



## **NUCLEAR REGULATORY COMMISSION**

**[Docket No. 70-7004; NRC-2025-0059]**

**American Centrifuge Operating, LLC;**

**American Centrifuge Plant;**

### **Environmental Assessment and Finding of No Significant Impact**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Notice; issuance.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is considering amending Special Nuclear Material (SNM) License No. SNM-2011, issued on April 13, 2007, to American Centrifuge Operating, LLC (ACO) for the operation of the American Centrifuge Plant (ACP). The NRC is considering extending authorization of the high-assay, low-enriched uranium (HALEU) demonstration program operations to continue through June 30, 2034, along with a possession limit increase to support the U.S. Department of Energy (DOE) and ACO contract production milestone of 900 kilograms of HALEU per year. In the event of an extension of ACO's HALEU contract with the DOE, potentially the authorization would be extended through the revised contract period. For this proposed action, the NRC staff is issuing an environmental assessment (EA) and a finding of no significant impact (FONSI).

**DATES:** The EA and FONSI referenced in this document are available on **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

**ADDRESSES:** Please refer to Docket ID **NRC-2025-0059** when contacting the NRC about the availability of information regarding this document. You may obtain publicly available information related to this document using any of the following methods:

- **Federal Rulemaking Website:** Go to <https://www.regulations.gov> and search for Docket ID **NRC-2025-0059**. Address questions about Docket IDs in Regulations.gov to Bridget Curran; telephone: 301-415-1003; email: [Bridget.Curran@nrc.gov](mailto:Bridget.Curran@nrc.gov). For

technical questions, contact the individual listed in the “For Further Information Contact” section of this document.

- **NRC’s Agencywide Documents Access and Management System**

**(ADAMS):** You may obtain publicly available documents online in the ADAMS Public Documents collection at <https://www.nrc.gov/reading-rm/adams.html>. To begin the search, select “Begin Web-based ADAMS Search.” For problems with ADAMS, please contact the NRC’s Public Document Room (PDR) reference staff at 1-800-397-4209, at 301-415-4737, or by email to [PDR.Resource@nrc.gov](mailto:PDR.Resource@nrc.gov). For the convenience of the reader, instructions about obtaining materials referenced in this document are provided in the “Availability of Documents” section.

- **NRC’s PDR:** The PDR, where you may examine and order copies of publicly available documents, is open by appointment. To make an appointment to visit the PDR, please send an email to [PDR.Resource@nrc.gov](mailto:PDR.Resource@nrc.gov) or call 1-800-397-4209 or 301-415-4737, between 8 a.m. and 4 p.m. eastern time (ET), Monday through Friday, except Federal holidays.

**FOR FURTHER INFORMATION CONTACT:** Isaac Johnston, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-5649; email: [Isaac.Johnston@nrc.gov](mailto:Isaac.Johnston@nrc.gov).

**SUPPLEMENTARY INFORMATION:**

**I. Discussion**

The NRC staff is considering an amendment of ACO’s license (SNM-2011) to allow for continued operation of the HALEU demonstration program for an additional 9 years through June 30, 2034. The 9-year period would be divided into three sets of 3-year terms as defined in the DOE-ACO contract for Phase III operations. Based on availability of Congressional appropriations, the DOE redefined option period one to be divided into three 1-year option periods, with the first 1-year option funded to begin on July 1, 2025. The DOE would have the sole discretion to renew the contract for each option period, contingent upon Congressional appropriations.

The NRC initially authorized the operation of the HALEU demonstration cascade at the ACP in Pike County, Ohio in June 2021. In September 2024, the NRC approved a license amendment to increase ACO's licensed material possession limits to support the continued production of HALEU uranium hexafluoride (UF<sub>6</sub>) until December 31, 2024.

In December 2024, the NRC approved a license amendment to allow HALEU operations to continue for another 6 months until June 30, 2025. Under the proposed action, HALEU operations would continue for up to another 9 years (until June 30, 2034), contingent upon Congressional appropriations and the DOE opting to implement all option periods of operations.

ACO is producing HALEU for the DOE. HALEU is uranium that has been enriched so that the concentration of the fissile isotope uranium-235 (U-235) is between 5 and 20 percent of the mass of the uranium. The DOE awarded a 3-phase demonstration contract to ACO to enrich uranium up to 20 percent in the HALEU cascade. The expiration date of the current phase (Phase 2) of the DOE-ACO contract is June 30, 2025; however, the DOE could choose to extend Phase 2 of the DOE-ACO contract, to ensure continued operations of the HALEU program.

The DOE-ACO Phase III program involves up to three, 3-year periods of operation of the HALEU cascade. Phase III operations could begin on July 1, 2025, conditional on (1) Congressional appropriations, (2) the signing of the DOE-ACO Phase III contract, (3) the NRC staff's review and approval of the proposed license amendment. If the DOE does not extend Phase 2 of the DOE-ACO contract, or the Phase III HALEU operations are not approved on or before June 30, 2025, ACO would be required to shut down Phase 2 HALEU operations.

As required in section 51.21 of title 10 of the *Code of Federal Regulations* (10 CFR), "Criteria for and identification of licensing and regulatory actions requiring environmental assessments," the NRC developed an EA for the current license amendment request to evaluate the environmental impacts of continued operations until June 30, 2034. Based on the results of the EA that follows, the NRC has determined that

an environmental impact statement (EIS) is not required for the amendment and is issuing a FONSI.

## **II. Environmental Assessment**

### *Description of the Proposed Action*

The NRC is proposing to amend ACO's license to allow ACO to continue operating the HALEU cascade until June 30, 2034. During this potential period of extended operation, ACO would continue enrichment activities as approved in the license. The staff assessed the potential environmental effects of continuing HALEU operations in its September 2024 EA, finding continued operations does not involve construction of new buildings, ground-disturbing activities, the shipment of HALEU offsite, or changes to the NRC-approved HALEU centrifuge cascade design. The proposed action is described in the licensee's application dated December 19, 2024.

The NRC staff also considered environmental impacts associated with the NRC's review and approval of the financial documentation provided with ACO's license amendment request. The NRC staff finds ACO's financial qualifications, decommissioning funding, and nuclear insurance indemnification are categorically excluded from environmental review under the NRC's regulations in 10 CFR 51.22(c)(10)(i), which applies to a surety, insurance, and/or indemnity.

### *Need for the Proposed Action*

The proposed action would allow ACO to continue operating the HALEU demonstration cascade as provided in ACO's contract with DOE and in accordance with ACO's license.

### *Environmental Impacts of the Proposed Action*

In December 2024, the NRC staff prepared an EA for the NRC's review of the continued Phase II operations through December 31, 2025, and the potential impacts of operations for another 12 months. The December 2024 EA determined that the license extension would not significantly affect the quality of the human environment. The NRC issued that EA and FONSI on December 23, 2024. The environmental review for this

proposed action considers the Phase III operations through June 30, 2034, and evaluates the potential impacts of operations for up to another 9 years.

The NRC staff assessed the potential environmental impacts of a 9-year continuation of operations on land use; historic and cultural resources; visual and scenic resources; climatology, meteorology and air quality; geology and soils; water resources; ecological resources; socioeconomics; noise; traffic and transportation; public and occupational health and safety; and waste management. The NRC staff determined that facility operations for the current action are unchanged from those evaluated in the NRC's December 2024 EA, except for the duration of operations. The NRC staff finds the additional period of operations would not affect most resource areas and not have significant impacts on air quality, transportation, occupational health and safety, and waste management. ACO would not make changes to the enrichment processes or to the outside portions of buildings. All HALEU produced would continue to be stored onsite. All enrichment activities would continue to take place indoors, resulting in no changes to noise levels. Because operations would continue entirely inside buildings, including storage of additional enriched UF<sub>6</sub>, depleted UF<sub>6</sub>, and wastes, and because the current rate of HALEU production would not change, there would be no change to potential impacts on public health and safety except that the potential for these previously assessed impacts would be extended by up to 9 years. Because additional employees would not be required for the proposed action, there would be no change to socioeconomic impacts already assessed.

The NRC's December 2024 EA concluded that continued HALEU operations would not have significant impacts on air quality, occupational health and safety, waste management, and transportation, and that these impacts were bound by the impacts assessed in previous NRC EAs, as documented in the NRC's 2021 EA for the approval of the HALEU program and 2024 EA for the possession limit increase. This EA assesses the continued operations until June 30, 2034, with continuation of the same impacts as described further in the following paragraphs.

Air Quality: The December 2024 EA for the 12-month license extension determined that continued operations would not affect the rates of air emissions containing hydrogen fluoride (HF) and radionuclides because the rate of HALEU production would remain unchanged from the rates evaluated in the NRC's 2021 licensing document and EA for the original HALEU demonstration. Under the current action, the potential non-radiological and radiological air emissions would continue for up to 9 years. As explained in the September 2024 EA, for the period July through December 2023, the average exposure to HF for the maximally exposed individual was  $4.8 \times 10^{-9}$  micrograms per cubic meter, which is significantly lower than the Occupational Safety and Health Administration's 8-hour permissible exposure limit for HF of 2500 micrograms per cubic meter. As indicated in ACO's effluent monitoring report for the period of July 1 through December 31, 2024, the average HF concentration was calculated to be  $3.96 \times 10^{-7}$  micrograms per cubic meter. Uranium isotopes in air emissions in the same effluent monitoring report were 0.0239 millicuries uranium-234, 0.00167 millicuries U-235, and 0.00541 millicuries uranium-238. The report estimated that the public dose from the releases of uranium isotopes over the previous year (December 2023 through December 2024) is  $2.6 \times 10^{-5}$  millirem. The emission levels are and would continue to be well below regulatory limits through June 30, 2034. Therefore, the NRC staff concludes the potential air quality impacts of an up to 9-year extension of operations would not be significant.

Occupational Health and Safety: The staff evaluated the potential impacts on worker health of up to 9 years of continued operations beyond the period evaluated in the December 2024 EA. HALEU enrichment activities must comply with the NRC regulations, including 10 CFR part 20, subpart C, "Occupational Dose Limits for Adults," and 10 CFR part 20, subpart D, "Radiation Dose Limits for Individual Members of the Public" as well as the conditions specified in the license. The NRC staff also assessed the most recent effluent monitoring report for the period of July 1 through December 31 of 2024, which reported that total exposure to the nearest resident for the prior 12

months (December 2023 through December 2024) was  $2.6 \times 10^{-5}$  millirem. The NRC staff concludes that dose limits in 10 CFR part 20 for workers (50 mSv/yr or 5000 mrem/yr) and for members of the public (1 mSv/yr or 100 mrem/yr) will continue to be met.

As such, the NRC staff concludes that radiological impacts on workers would not be noticeably different from the impacts as assessed in the NRC's December 2024 EA and therefore the potential impacts would not be significant. In the "Air Quality" paragraph of this notice, the NRC staff states the extension of HALEU operations would not significantly increase non-radiological HF emissions and worker exposures and would remain significantly lower than the Occupational Safety and Health Administration's 8-hour limit for HF of 2500 micrograms per cubic meter.

Transportation: The December 2024 EA evaluated the potential environmental impacts for a 12-month extension of operations, finding new shipments of feed material to support the production of an increased amount of HALEU would be few in number. The EA concluded the few additional shipments of feed material through December 2025 would not have a noticeable impact on transportation. Moreover, the few additional shipments of feed material for up to 9 additional years would have an insignificant impact, when compared with the 1,100 yearly shipments estimated for the commercial ACP. Therefore, the NRC staff conclude that the proposed action would have no significant impact on transportation.

Waste Management: In the December 2024 EA, the NRC staff found that HALEU operations would insignificantly increase the quantity of low-level radioactive waste. ACO estimates that up to 21 B-25 boxes of low-level radioactive waste would be generated over the 9-year license term, for a total volume of nearly 53.5 cubic meters (1900 cubic feet). Therefore, the NRC staff concludes that the impacts from waste management through June 30, 2034, would not be significant.

#### *Environmental Impacts of the Alternatives to the Proposed Action*

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the "no-action" alternative). Under the no-action alternative, ACO

would cease operating the HALEU cascade on June 30, 2025. The no-action alternative could result in ACO being unable to meet the terms of its contract with DOE. The potential environmental impacts of the no-action alternative would be the same as the NRC's finding of no significant impact reported in the December 2024 EA.

#### *Agencies and Persons Consulted*

In accordance with NRC policy, on April 15, 2025, the staff consulted with the Ohio Department of Public Safety, the Ohio Department of Health, and the U.S. Environmental Protection Agency's (EPA's) Region V office regarding the EA and FONSI. The NRC received no comments on the EA.

Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies to consider the effects of their undertakings on historic properties. The proposed action is not the type of activity that has the potential to cause effects on any historic properties that may be present. Therefore, in accordance with 36 CFR 800.3(a)(1), the NRC has no further obligation under Section 106 of the NHPA.

Section 7 of the Endangered Species Act (ESA) requires that, prior to taking a proposed action, Federal agencies determine whether the proposed Federal action may affect endangered or threatened species or their critical habitats. The proposed action would not result in construction activities or land disturbance and would allow continuation of HALEU production activities that are already ongoing. Production and storage of HALEU occurs within existing buildings that formerly housed the Lead Cascade Facility. The proposed action does not increase any effluent release rates or introduce any new effluent release pathways, nor does it expand the license control area. NRC staff has determined that even if endangered or candidate species are present in the vicinity of the HALEU cascade building on the DOE reservation, the proposed action would not affect such species or their habitats. Therefore, no consultation is required under Section 7 of the ESA.

### **III. Finding of No Significant Impact**

The NRC staff prepared this EA as part of its review of the proposed action. The

NRC staff concludes there would be no significant environmental impacts from the extension of HALEU operations through June 30, 2034. Therefore, the NRC staff find the preparation of an EIS is not warranted. Accordingly, the NRC determined that a FONSI is appropriate. In accordance with 10 CFR 51.32(a)(4), the FONSI incorporates the EA set forth in this notice by reference.

#### IV. Availability of Documents

The documents identified in the following table are available to interested persons through one or more of the following methods, as indicated.

<b>DOCUMENT DESCRIPTION</b>	<b>ADAMS ACCESSION NO. / FEDERAL REGISTER CITATION / WEBSITE</b>
License Amendment Request for American Centrifuge Operating, LLC's License Application for the American Centrifuge Plant - Phase III of HALEU Operations, dated December 19, 2024.	ML24366A069 (Package)
NRC Email to ACO re: NRC's Acceptance for Detailed Review of ACO's License Amendment Request for Phase III HALEU Operations at the ACP in Piketon, OH, dated February 10, 2025.	ML25042A390
EA Proposed License Amendment at the American Centrifuge Plant, Piketon, Ohio, issued June 2025.	ML25084A113
Letter - License Amendment 24, NRC Approval of American Centrifuge Operating's Amendment Request to Increase its Possession Limits to Support HALEU Production at the American Centrifuge Plant, dated September 20, 2024.	ML24068A189 (Package)
EA for Proposed License Amendment to Increase Possession Limits for Licensed Material for the HALEU Program at the American Centrifuge Plant, Piketon, Ohio, published September 2024.	ML24254A206
<i>Federal Register</i> Notice for EA Proposed License Amendment to Increase Possession Limits for Licensed Material for the HALEU Program at the American Centrifuge Plant, Piketon, Ohio, published September 19, 2024.	89 FR 76871
NRC Approval of Centrus/ACO's Request to Extend Phase 2 Amendment 27, dated December 31, 2024.	ML24345A251 (Package)

<i>Federal Register</i> Notice - Environmental Assessment for Proposed License Amendment to Extend Period of HALEU Operations at the American Centrifuge Plant in Pike County, Ohio, published December 31, 2024.	89 FR 107168
License Amendment 13, NRC Approval of American Centrifuge Operating's Request Operate Sixteen Centrifuges to Demonstrate Production of High-Assay Low-Enriched Uranium, dated June 11, 2021.	ML21138A826 (Package)
Letter - American Centrifuge Plant, Submittal of 10 <i>Code of Federal Regulations</i> 70.59 Effluent Reporting, dated February 20, 2025.	ML25056A059
Email to Ohio transmitting the draft EA for review, dated April 15, 2025.	ML25112A292
Email to EPA Region V transmitting the draft EA for review, dated April 15, 2025.	ML25112A289
Email to Ohio State Historic Preservation Office re: courtesy notification of NRC review of ACO's license amendment request, dated April 18, 2025.	ML25112A305
Email Responses from Ohio agencies providing comments on the draft EA to Ohio agencies for review, dated April 15 and 21, 2025.	ML25112A298 ML25112A300
Letter - Supplemental Proposed Changes License Application for the American Centrifuge Plant – Phase III of HALEU Operations, dated June 12, 2025.	ML25164A029
Email Response from EPA providing comments on the draft EA to Ohio agencies for review, dated April 22, 2025.	ML25114A164
Biden-Harris Administration Announces 6 Contracts to Spur America's Domestic HALEU Supply Chain as Part of Investing in America Agenda, dated October 8, 2024.	<a href="https://www.energy.gov/ne/articles/biden-harris-administration-announces-6-contracts-spur-americas-domestic-haleu-supply">https://www.energy.gov/ne/articles/biden-harris-administration-announces-6-contracts-spur-americas-domestic-haleu-supply</a>

Dated: June 18, 2025.

For the Nuclear Regulatory Commission.

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