



## **NUCLEAR REGULATORY COMMISSION**

**[Docket No. 70-7004; NRC-2024-0219]**

**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 beyond December 31, 2024, through June 30, 2025. In the event of an extension of ACO's HALEU contract with the U.S. Department of Energy (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 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-2024-0219** 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-2024-0219**. Address questions about Docket IDs in Regulations.gov to Stacy Schumann; telephone: 301-415-0624; email:

Stacy.Schumann@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:** Christine Pineda, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-6789; email: [Christine.Pineda@nrc.gov](mailto:Christine.Pineda@nrc.gov).

**SUPPLEMENTARY INFORMATION:**

**I. Introduction**

The NRC staff is considering an amendment of ACO’s license (SNM-2011) to remove the contract expiration date from License Condition (LC) 15 and to add a new LC (LC 31), requiring ACO to provide the NRC prior notification of any DOE-ACO contract changes that are material to the ACP license SNM-2011, including contract extensions. Although the current DOE-ACO contract for operations of the HALEU program continues through June 30, 2025, the NRC staff evaluated potential impacts for the additional six months of operations in the event the DOE-ACO contract expiration date is extended. ACO’s proposed modification of LC 15, and the addition of LC 31 would streamline the

NRC staff's review of future ACO contract modifications for minor, non-safety-related and non-security-related changes to the contract, such as a simple 6-month contract extension.

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 ( $UF_6$ ) until December 31, 2024. Under the proposed action, HALEU operations would continue as currently approved for another six months (until June 30, 2025).

ACO is producing HALEU for the DOE. HALEU is uranium that has been enriched so that the concentration of the fissile isotope 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 3 program involves up to three, 3-year periods of operation of the HALEU cascade; however, implementation of Phase 3 in its three stages requires Congressional appropriations as well as the NRC's review of future licensing requests. Phase 3 operations could begin on July 1, 2025, conditional on (1) Congressional appropriations, (2) the signing of the DOE-ACO Phase 3 contract, (3) ACO's submission of a license amendment request for Phase 3, and (4) the NRC staff's review and approval of a request. If the DOE does not extend Phase 2 of the DOE-ACO contract, or the Phase 3 HALEU operations are not approved on or before June 30, 2025, ACO would be required to shut down Phase 2 HALEU operations. In the event of approval of continued operations, the NRC staff evaluated the environmental impacts of allowing the Phase 2 HALEU program to continue until December 31, 2025, without changes in operations, provided requirements of LC 15 and LC 31 are met.

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 December 31, 2025. Based on the results of the EA that follows, the NRC has determined not to prepare an environmental impact statement (EIS) 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 remove the HALEU contract expiration date from LC 15, and to add LC 31, which requires ACO to provide prior notification to the NRC of any contract changes that are material to the ACP license SNM-2011, including contract extensions. 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 September 12, 2024, and its supplements dated November 7, 2024, and November 21, 2024.

The NRC staff also considered environmental impacts associated with the NRC’s review and approval of the financial documentation provided with ACO’s LAR. 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. The DOE has extended the contract for Phase 2 HALEU operations to June 30, 2025.

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

In September 2024, the NRC staff prepared an EA for the NRC's review and approval of an increase in licensed material possession limits to support continued HALEU production. The September 2024 EA determined that the proposed increase in possession limits for HALEU production until December 31, 2024, would not significantly affect the quality of the human environment. The NRC staff issued that EA and a FONSI on September 19, 2024. The environmental review for this proposed action, considers the continued Phase 2 operations through December 31, 2025, and evaluates the potential impacts of operations for another twelve months.

The NRC staff assessed the potential environmental impacts of a twelve-month 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 September 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 twelve months. Because additional employees would not be required for the proposed action, there would be no change to socioeconomic impacts already assessed.

The NRC's September 2024 EA concluded that continued HALEU operations with the possession limit increase would not have significant impacts on air quality, occupational health and safety, waste management, and transportation, and that these impacts were bounded by the impacts assessed in previous NRC environmental assessments, as documented in the NRC's 2021 EA for the approval of the HALEU program. This EA assesses the continued operations until December 31, 2025, with continuation of the same impacts as described further in the following paragraphs.

Air Quality: The September 2024 EA for the possession limit increase request 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 at least another six months, and may continue for as long as twelve months. 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 2000 micrograms per cubic meter. As indicated in ACO's effluent monitoring report for the period of January 1 through June 30, 2024, the average HF concentration was calculated to be  $2.4 \times 10^{-7}$  micrograms per cubic meter. Uranium isotopes in air emissions in the same effluent monitoring report were 0.00894 millicuries U-234, 0.0011 millicuries U-235, and 0.00875 millicuries U-238. The report estimated that the public dose from the releases of uranium isotopes over the previous year (June 2023 through June 2024) is  $1.6 \times 10^{-5}$  millirem.

The emission levels under Phase 2 operations are and would continue to be well below regulatory limits through December 31, 2025. Therefore, the NRC staff concludes the potential air quality impacts of an additional twelve-month extension of Phase 2 operations would not be significant.

Occupational Health and Safety: The staff evaluated the potential impacts on worker health of twelve months of continued operations beyond the period evaluated in the September 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 January 1 through June 30 of 2024, which reported that total exposure to the nearest resident for the prior 12 months (June 2023 through June 2024) was  $1.6 \times 10^{-5}$  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 September 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 Phase 2 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 2000 micrograms per cubic meter.

Transportation: The September 2024 EA evaluated the potential environmental impacts for the increase in possession limits, 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 2024 would not have a noticeable impact on transportation. Moreover, the few additional shipments of feed material over an additional 12 months would have an insignificant

impact, when compared with the 1,100 yearly shipments estimated for the commercial ACP.

Waste Management: In the September 2024 EA for the increase in possession limits the NRC staff found that HALEU operations would insignificantly increase the quantity of low-level radioactive waste. Specifically, the EA stated that 400 cubic feet of low-level radioactive waste would be generated per quarter through December 31, 2024. The staff expects the same quantity of waste to be generated for up to twelve additional months of operations. Therefore, the NRC staff concludes that the impacts from waste management through December 31, 2025, 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 December 31, 2024. 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 September 2024 EA.

#### *Agencies and Persons Consulted*

In accordance with NRC policy, on November 4, 2024, the staff consulted with the Ohio Emergency Management Agency, the Ohio Environmental Protection Agency, the Ohio Department of Health, and the U.S. Environmental Protection Agency’s (EPA’s) Region 5 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 a 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.

Nevertheless, the NRC staff provided a courtesy notification of the proposed action to the Ohio State Historic Preservation Office on November 4, 2024.

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 has no potential to affect any special status species or 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 December 31, 2025. Therefore, staff finds 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 and Supporting Documents for the American Centrifuge Plant, dated September 12, 2024.	ML24262A084
Supplement to License Amendment Request for American Centrifuge Operating, LLC's License Application for the American Centrifuge Plant, dated November 4, 2024.	ML24324A321 (Package)
Supplement to License Amendment Request for American Centrifuge Operating, LLC's License Application for the American Centrifuge Plant, dated November 21, 2024.	ML24331A050

NRC Email to ACO re: NRC's Acceptance for Detailed Review of American Centrifuge Operating's Request to Extend Phase II HALEU Operations, dated October 21, 2024.	ML24298A160
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
License SNM-2011, Amendment 24, dated September 20, 2024.	ML24068A191
EA for Proposed License Amendment to Increase Possession Limits for Licensed Material for the HALEU Program at the American Centrifuge Plant, Piketon, Ohio, dated September 2024.	ML24254A206
Federal Register Notice for EA Proposed License Amendment to Increase Possession Limits for Licensed Material for the HALEU Program at the American Centrifuge Plant, Piketon, Ohio, publication date September 19, 2024.	89 FR 76871 ML24214A324
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)
American Centrifuge Operating Effluent Reporting for the Period of January 1 through June 30, 2024; dated August 29, 2024. Corrected report, dated September 5, 2024.	ML24253A176  ML24253A175 (corrected report)
Email transmitting the draft EA to Ohio agencies for review, dated November 4, 2024.	ML24346A064
Email to EPA Region 5 transmitting the draft EA for review, dated November 4, 2024.	ML24346A059
Email to Ohio State Historic Preservation Office re: courtesy notification of NRC review of ACO's license amendment request, dated November 4, 2024.	ML24346A060
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: December 23, 2024.

For the Nuclear Regulatory Commission.

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