLEAR)
REGULATORY COMMISSION and)
the UNITED STATES OF)
AMERICA,)

Respondents.)

* * * * *

PETITION FOR REVIEW

Pursuant to 42 U.S.C. § 2239, 28 U.S.C. § 2344, 5 U.S.C. § 702, 42 U.S.C. § 2133, 42 U.S.C. § 2134, Fed. R. App. P. 15(a), and D.C. Cir. Rule 15(a), Petitioners Ohio Nuclear-Free Network and Beyond Nuclear, (“Petitioners”), through their undersigned counsel, hereby petition for review of the orders entered by the United States Nuclear Regulatory Commission (the “NRC” or “Commission”) in the form of a June 11, 2021 letter (“Approval Letter,” Exhibit A attached hereto) sent by Jacob I. Zimmerman, Chief of the Fuel Facility Licensing

Branch, Division of Fuel Management, Office of Nuclear Material Safety and Safeguards to Kelly L. Fitch, Regulatory Manager of American Centrifuge Operating, LLC (“ACO”). By the Approval Letter, the NRC approved amendments to two NRC licenses, namely, SNM-7003 and SNM-2011. The Approval Letter authorized amendment of Materials License SNM-2011 held by ACO, which is a wholly-owned indirect subsidiary of Centrus Energy Corp. (“Centrus”), so that the American Centrifuge Plant (“ACP”) can possess licensed material for the purpose of demonstrating production of up to 600 kilograms of High-Assay Low-Enriched Uranium (“HALEU”) enriched to as much as 25% Uranium-235 in the form of uranium hexafluoride for the U.S. Department of Energy (“DOE”) under a 3-year contract which expires on May 31, 2022 (“HALEU Project”). The HALEU Project will use advanced centrifuge technology at the DOE’s Portsmouth Site in Pike County, Ohio, located near the village of Piketon.

Grounds for Review

Petitioners seek review of the Approval Letter and all other documents by which the NRC analyzed and approved the HALEU Project for the following, nonexclusive, list of reasons:

- 1) That the amendments to the aforesaid licenses were not properly

authorized by the Commission.

2) That the Commission wrongfully and unlawfully failed to discharge its legal and non-discretionary duty to consider whether granting the license amendments could be inimical to the common defense and security of the United States or the health and safety of the public, as required by the Atomic Energy Act, particularly 42 U.S.C. §§ 2077(c)(2) and 2099 (“AEA”), which mandate identification of all reasonable alternatives that could eliminate or mitigate those risks.

3) That the Commission wrongfully and unlawfully prepared only an Environmental Assessment/Finding of No Significant Impact (“EA/FONSI”), instead of an Environmental Impact Statement (“EIS”) for the HALEU Project, in contradiction of the National Environmental Policy Act (“NEPA”), § 102(2)(C) (42 U.S.C § 4332(2)(C)), as well as pertinent NRC regulations and Council on Environmental Quality (“CEQ”) regulations.

4) That the HALEU Project is the beginning of an integrated full-scale application of Centrus centrifuge technology and was “segmented” into pieces to avoid EIS scrutiny of the larger, overall HALEU development and manufacturing plan, in violation of NEPA.

5) That the HALEU Project will produce “unobligated” enriched uranium

for defense applications which have not been adequately disclosed nor analyzed, either in the ACO application documents or in the NRC approval-related papers.

6) That environmental justice implications of the project, arising from the mining and processing of uranium, the production of HALEU and HEU as part of the HALEU Project, and the disposition of wastes from the Project were not disclosed and analyzed as required by NEPA, NRC regulations, and the President's executive order.

7) That past industrial nuclear enrichment processes along with careless handling and disposal practices of wastes, have caused radioisotopes, including transuranic nuclear wastes, to be dispersed widely across the Portsmouth Site and to offsite locations in three counties. These isotopes pose a threat to worker health, public health and the environment. There is not an adequate analysis in ACO's application of the possibilities of further contamination events from plant operations associated with producing HALEU.

8) That HALEU (and Highly-Enriched Uranium, or "HEU") produced by the project is likely to be desirable for theft, trafficking and terrorist uses, none of which is comprehensively addressed in the EA/FONSI. HALEU is comparatively easy to enrich to HEU concentrations and could be used as a source of fissionable explosive material for thermonuclear weapons as well as for "dirty" nuclear

bombs. The HEU generated as part of the HALEU Project could be used without further enrichment in nuclear bombs. Despite the adaptability of HALEU and HEU to weaponization, the NRC did not conduct a nuclear weapons proliferation assessment prior to approving the license changes, contrary to the requirements of the AEA and NEPA.

9) Centrus's Revised License Application ("RLA") request does not match the scope of the HALEU project, which is supposedly to construct and operate 16 total centrifuges. The Licensee (ACO) proposes to install centrifuges in increments in the American Centrifuge Plant up to a capacity of 3.8 million SWU (Separative Work Units) production annually. The RLA envisions far more than 16 centrifuges.

10) Uranium enrichment in the HALEU cascade will be conducted to 25% enrichment levels, which are unprecedented at the Portsmouth Site. Uranium that is 25% enriched comprises HEU under the AEA. The enrichment levels envisioned by the project pose unresolved questions concerning safety and criticality. The Lead Centrifuge Cascade license, SNM-7003, was issued in 2004 following the NRC's publication of an EA/FONSI with a Safety Evaluation Report. Six Lead Cascade centrifuges malfunctioned and crashed during operations in 2011 in a project that had been scrutinized only in an EA/FONSI,

instead of an EIS. The 25% enrichment to create HEU which will be allowed in this HALEU feasibility project is well above the 10% level examined in the 2006 EIS for the American Centrifuge project. That project proposed producing enriched uranium for identified commercial purposes. Since that time, no entity in the United States has used gaseous centrifuges to enrich beyond 10%.

11) That the EA/FONSI does not adequately discuss or consider alternatives to the HALEU project, in violation of NEPA.

12) That the analyses of criticality and measures to mitigate the potential for inadvertent criticality are inadequate under both the AEA and NEPA.

13) That the NRC licensing approval documents fail to identify and analyze cumulative effects on the HALEU plan of other Special Nuclear Material production, enrichment and remediation activities taking place at the Portsmouth Site, such as the processing of depleted uranium, the ongoing demolition of contaminated structures, and disposal of radioactively contaminated material in an onsite landfill, which is geologically connected to the water table beneath.

14) That a Programmatic EIS is warranted, based upon the actual scope of the HALEU Project.

Timeliness Under the Hobbs Act; Venue

Petitioners' filing is timely because it is made within the 60-day period

established by the Hobbs Act, 28 U.S.C. § 2344, for bringing a petition for judicial review of an agency action. The Approval Letter was decided and transmitted to Centrus within the 60 days next preceding the date of filing of this Petition for Review.

Venue is appropriate within the D.C. Circuit pursuant to 28 U.S.C. § 2343.

WHEREFORE, Petitioners respectfully request the Court to review, reverse, and vacate the NRC authorizations granted by the Approval Letter, as well as any other licensing decisions and determinations made by the NRC concerning NRC Licenses SNM-7003 and SNM-2011. Alternatively and further, Petitioners request the Court to order the dismissal of the underlying Revised License Application, to award them their attorney fees pursuant to statute, and to grant such other and additional relief as may be warranted in the premises, at law and in equity.

August 2, 2021

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

June 11, 2021

Ms. Kelly L. Fitch, Regulatory Manager
American Centrifuge Operating, LLC
P.O. Box 628
Mail Stop 7560
3930 U.S. 23 South
Piketon, Ohio 45661

SUBJECT: CENTRUS ENERGY CORP. AMERICAN CENTRIFUGE OPERATING –
LICENSE AMENDMENT 13 – APPROVAL TO OPERATE SIXTEEN
CENTRIFUGES TO DEMONSTRATE PRODUCTION OF HIGH-ASSAY LOW-
ENRICHED URANIUM IN PIKETON, OHIO UNTIL MAY 31, 2022
(EPID L-2020-LLA-0085)

Dear Ms. Fitch:

By letters dated December 5, 2019 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML19352G024), April 22, 2020 (ADAMS Accession No. ML20125A103), May 7, 2020 (ADAMS Accession No. ML20139A100), and June 23, 2020 (ADAMS Accession No. ML20314A098), American Centrifuge Operating, LLC (ACO), a wholly owned indirect subsidiary of Centrus Energy Corp., requested that the U.S. Nuclear Regulatory Commission (NRC) amend its Materials License SNM-2011 for the American Centrifuge Plant (ACP). By letters dated May 25, 2021 (ADAMS Accession Nos. ML21148A261, ML21148A148, ML21148A147) and June 10, 2021 (ADAMS Accession No. ML21162A049), ACO provided final updates to the documents contained in the submittals identified above. The submittals are seeking approval from the NRC to possess licensed material for the purpose of demonstrating production of up to 600 kilograms of High-Assay Low-Enriched Uranium (HALEU) in the form of uranium hexafluoride for the Department of Energy (DOE) under a 3-year contract which expires on May 31, 2022.

The NRC staff has completed its review of the submittals identified above, and has found them to be acceptable. The details associated with the reviews are documented in a publicly available Safety Evaluation Report (Enclosure 1 to this letter) and its five non-public appendices (Enclosures 2 to 6). Enclosure 7 contains Amendment 13 to License SNM-2011 (non-public) for the ACP, and Enclosure 8 contains its redacted version (public). Amendment 13 to License SNM-2011 is effective immediately. The Environmental Assessment (ADAMS Accession No. ML21085A705) associated with this license amendment was issued on June 4, 2021.

As part of this licensing action, the following amendments to License SNM-7003 and SNM-2011 are being made:

Enclosures 2 to 7 transmitted herewith contain sensitive non-public Information. When separated from the sensitive conditions in Enclosures 2 to 7, this document and Enclosures 1 and 8 are decontrolled.

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- (1) License Condition (LC) 6 consisting of the possession limits for the commercial ACP is being changed to LC 6 and a new LC 6.a is being added consisting of the possession limits for the HALEU Demonstration Program that expires on May 31, 2022.
- (2) LC 10.c has been modified to incorporate the Environmental Report dated May 25, 2021.
- (3) LC 10.d has been modified to incorporate the Fundamental Nuclear Material Control Plan dated May 25, 2021.
- (4) LC 10.e has been modified to incorporate the License Application dated May 25, 2021.
- (5) LC 10.f has been modified to incorporate the Quality Assurance Program Description dated May 25, 2021.
- (6) LC 10.g has been deleted since the Security Program documents are addressed via other LCs.
- (7) LC 10.i has been modified to replace SP-HQ-0001 and SP-HQ-0002 with SP-HQ-0008 approved on September 4, 2018 as clarified on September 11, 2018 per the DOE's three-year accreditation dated August 15, 2018 (accredited through August 14, 2021).
- (8) New LC 10.y has been added incorporating the Security Plan for the Physical Protection of Special Nuclear Material at the ACP SP-3605-0042 dated May 25, 2021.
- (9) LC 11 was modified to clarify that it also applies to the HALEU Demonstration Program.
- (10) LC 12 was modified to incorporate the special authorizations and exemptions identified in Section 1.2.5 of the ACP License Application Revision dated May 25, 2021.
- (11) LC 14, requiring ACO to obtain liability insurance prior to obtaining licensed material was modified to state that it does not apply to the HALEU Demonstration Program.
- (12) LC 15, which requires, in part, that ACO obtain funding before operation, was modified to state that it does not apply to the HALEU Demonstration cascade.
- (13) LC 16, requiring ACO to provide final copies of the proposed financial assurance instruments to the NRC for review at least 6 months prior to the planned date for obtaining licensed material, was modified to state that it does not apply to the HALEU Demonstration Program.
- (14) LC 19 was modified to update the application with more recent Nuclear Quality Assurance (NQA-1) requirements for computer software for nuclear facility applications.
- (15) A new LC 25 was added requiring prior NRC approval of any liquid uranium hexafluoride (UF₆) operations at the ACP.
- (16) A new LC 26 was added prohibiting ACO from producing UF₆ product in excess of 20 percent U-235 by weight.

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(17) A new LC 27 was added prohibiting ACO from implementing changes to reduce the margin of subcriticality for safety without NRC approval of the change, require ACO to provide a summary of non-administrative changes to the computer code validation report within 30 days, and provide the revised validation report to the NRC upon request.

(18) A new LC 28 was added to require a maintenance, testing and calibration program for security systems.

In accordance with Title 10 of the *Code of Federal Regulations*, Section 2.390 of the NRC’s “Agency Rules of Practice and Procedure,” a copy of this letter and Enclosures 1 and 8 will be available electronically for public inspection in the NRC Public Document Room, or from the Publicly Available Records component of the NRC’s ADAMS. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room). Enclosures 2 to 7 to this letter contain sensitive, unclassified information, and are deemed Official Use Only – Security-Related Information (OUO-SRI), Proprietary Information, or Safeguards Information (SGI). Therefore, these will not be placed in the Public Document Room, nor will they be publicly available in ADAMS, with the exception of Enclosure 5 marked SGI which will not be placed in ADAMS.

If you have any questions regarding this action, please contact Mr. Yawar Faraz by telephone at 301-415-7220, or via e-mail at Yawar.Faraz@nrc.gov.

Sincerely,

Jacob I. Zimmerman

Digitally signed by Jacob I. Zimmerman
Date: 2021.06.11 14:09:31 -04'00'

Jacob I. Zimmerman, Chief
Fuel Facility Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

Docket No. 07007004
License No. SNM-2011

Enclosures:

1. Safety Evaluation Report (public)
2. Safety Evaluation Report Appendix A Integrated Safety Analysis (OUO-SRI)
3. Safety Evaluation Report Appendix B Minimum Margin of Subcriticality (OUO-SRI, Proprietary)
4. Safety Evaluation Report Appendix C Material Control and Accounting (OUO-SRI, Proprietary)
5. Safety Evaluation Report Appendix D Physical Security of Special Nuclear Material (SGI)
6. Safety Evaluation Report Appendix E Emergency Management (OUO-SRI, Proprietary)
7. Amendment 13 of the ACP License (OUO-SRI)
8. Amendment 13 of the ACP License (public)

cc: centrus_acp@listmgr.nrc.gov
L. Cutlip, Senior Vice President, Centrus
A. Griffith, DOE NE-HQ
S. Harlow, DOE NE-HQ

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SUBJECT: AMERICAN CENTRIFUGE OPERATING – LICENSE AMENDMENT 13 – APPROVAL TO OPERATE SIXTEEN CENTRIFUGES TO DEMONSTRATE PRODUCTION OF HIGH-ASSAY LOW-ENRICHED URANIUM IN PIKETON, OHIO UNTIL MAY 31, 2022 (EPID L-2020-LLA-0085)

DATED: June 11, 2021

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ADAMS Accession Nos.: ML21138A826 (Pkg), ML21138A827 (Ltr)
 ML21148A291 (Encl 1), ML21148A293 (Encl 2)
 ML21148A294 (Encl 3), ML21152A021 (Encl 4)
 ML21152A029 (Encl 6), ML21138A829 (Encl 7),
 ML21138A828 (Encl 8) *via e-mail

OFFICE	NMSS/DFM/FFLB*	NMSS/DFM/FFLB*	OGC/GCRPS/HLWFCNS *	NMSS/DFM/FFLB*
NAME	YFaraz	ELee	LClark	JZimmerman
DATE	05/25/2021	06/02/2021	05/28/2021	06/11/2021

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CERTIFICATION

I hereby certify that I served the foregoing Petition for Review upon the following via electronic mail this 2nd day of August, 2021:

Yawar Faraz
Fuel Facility Licensing Branch
Division of Fuel Management
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and Safeguards
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/s/ Terry J. Lodge
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Co-Counsel for Petitioners