[6450-01-P]

DEPARTMENT OF ENERGY

Finding of No Significant Impact for the Commercial Disposal of Contaminated Process Equipment from the Savannah River Site

AGENCY: Office of Environmental Management, U.S. Department of Energy.

ACTION: Finding of No Significant Impact.

SUMMARY: The Department of Energy (DOE) has completed the *Final Environmental Assessment for the Commercial Disposal of Savannah River Site Contaminated Process Equipment* (Final EA). Consistent with the Final EA, the Proposed Action is the disposal of contaminated process equipment from the Savannah River Site (SRS) at a commercial low-level radioactive waste (LLW) disposal facility located outside of South Carolina and licensed by a U.S. Nuclear Regulatory Commission (NRC) Agreement State. Based on the information and analysis in the Final EA, DOE intends to implement the Proposed Action and send the contaminated process equipment to the Waste Control Specialists LLC (WCS) Federal Waste Facility (FWF), a licensed commercial disposal facility located in Andrews County, Texas, for disposal.

ADDRESSES: This Finding of No Significant Impact and the Final EA are available on the DOE National Environmental Policy Act (NEPA) website at: https://www.energy.gov/nepa/doeea-2154-commercial-disposal-savannah-river-site-contaminated-process-equipment.

FOR FURTHER INFORMATION CONTACT: Edgard Espinosa, U.S. Department of Energy**,** Office of Environmental Management, Office of Waste and Materials Management

(EM-4.2), 1000 Independence Avenue SW., Washington, DC 20585. Email: Edgard.Espinosa@hq.doe.gov. Phone number: (202)586-5382.

SUPPLEMENTARY INFORMATION:

I. Background

DOE prepared the Final EA in accordance with Council on Environmental Quality (CEQ) regulations at Title 40 Code of Federal Regulations (CFR) parts 1500–1508 and DOE NEPA implementing procedures at 10 CFR part 1021. Consistent with the Final EA, the Proposed Action is the disposal of contaminated process equipment from SRS at a commercial LLW disposal facility located outside of South Carolina and licensed by an NRC Agreement State; disposal under the Proposed Action would be in accordance with the Agreement State's regulations, which are equivalent to the NRC regulations at 10 CFR part 61 for land disposal of radioactive waste, and other requirements. Disposal alternatives for this waste are discussed under the "Proposed Action and Alternatives" section.

Certain SRS process equipment (*i.e.*, Tank 28F salt sampling drill string, glass bubblers, and glass pumps) is contaminated with reprocessing waste and is currently conservatively managed as if it were high-level radioactive waste (HLW), which is required to be disposed of in a geologic repository. Because the NRC has not licensed a geologic repository in the United States, there is no current disposal pathway for the SRS contaminated process equipment. Portions of the Tank 28F salt sampling drill string, glass bubblers, and glass pumps contain hazardous components (e.g., lead) or are contaminated with hazardous constituents. Because there are no permitted facilities at SRS for the disposal of mixed low-level radioactive waste, this contaminated process equipment cannot be disposed of on site. Therefore, the purpose and need for DOE's action is to identify a disposal pathway for the SRS contaminated process equipment

to mitigate on-site storage constraints, improve worker safety, and support accelerated completion of the environmental cleanup mission at SRS.

As described in the June 10, 2019, *Supplemental Notice Concerning U.S. Department of Energy Interpretation of High-Level Radioactive Waste* (84 FR 26835) (Supplemental Notice) and affirmed in the December 21, 2021, *Assessment of the Department of Energy's Interpretation of the Definition of High-Level Radioactive Waste* (86 FR 72220), DOE interprets the statutory term, "high-level radioactive waste," as set forth in the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq*.) and the Nuclear Waste Policy Act (NWPA) (42 U.S.C. 10101 *et seq*.) such that some reprocessing wastes may be classified as not HLW (non-HLW) and may be disposed of in accordance with their radiological characteristics and not solely the origin of the waste (HLW interpretation). This interpretation may be used to facilitate the safe disposal of defense reprocessing waste if the waste meets either of the following two criteria:

1. Does not exceed concentration limits for Class C low-level radioactive waste as set out in 10 CFR 61.55, and meets the performance objectives of a disposal facility; or
2. Does not require disposal in a deep geologic repository and meets the performance objectives of a disposal facility as demonstrated through a performance assessment conducted in accordance with applicable requirements.

NRC's performance objectives for commercial LLW disposal facilities are specified in 10 CFR part 61, Subpart C, "Performance Objectives."

As stated in the Supplemental Notice, DOE will continue its current practice of managing all of its defense reprocessing wastes as if they were HLW unless and until a specific waste is determined to be another category of waste based on a detailed technical assessment of its characteristics and an evaluation of potential disposal pathways.

As discussed in the Final EA, DOE has estimated the expected radionuclide concentration levels for each of the disposal containers for the Tank 28F drill string, the glass pumps, and the glass bubblers (see Final EA, Appendix A) and prepared a technical evaluation demonstrating that the contaminated process equipment would meet Criterion 1 for non-HLW under DOE's interpretation of the AEA and NWPA definition of HLW. Consistent with that technical evaluation, DOE also prepared an official determination documenting that the contaminated process equipment is non-HLW under Criterion 1 of the HLW interpretation. As part of implementing this determination, DOE would verify with the licensee of the off-site commercial disposal facility that the disposal containers meet the facility's waste acceptance criteria and all other requirements of the disposal facility, including applicable regulatory requirements prior to disposal and applicable U.S. Department of Transportation (USDOT) requirements for packaging and transportation from SRS to the commercial disposal facility.

On January 19, 2021, DOE issued a notice in the *Federal Register* (86 FR 5175) of its intent to prepare an *Environmental Assessment for the Commercial Disposal of Savannah River Site Contaminated Process Equipment*. On December 21, 2021, DOE announced in the *Federal Register* (86 FR 72217) the availability of the *Draft Environmental Assessment for the Commercial Disposal of Savannah River Site Contaminated Process Equipment* (Draft EA) for public comment. DOE also posted the Draft EA on DOE websites for public review. DOE held an informational webinar on the Draft EA on January 11, 2022, to provide the public and stakeholders with an overview of the Draft EA and the Department's HLW interpretation.

II. Proposed Action and Alternatives

Under the Proposed Action, DOE would dispose of the SRS contaminated process equipment (Tank 28F salt sampling drill string, glass bubblers, and glass pumps) at a commercial

LLW disposal facility outside of South Carolina licensed by an NRC Agreement State. Disposal under the Proposed Action would be in accordance with the Agreement State's regulations, which are equivalent to 10 CFR part 61, among other requirements. Prior to disposal, DOE would submit a waste profile and supporting characterization documentation for the SRS contaminated process equipment to the licensee of the off-site commercial LLW disposal facility to further verify with the licensee that the final grouted waste meets Criterion 1 of the HLW interpretation for disposal as non-HLW, in accordance with DOE Manual 435.1-1, Radioactive Waste Management Manual. DOE would demonstrate compliance with the waste acceptance criteria and all other requirements of the disposal facility, including any applicable regulatory requirements for management of the waste prior to disposal and applicable USDOT and NRC requirements for packaging and transportation from SRS to the commercial disposal facility. DOE has identified two reasonable action alternatives for the Proposed Action:

- *Alternative 1*—If determined to be Class B or Class C LLW, DOE would stabilize and package the waste at SRS and ship the waste packages to the WCS FWF in Andrews County, Texas, for disposal. Implementation would be dependent upon the waste meeting WCS's waste acceptance criteria, among other requirements.
- *Alternative 2*—If determined to be Class A LLW, DOE would stabilize and package the waste at SRS and ship the waste packages to either Energy*Solutions* in Clive, Utah, or WCS in Andrews County, Texas, for disposal. Implementation would be dependent upon the waste meeting the facility's waste acceptance criteria, among other requirements.

The EA also evaluates a No-Action Alternative under which the contaminated process equipment would remain in storage at SRS until another disposal path was identified.

III. Potential Environmental Impacts

The analyses in the Final EA demonstrate that the Proposed Action and alternatives entail minimal risk to human health or to the quality of the environment for both action alternatives analyzed. The proposed alternatives would have minor potential environmental impacts. Chapter 3 of the Final EA analyzed the following resource areas in detail: (1) air quality, (2) human health (normal operations), (3) human health (accidents and intentional destructive acts), (4) waste management, and (5) transportation.

Air quality impacts would be negligible under both action alternatives. DOE would use typical radiological containment measures during the waste preparation activities. The combination of these measures and a solid waste form would limit the potential to emit airborne radiological materials. Because the transportation containers and any shielding materials would be returned to SRS as a non-radiological shipment, DOE analyzed non-radiological air quality impacts associated with 62 total vehicle shipments (31 radiological and 31 non-radiological return shipments). The estimated number of truck shipments would produce negligible air emissions, including greenhouse gases, and disposal actions at the commercial facilities would not cause any additional air emissions beyond those already expected from their ongoing, permitted, and/or licensed operations.

Potential impacts to workers at SRS and the public from normal operations would be minimal under both action alternatives. Potential doses to workers would be well within the administrative control level for SRS workers and would result in zero latent cancer fatalities (LCFs). In addition, DOE would implement measures (*e.g.,* use of shielding and personal protective equipment) to minimize worker exposures and maintain doses as low as reasonably achievable. Because there would be no radiological emissions or effluents associated with either of the alternatives, and no direct radiation dose off site, there would be no dose to the public

from normal operations. Potential impacts from disposal actions at the commercial disposal facility would not result in any notable increase in human health impacts beyond those already expected from ongoing LLW disposal operations under the disposal facility's environmental permits and license.

An accident or intentional destructive act involving the contaminated process equipment during on-site activities would result in minimal impacts to workers and the public. Because the contaminated process equipment would be placed in a disposal container and encased in grout and foam to fill any void spaces, there would be no dispersion of radiological materials that could occur from a drop during any lifting operations. The maximum reasonably foreseeable result of this drop would include damage to the disposal container that would require repackaging. If this were to occur, operations personnel would move away from the event and develop a plan to cover the equipment (to prevent direct radiation effects) and repackage the equipment in a replacement disposal container. These recovery actions would be planned in accordance with the site procedures under principles to maintain radiological exposure as low as reasonably achievable. Any potential worker doses would be significantly below DOE's administrative control level of 2,000 millirem (mrem) per year for a worker, and below the SRS contractor's administrative control level of 500 mrem per year. This exposure would be expected to result in zero LCFs. There would be no dispersion or release of radiological materials from an accident involving contaminated process equipment on site; therefore, DOE would not expect any off-site consequences from this accident scenario.

Waste management impacts at SRS and the potential disposal sites would be minimal. Based on sample data (see Appendix A of the Final EA), DOE has a sound basis to conclude that the waste stream meets Criterion 1 of the HLW interpretation. At the time of implementing any

of the alternatives, DOE would follow the waste acceptance process for the commercial disposal facility. The wastes would only be accepted for disposal if the volume and radiological constituents fall within the bounds of the applicable facility's license and waste acceptance criteria. As a result, the LLW would result in negligible waste management impacts for either licensed disposal facility.

The transportation of contaminated process equipment would involve approximately 31 radiological truck shipments and 31 non-radiological return truck shipments under both Alternatives 1 and 2. The primary difference between the two alternatives is the distance traveled from SRS. Under Alternative 1, disposal containers would be shipped from SRS to WCS (approximately 1,400 miles) and under Alternative 2, disposal containers would be shipped from SRS to WCS or Energy*Solutions* (approximately 2,200 miles). The waste would be packaged and shipped in accordance with USDOT requirements. The potential radiological and nonradiological risks to the truck crew and the public along the transportation route would be negligible. In the event an accident did occur, impacts to water and ecological resources would be extremely unlikely because the solid form would not be dispersible.

Consistent with both CEQ and DOE NEPA regulations, the analysis in the Final EA focused on the subjects relevant to the Proposed Action and potential impacts. Based on a screening analysis described in the Final EA, the following resource areas did not require additional detailed analysis: land use; noise; geology and soils; visual, water (surface, groundwater, and wetlands), and ecological resources (biota, threatened and endangered species); cultural and paleontological resources; socioeconomics and environmental justice; infrastructure and utilities; and industrial safety.

IV. External Review and Comments

Three comment documents were received during the public comment period on the Draft EA. Commenters included one Federal agency, one state agency, and one local community organization. Appendix B of the Final EA includes the comments delineated within each comment document and DOE's responses to the comments. DOE considered all public comments received in preparing the Final EA.

V. Determination

In the Final EA, DOE evaluated the potential environmental impacts associated with packaging, transportation, and disposal of contaminated process equipment from SRS at a licensed commercial LLW disposal facility outside of the state of South Carolina. Implementation of either action alternative analyzed in the Final EA would entail minor impacts and low risks and would not constitute a major Federal action significantly affecting the quality of the human environment in accordance with DOE's NEPA implementing procedures, 10 CFR part 1021, and the regulations promulgated by the CEQ for implementing NEPA, 40 CFR 1501.6. Therefore, the preparation of an environmental impact statement is not required.

Based on the analysis in the Final EA, DOE intends to ship the contaminated process equipment to the WCS FWF, a licensed off-site commercial disposal facility located in Andrews County, Texas, for disposal (Alternative 1). DOE has characterized the contaminated process equipment, which included sampling analyses (see Final EA, Appendix A), and prepared a technical evaluation and an official determination that demonstrate and document, that the SRS contaminated process equipment meets Criterion 1 for non-HLW under DOE's interpretation of the AEA and NWPA definition of HLW. The technical reports are available at: https://www.energy.gov/em/high-level-radioactive-waste-hlw-interpretation. Current characterization analysis shows that the disposal containers of contaminated process equipment

are either Class B LLW (Tank 28F salt sampling drill string) or Class C LLW (glass bubblers and glass pumps). Of the licensed commercial facilities analyzed in the Final EA, the WCS FWF is the only facility that can accept Class B and Class C LLW for disposal. DOE intends to initiate shipments of the SRS contaminated process equipment in 2023.

Signing Authority

This document of the Department of Energy was signed on July 14, 2023, by Kristen G. Ellis, Acting Assistant Principal Deputy Assistant Secretary for Regulatory and Policy Affairs, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Signed in Washington, DC, on July 14, 2023

Kristen G. Ellis Digitally signed by Kristen G. Ellis Date: 2023.07.14 08:32:04 -04'00'

Kristen G. Ellis
Acting Associate Principal Deputy Assistant
Secretary for Regulatory and Policy Affairs
Office of Environmental Management