

Nuclear Energy

DOE NE Program Update: A Path Forward on Nuclear Waste

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An Adaptive, Consent-Based Path to Nuclear Waste Storage and Disposal

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In January 2013, the Administration issued its Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste.

The Strategy embraced the core findings of the Blue Ribbon Commission on America's Nuclear Future and affirmed that any workable solution for the final disposition of used fuel and nuclear waste must be based not only on sound science, but also on achieving public acceptance at the local, state and tribal levels.



Parallel Path Forward

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On March 24, President Obama authorized the Energy Department to move forward with planning for a separate repository for high-level radioactive waste resulting from atomic energy defense activities.

Secretary Moniz announced three specific actions that the Department will undertake –

- Planning for a defense-only repository
- Moving forward with planning for interim storage of commercial spent fuel
- Moving forward with a consent-based siting process for both types of facilities





A number of circumstances have changed since the 1985 decision to "comingle" defense and commercial waste, including the following –

- The Cold War is over and the U.S. is no longer generating high-level waste from weapons production. Thus, the inventory of defense high level waste is essentially fixed and known.
- Defense high level waste streams are heterogeneous, existing in many different waste forms, which creates opportunities for different disposal pathways.
- The 1985 decision assumed a repository would be available in 1998 and did not envision the legal binding agreements with the States in place today to remove DOE HLW by dates certain.



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Projected Volumes DOE Managed HLW and Spent Nuclear Fuel (metric tons)

Commercial and DOE-Managed DOE-Managed DOE-Managed HLW HLW and SNF **HLW and SNF** Treated sodium-bonded fuel wastes Vitrified Cs-Sr 132 Sodium-bearing capsules <1% WVDP HLW glass waste 453 245 721 2% 1% 3% Germany HLW glass 3 <1% DOE HLW 26,260 **Existing SRS** HLW glass Treated Commercial SNF 2,969 Calcine waste 183,896 DOE SNF and HLW 11% 3.661 85% 33,424 14% 15% HLW glass DOE SNF (includes naval SNF) 7,165 **Projected Hanford** 3% HLW glass 14,089 54% Source - Assessment of Disposal Options for DOE

Source – Assessment of Disposal Options for DOE Managed High-Level Radioactive Waste and Spent Nuclear Fuel, October 2014



Conclusions

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The Department of Energy is committed to moving forward with development of management strategies and technologies for the transportation, storage and disposal of used nuclear fuel and high-level radioactive waste.

The Used Nuclear Fuel Disposition program is:

- Laying the foundation for the development of storage, transportation and disposal options.
- Planning for a defense-only repository
- Moving forward with planning for interim storage of commercial spent fuel
- Moving forward with a consent-based siting process for both types of facilities