Department of Energy: Spent Nuclear Fuel Siting and Disposal Programs

MARLA MORALES

Director, Office of Collaboration-Based Siting

Acting Director, Office of Disposal Research and Development

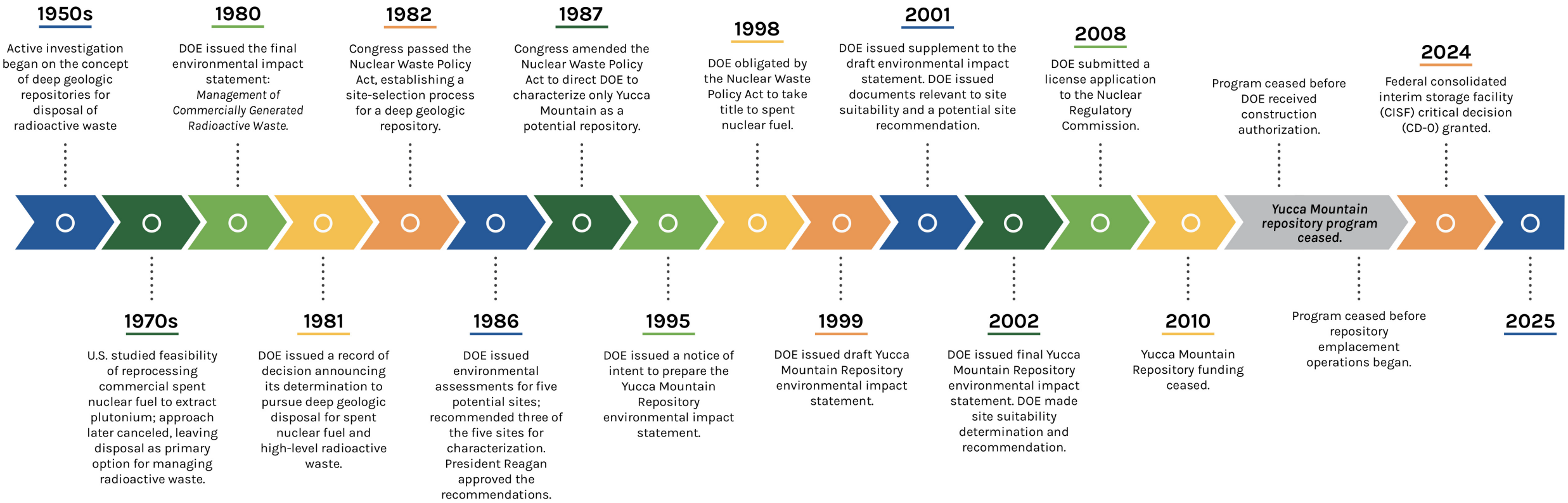
U.S. Department of Energy (DOE)

RadWaste Summit

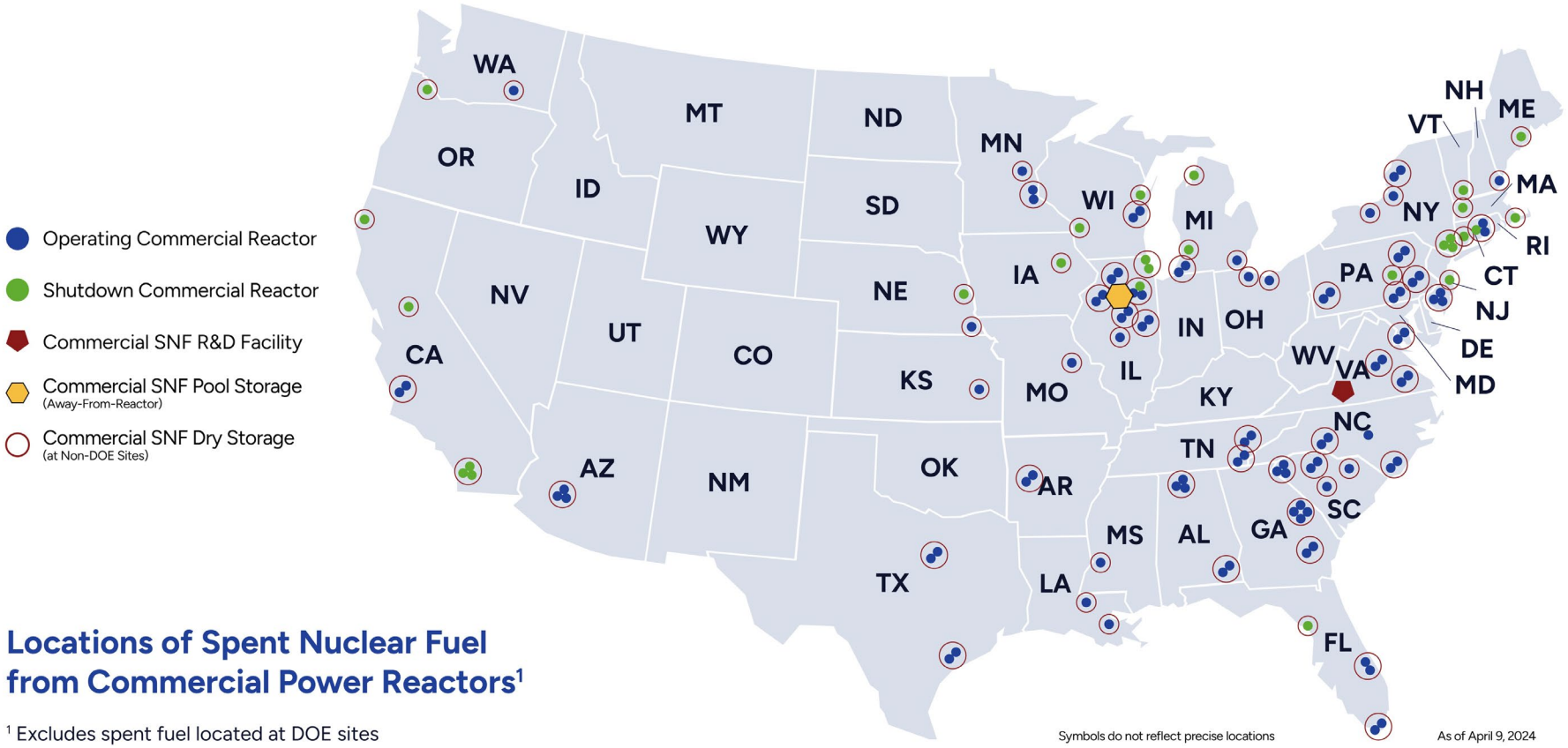
June 2025

Where The Story Starts

Timeline History of Deep Geologic Repository Program



U.S. SNF in Context



Locations of Spent Nuclear Fuel from Commercial Power Reactors[1]

[1] Excludes spent fuel located at DOE sites

1958

United States began using commercial nuclear power

2025

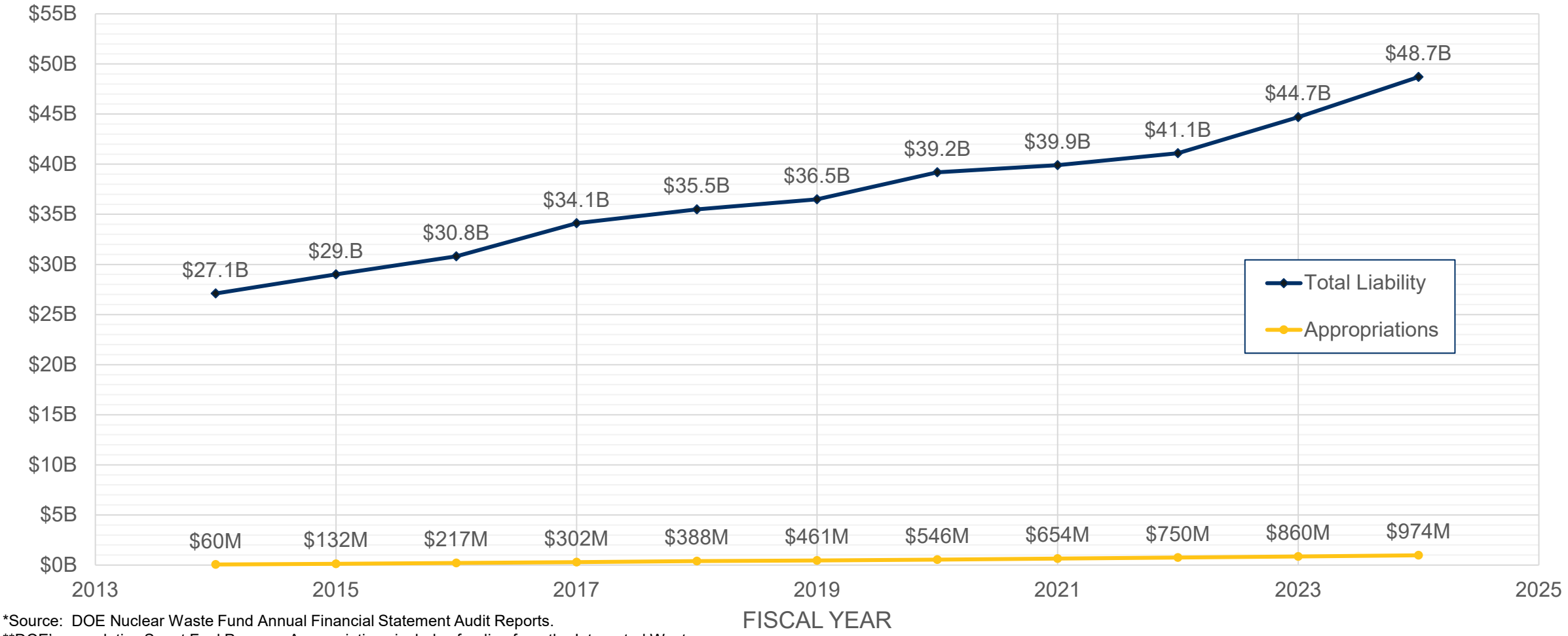
94 operating commercial reactors at 54 nuclear power plants in 28 states

- 20 nuclear power plants have shut down
- ~95,000 metric tons of SNF

End of Current Fleet

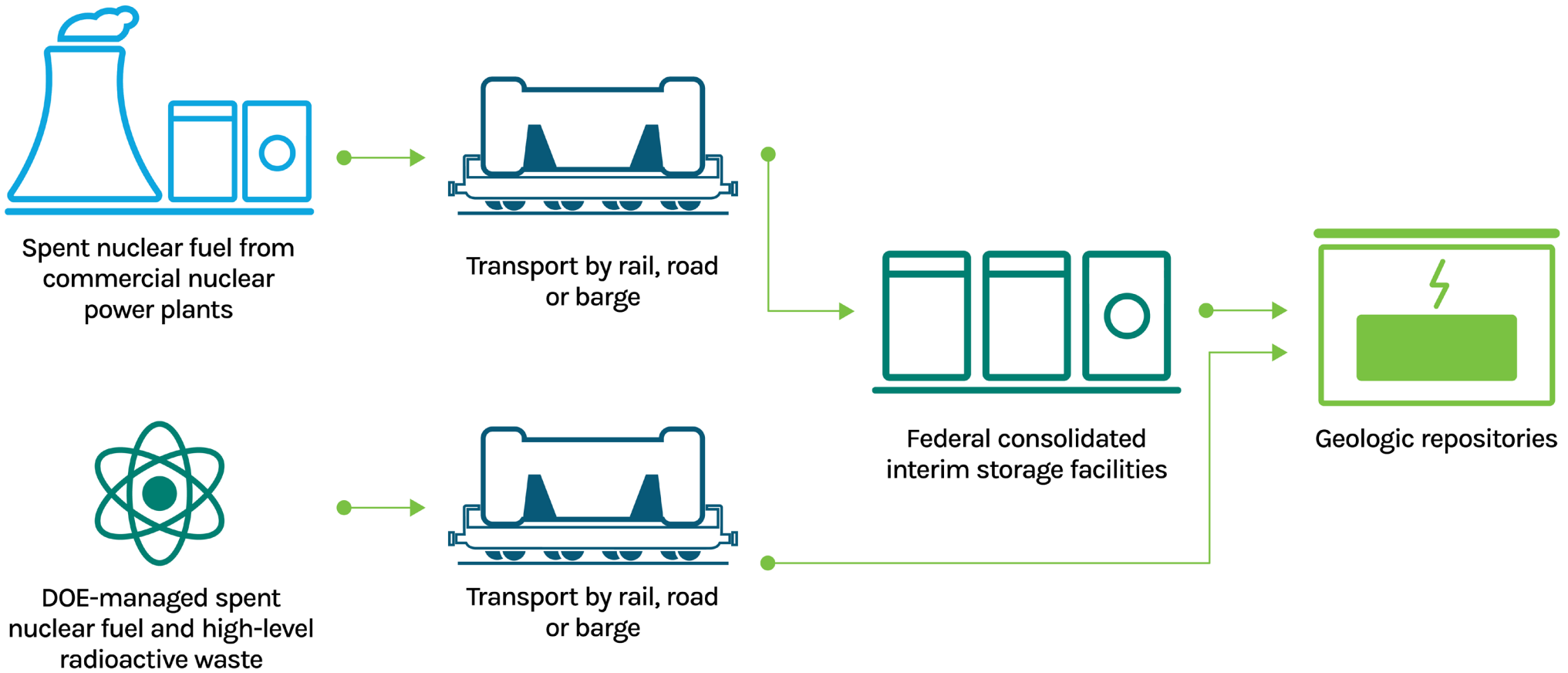
United States estimated to have up to approximately 180,000 metric tons of commercial SNF

Taxpayer Liability for Spent Nuclear Fuel (SNF)

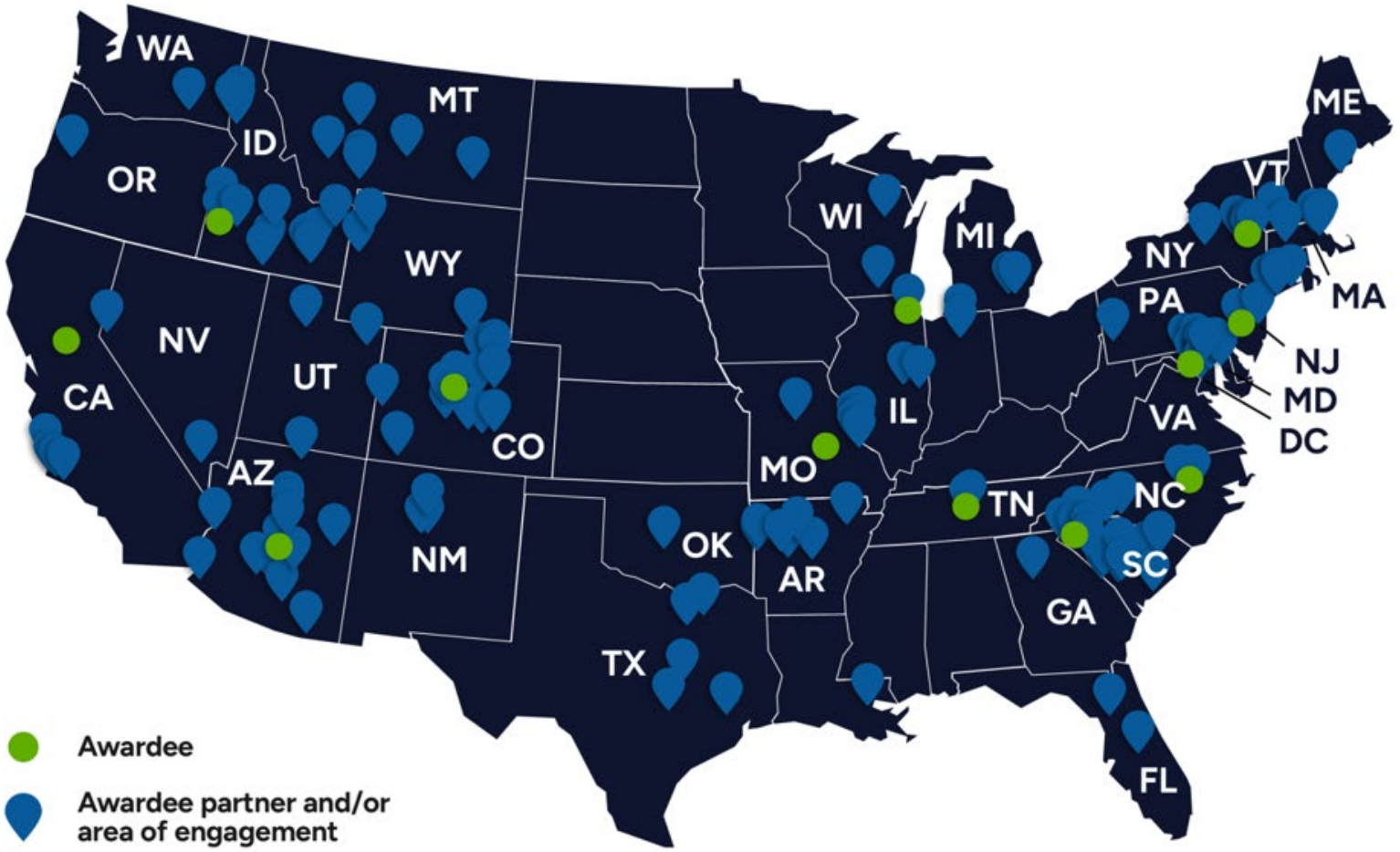


*Source: DOE Nuclear Waste Fund Annual Financial Statement Audit Reports.
**DOE's cumulative Spent Fuel Program Appropriations includes funding from the Integrated Waste Management System, Used Nuclear Fuel Disposition, and the Nuclear Waste Fund Oversight Programs.

Integrated Waste Management System for SNF and HLW

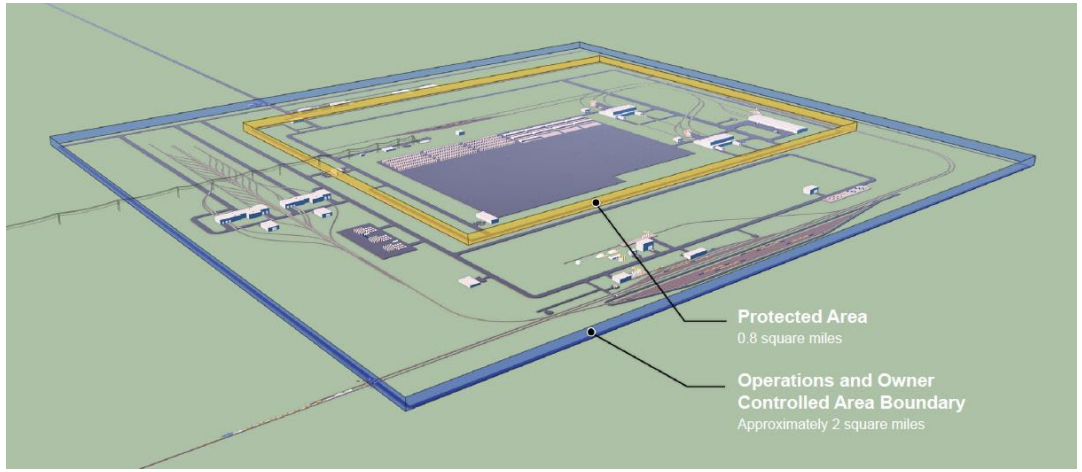


Changing The Conversation – Where To Begin

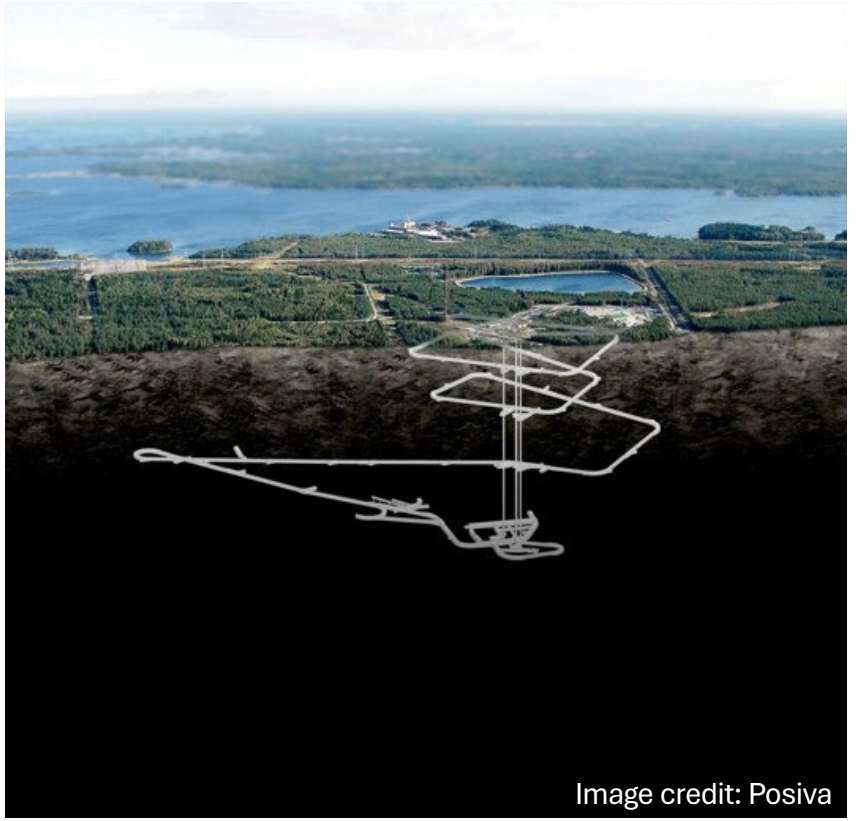


Spent Nuclear Fuel Disposition – What are the Options

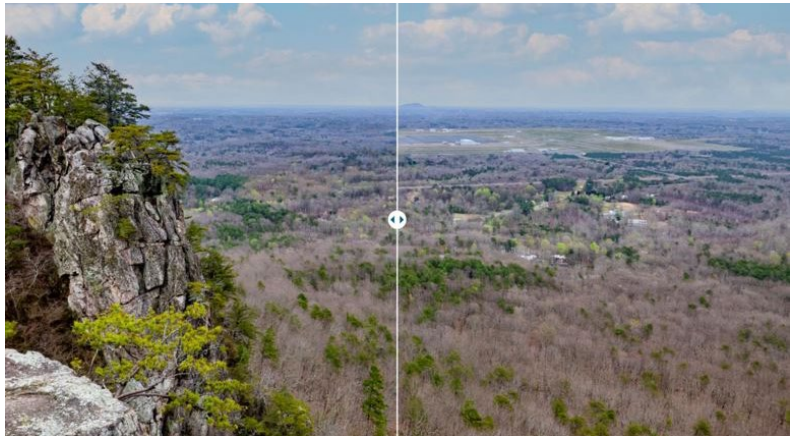
Federal Consolidated Interim Storage



Deep Geologic Repository



What Could the Future Hold – Envisioning the Future



- DOE is developing tools to assist interested parties envision what a proposed facility could look like in their area

Conclusion

- We have a good start for the Integrated Waste Management System for managing the country's HLW and SNF.
- Public trust for management of SNF is important for the expansion of nuclear power.
- We are making small tangible steps to build public confidence and trust.
- We will continue to build on the momentum to move to the next step.
- In 2025 in collaboration with DOE EM and DOE Naval Reactors we hope to have the outline of an integrated waste management plan for the total life cycle of the program.

U.S. DEPARTMENT *of* ENERGY | Office of Nuclear Energy

Spent Fuel and High-Level Waste Disposition