



High-Level Radioactive Waste Interpretation

Summary

On October 10, 2018, the Department of Energy (DOE) issued a Federal Register Notice (FRN) requesting public comment on DOE's interpretation of the statutory term "high-level radioactive waste" (HLW).

DOE is now issuing a supplemental FRN that provides additional explanation of DOE's interpretation as informed by public review and comment and further consideration by DOE following the October 10 Notice. If implemented through subsequent actions, the HLW interpretation would provide a safe and appropriate pathway to remove and dispose of reprocessing waste from the three states where it now resides.

During the 90-day public comment period on the October 10 Notice, DOE received 5,555 comments, roughly 360 of which were distinct, unrepeatable comments, from a variety of stakeholders: members of the public, Native American tribes, members of Congress, numerous state and local governments, and one federal agency, the Nuclear Regulatory Commission (NRC).

The interpretation is intended to facilitate the safe disposal of defense reprocessing waste based primarily on the radiological characteristics of the waste, and whether it can be disposed of safely in a facility other than a deep geological repository.

Path Forward

Decisions about whether and how this interpretation of HLW will apply to existing wastes will be the subject of subsequent actions. In the meantime DOE will continue its current practice of managing defense reprocessing wastes as HLW.

As a first step in determining whether and how this HLW interpretation could apply to a particular waste stream, DOE is initiating a public process under the National Environmental Policy Act to analyze the potential environmental impacts associated with disposing of certain waste from the Savannah River Site at a commercial disposal facility located outside South Carolina that is licensed by either the NRC or an Agreement State under 10 CFR Part 61 to receive low-level radioactive waste (LLW). At this time, DOE is not considering whether to apply the HLW interpretation at any other site or for any other waste stream.

DOE will continue in the normal course to evaluate its waste inventories and related management and disposal options, and expects to engage openly with stakeholders regarding potential future opportunities to apply the HLW interpretation to other specific waste streams. Any potential additional implementation of the HLW interpretation would be evaluated on a waste stream by waste stream basis, and the Department would work closely with local officials, regulators and stakeholders where reprocessing waste is stored and where such waste might be disposed of, before any disposal decisions were made.

This interpretation does not change or revise any current policies, legal requirements, or agreements with respect to HLW. The interpretation does not, and will not be used to, diminish DOE's responsibilities under existing laws, regulations, agreements, or permit requirements, or to change DOE's existing legal authorities or those of its regulators at the federal, state, or local levels.

Key Considerations

The safety and health of the public, workers and the environment is DOE's top priority. Cleanup and disposition of radioactive waste will continue to proceed in a safe and transparent manner.

DOE's goal is to demonstrate that waste can be removed from the states where it is currently stored, and be disposed of in facilities constructed and licensed to safely accommodate such waste.

The NRC will continue to play its existing, critical role in waste disposition.

Timeline

- DOE issued a Federal Register Notice inviting the public to comment on the HLW interpretation—October 2018
- DOE extended the public comment period to January 9, 2019 at the request of stakeholders—December 2018
- DOE issued a Supplemental Federal Register Notice explaining how DOE considered public comments on the HLW interpretation – June 5, 2019
- DOE issued a Federal Register Notice announcing intent to prepare National Environmental Policy Act documentation to analyze disposing of Defense Waste Processing Facility wastewater from the Savannah River Site at a commercial low-level radioactive waste disposal facility under the HLW interpretation – June 5, 2019

Description of High Level Radioactive Waste Interpretation

DOE may determine that waste is not “highly radioactive” and is therefore not HLW if the waste:

- (i) does not exceed concentration limits for Class C low-level radioactive waste as set out in section 61.55 of title 10, Code of Federal Regulations, and meets the performance objectives of a disposal facility; or
- (ii) 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.

Waste meeting either of these tests could be classified based on its radiological content and disposed of in accordance with the disposal facility waste acceptance criteria; allowable radionuclide content; waste form and packaging; and required waste generator certifications and approvals.

While developing waste disposition plans, and before any waste disposal decisions are made, DOE will work closely with state and federal regulators to ensure compliance with applicable requirements and regulatory agreements.

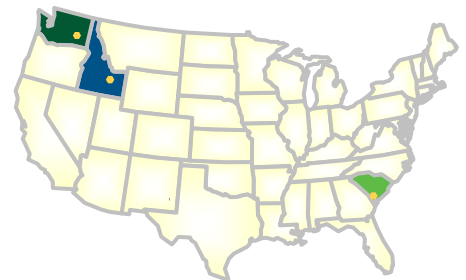
DOE and the commercial nuclear industry have decades of experience with the safe and effective disposal of low-level radioactive waste. This approach brings the United States into alignment with how other countries with nuclear programs perform radioactive waste management.

DOE Sites with Potentially Impacted Waste

The HLW interpretation may apply to DOE reprocessing waste currently in storage at three sites in the DOE Environmental Management complex. These sites are shown in the map below. The HLW interpretation will not apply to reprocessing waste currently in storage at the West Valley Demonstration Project (WVDP) in New York. WVDP operates under a distinct statutory and regulatory basis pursuant to the West Valley Demonstration Project Act (Public Law 96-368).

Locations and Primary Waste Streams

- Savannah River Site, SC: 4,190 canisters of vitrified waste and 35 million gallons of reprocessing waste.
- Idaho National Laboratory, ID: 4,400 cubic meters of solid calcine waste¹ and 3,210 cubic meters of sodium-bearing waste.
- Hanford, WA: 56 million gallons of waste stored in 177 underground tanks and 1,936 cesium and strontium capsules.



Potential Benefits of the Interpretation, if Implemented, Include:

Improve Public and Worker Health and Safety – Significant benefits in safety at DOE sites would result from using lower-complexity waste treatment and immobilization approaches to reduce the risks of long-term management and storage of reprocessing waste, and by eliminating the need for ongoing active human controls.

Protect the Environment – This approach could open new safe and permanent disposition paths for removing reprocessing waste from the states where it has been stored for decades at DOE sites with no near-term path for disposal, thereby reducing EM's largest environmental risk.

Create a Risk-Informed Framework for All Radioactive Waste Disposal – This approach aligns with international guidelines for management and disposal of radioactive waste based on radiological risk rather than the source of the waste.

Allow for Acceleration and Cost Efficiency – This approach is expected to enable DOE to move forward with its vital cleanup mission in a faster and more cost-effective manner to serve as a strong steward of public resources while maintaining safety as the highest priority.



¹ Liquid reprocessing waste at the Idaho National Laboratory was treated and converted into a dry, granular solid called calcine.