



Finding of No Significant Impact and Final Environmental Assessment for the Commercial Disposal of Defense Waste Processing Facility Recycle Wastewater from the Savannah River Site

Summary

The Department of Energy (DOE) issued two National Environmental Policy Act (NEPA) documents, a Finding of No Significant Impact (FONSI) and the Final Environmental Assessment (Final EA) that show Defense Waste Processing Facility (DWPF) recycle wastewater from the Savannah River Site (SRS) can be safely disposed of as low-level radioactive waste (LLW) at a commercial facility outside of the state of South Carolina. DOE has concluded the DWPF recycle wastewater meets the criteria for disposal as LLW in accordance with its radiological characteristics.

Why DWPF Recycle Wastewater?

This waste stream was chosen as the first action for an environmental assessment in applying DOE's interpretation of the definition of high-level radioactive waste (HLW) in the Atomic Energy Act of 1954, as amended, and Nuclear Waste Policy Act of 1982, as amended because: (1) it will inform DOE's planning on disposal options during the latter stages of SRS tank closure (2031-2034); (2) it provides the potential for flexibility in disposition paths for this type of reprocessing waste; and (3) it is anticipated to be Class A, B, or C LLW that could be disposed of at current commercial disposal sites.

Finding of No Significant Impact

The analyses of the three action alternatives in the *Final Environmental Assessment for the Commercial Disposal of Defense Waste Processing Facility Recycle Wastewater from the Savannah River Site* demonstrates that there are low environmental and human health impacts. Based on that analysis, the *Finding of No Significant Impact for the Commercial Disposal of Defense Waste Processing Facility Recycle Wastewater from the Savannah River Site* determined that, within the next 12 months, DOE intends to initiate the shipment of a small quantity (up to 8 gallons) from the up to 10,000 gallons of DWPF recycle wastewater to the Waste Control Specialists (WCS) site for treatment and disposal (Final EA Alternative 2, see below).

Based on current characterization analysis, this waste is anticipated to be Class B LLW. Of the licensed commercial facilities analyzed in the Final EA, the WCS facility is the only facility that can accept Class A, B, and C LLW for disposal. In addition, the WCS facility has the capability to stabilize (grout) the DWPF recycle wastewater on-site prior to disposal. DOE has evaluated representative samples of the DWPF recycle wastewater and determined that it would meet criterion 1 for non-HLW under DOE's HLW interpretation. Technical reports are available at: <https://www.energy.gov/em/program-scope/high-level-radioactive-waste-hlw-interpretation>.

Proposed Action in the Final EA

DOE's Proposed Action in the Final EA is to dispose of up to 10,000 gallons of stabilized (grouted) DWPF recycle wastewater from the SRS at a commercial LLW disposal facility located outside of South Carolina and licensed by either the Nuclear Regulatory Commission or an Agreement State under 10 CFR Part 61.

Treatment and Disposal Alternatives in the Final EA

The Final EA analyzed the following three action alternatives:

- **Alternative 1:** Deploy retrieval and on-site treatment capability at SRS to stabilize up to 10,000 gallons of DWPF recycle wastewater and then transport the solid waste form to a licensed commercial LLW disposal facility. The stabilization technology planned for the DWPF recycle wastewater is grout. Depending upon whether the final packaged waste form is classified as Class A, B, or C LLW, it would then be shipped for disposal to either WCS site in Texas and/or the EnergySolutions site in Utah¹.
- **Alternative 2:** Retrieve and transport up to 10,000 gallons of SRS DWPF recycle wastewater to a licensed commercial LLW disposal facility (WCS or EnergySolutions site) with the capability to stabilize (grout) and dispose of the final waste form.
- **Alternative 3:** Retrieve and transport up to 10,000 gallons of SRS DWPF recycle wastewater to a permitted and/or licensed commercial treatment facility for stabilization (grouting), and then transport the final solidified waste (grout) form to a licensed commercial LLW disposal facility (WCS or EnergySolutions).
- **No Action Alternative:** The up to 10,000 gallons of DWPF recycle wastewater would remain in the SRS liquid waste system until disposition occurs. In this alternative, the exact process has not yet been established for the final years of the DWPF mission (2031-2034), when DOE will no longer have the option of returning DWPF recycle wastewater to the tank farm and the Salt Waste Processing Facility for processing.

¹ The WCS site is licensed by the Texas Commission on Environmental Quality for the disposal of Class A, B, and C LLW. The EnergySolutions site is licensed by the Utah Department of Environmental Quality for the disposal of Class A LLW.