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Disposal Drives Cleanup

*Re-energizing Momentum for Disposal
Solutions for Radioactive Waste*

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Largest Impediment to Cleanup

Identifying and implementing final disposal paths for all waste streams is the largest impediment to“cleanup” of the environmental legacy resulting from nuclear weapons and government-sponsored nuclear research activities.



Driving Disposal Forward

The U.S. Department of Energy needs to use the tools available to move radioactive waste disposal forward to potentially save hundreds of billions of dollars in taxpayer-funded cleanup costs.

See U.S. Government Accountability Office. Nuclear Waste Cleanup: Hanford Site Cleanup Costs Continue to Rise, Opportunities Exist to Save Tens of Billions of Dollars, July 29, 2022 GAO-22-105809; ECA, Making Informed Decisions DOE's Proposed High Level Waste Definition, May 2019; and Department of Energy, Evaluation of Potential Opportunities to Classify Certain Defense Nuclear Waste From Reprocessing as Other than High-Level Radioactive Waste (2020).

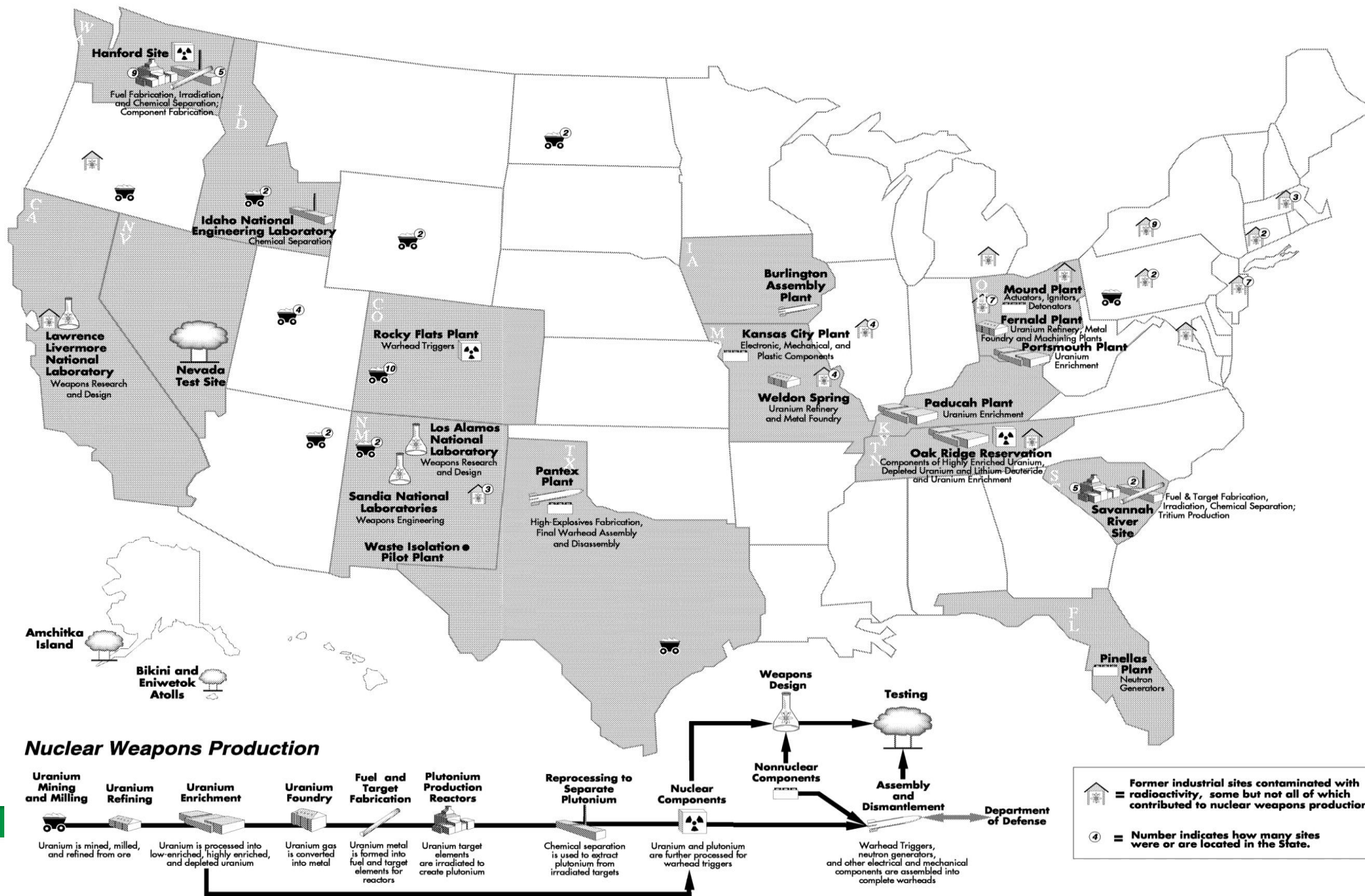


Need for Repositories for the Largest Hazard Waste

While DOE has made substantial progress across the cleanup complex in creating waste repositories for specific types of waste, they appear to have stalled in developing, implementing, and finalizing disposal locations and plans for all waste, especially for some of the most challenging materials that pose the largest hazards and costs.



Cold War DOE Weapons Complex



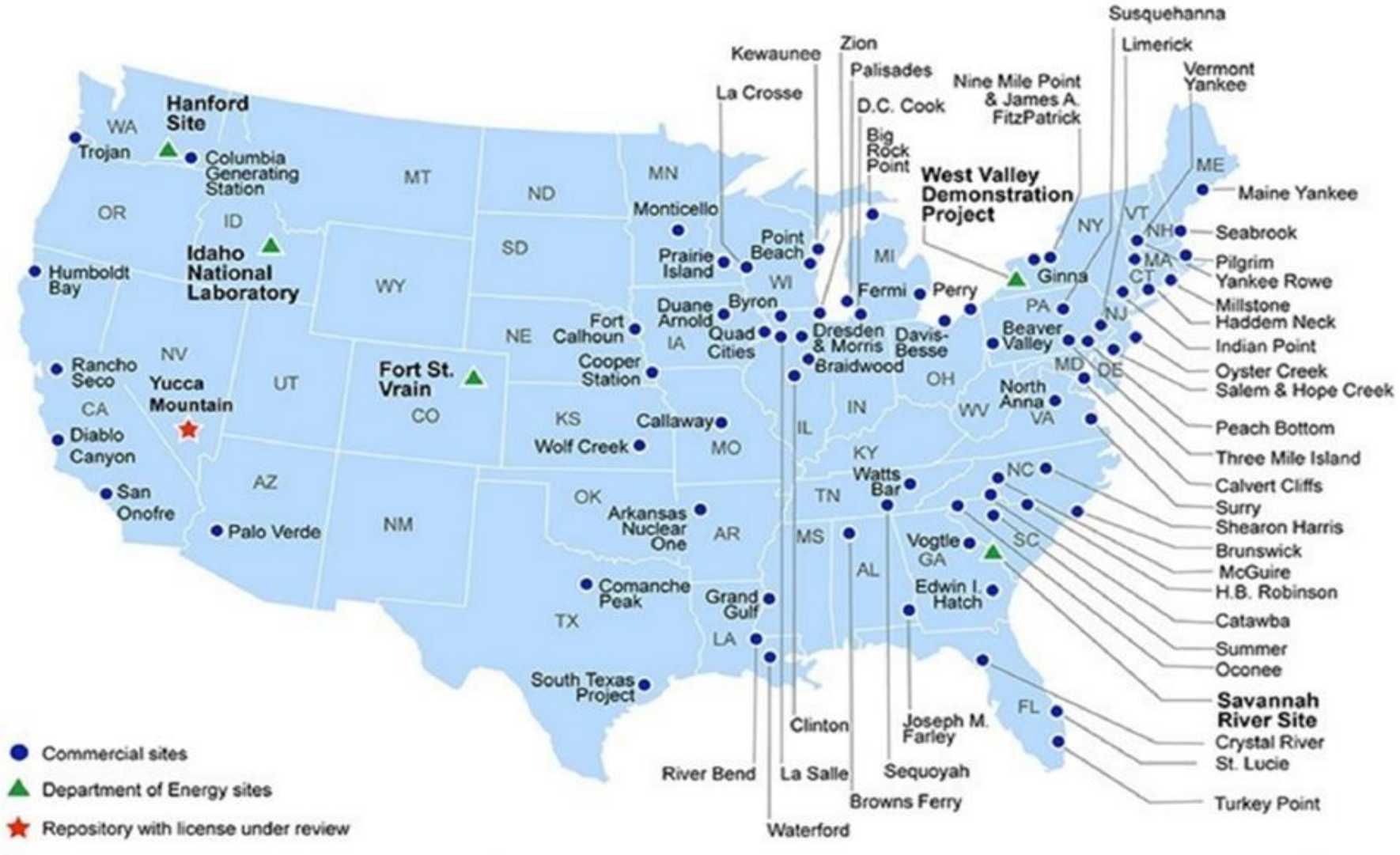
Location of Stranded DOE Waste Streams



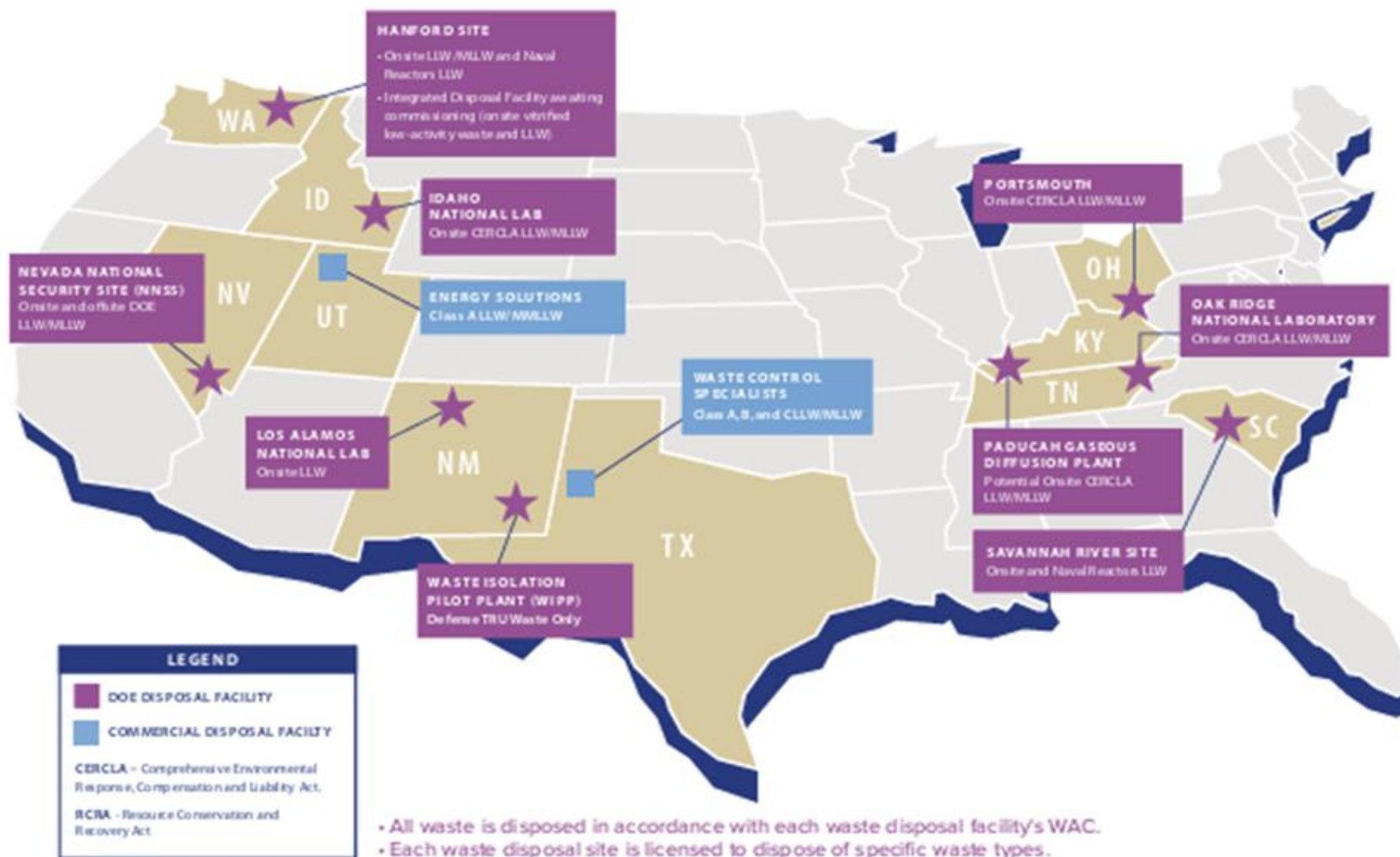
• GTCC LLW is located at numerous sites throughout the U.S.



Location of SNF and HLW in the United States



DOE + Commercial LLW Disposal Facilities





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NUCLEAR WASTE CLASSIFICATIONS

Spent Nuclear Fuel

Fuel elements that have been used at nuclear reactors and no longer produce enough energy to sustain a nuclear reaction

Highly radioactive and thermally hot

High-Level Waste

Highly radioactive waste material resulting from the reprocessing of spent nuclear fuel, e.g., that contains fission products in sufficient concentrations and requires disposal in a deep geologic repository

Transuranic Waste

Radioactive waste containing more than 100 nanocuries of alpha-emitting transuranic isotopes per gram of waste, with half-lives greater than 20 years

Low-Level Waste

Radioactive waste that is not high-level radioactive waste, spent nuclear fuel, transuranic waste, byproduct material or naturally occurring radioactive material

Mixed waste

Contains both radioactive and chemically hazardous materials

Adapted from DOE Order 435.1

ECA – Requesting Action

- ECA supports the EM Mission
- ECA Recognizes the Accomplishments of EM
- ECA Wants to See Cleanup Completed in our lifetime

9 Recommendations to Move the Proverbial Ball Forward...

All Require Action



Recommendation 1

Prioritize Use of the High-Level Waste Interpretation

HLW interpretation is an invaluable tool in DOE's waste disposition toolbox.

DOE's actions can solidify its commitment to state and local communities to move radioactive material while reducing costs, expediting cleanup activities, and allowing DOE to focus sooner on other high-priority cleanup projects, ultimately reducing higher risks across the complex.

DOE should re-energize its use of the HLW interpretation, including pursuing a pilot implementation at Hanford for a single-specific waste stream.

DOE moved 8 gallons of waste from the Savannah River Site under this HLW interpretation in the last several years, but DOE can and must do better if they are going to save over \$200 billion in cleanup costs.



Recommendation 2 – Support and Complete the Consent-Based Siting Process.

DOE should support and complete its latest attempt to utilize consent-based siting to identify interim storage sites, while also applying consent-based siting to identify final disposal for defense- and commercial-SNF and DOE-managed HLW.

DOE needs to make the disposal of defense-related SNF and HLW of equal priority, and geological repository siting should proceed in parallel with efforts to develop an interim storage site.



Recommendation 3

Select a Disposal Site for GTCC Waste.

DOE and Congress should take action to advance the development of a GTCC LLW disposal facility (including completing requirements included in the Energy Policy Act of 2005), and provide DOE funding for access to, or development of, such a facility and financial assistance to communities interested in hosting GTCC LLW disposal.

An operating GTCC LLW disposal facility will help ensure DOE can maximize the use and benefit of its HLW interpretation, as well as provide a necessary disposal pathway to allow DOE to complete cleanup work at the West Valley Demonstration Project in New York state and to aid commercial nuclear decommissioning efforts.



Recommendation 4

Support WIPP and Develop and Issue Long-Term, Integrated Plans for Operations

WIPP is Critical for National Defense and EM

DOE should develop and issue a long-term, integrated plan and schedule for the Waste Isolation Pilot Plant (WIPP) that considers the total transuranic (TRU) waste inventory across the complex, disposal space needs, potential upgrades for WIPP, and impacts of current and future National Nuclear Security Administration (NNSA) missions (e.g., pit production at Los Alamos National Laboratory and Savannah River Site), among other factors.



Recommendation 5

Continue to Emphasize Regular, Meaningful Engagement with Communities

DOE should continue to prioritize and provide resources for regular and meaningful engagement with local, state and Tribal governments, regulators, and stakeholders representing communities that host, or could potentially host, disposal facilities. This engagement should be proactive and focus on the Administration's commitment to environmental justice. It should also seek to go beyond regulatory requirements, including early discussions on potential locations and approaches, as well as programmatic and strategic planning, for onsite disposal facilities ahead of any public announcement of proposed sites.



Recommendation 6

Provide Technical Assistance to Communities to Address Waste Issues

To the extent requested by a community, DOE should proactively provide financial assistance to local communities (like it does for others) where disposal facilities are already sited, or could potentially be sited, to obtain independent technical expertise and to assist with understanding the risks of the site, education and outreach, oversight, environmental sampling and long-term monitoring, and to build capacity and communication channels to ensure citizens are informed.



Recommendation 7

Re-evaluate the Practice of Incentivizing Contractors to Open a Waste Site in the Contracting Process Prior to Obtaining Community Support and Regulatory Approval.

DOE should re-evaluate cleanup contracts to decouple performance bonuses from the schedule for onsite disposal of waste. The process gives the impression that the decision is made prior to the analysis of the protection of human health and the environment. Incentive-based contracting places too many constraints and excessive pressure on the Department, its contractors, and regulators to make near-term decisions that may not be in the long-term best interests of the community or the federal government.



Recommendation 8

Maximize the Use of Public and Private Disposal Site Options.

DOE needs to ensure that it is maximizing the use of ALL available options—including commercial disposal sites with federal disposal cells that took years to locate, develop, and open. Cells located at these sites can provide crucial capabilities to DOE that likely would be near-impossible to replicate today. Portions of these sites will ultimately become the federal government’s responsibility, as DOE maintains liability for its waste after closure of commercial facilities, so it is in DOE’s best interest to ensure these sites are used to aid the Department’s cleanup mission for as long as possible, rather than risk premature closure due to underutilization.



Recommendation 9

Create Tools to Show a Community the Impacts of Waste Decisions

When Asking a Community to Host Additional Disposal Sites ... Providing the community with the real costs - annually - of storing waste, of on-site versus off-site disposal, and a realistic timeline for when work can be accomplished. Introducing this level of transparency is important to gain trust and to facilitate the understanding.

WAC is important!



DOE Needs to Take Action to Champion the Cause

The Goal of the Report is Create a Dialog on the Fact that Cleanup Cannot Occur at many Sites without a Disposal Pathway Being Available.

We can't ignore it or pretend that it is just going to happen.

DOE needs to work on the issues and develop the solutions.



DISPOSAL DECISIONS REQUIRE LOCAL SUPPORT

Without local support, trust that the Department can and will accomplish its mission falters. However, by ensuring there is a framework for meaningful, iterative interaction, and by prioritizing that interaction across the complex, DOE can build trust in future approaches to disposal decisions...

[Link to Paper](#)

Energy Communities Alliance (ECA) is the only non-profit, membership organization of local governments adjacent to or impacted by U.S. Department of Energy activities, commercial nuclear facilities and potential hosts for new nuclear development. We bring together local government officials to share information, establish policy positions, and promote community interests to address an increasingly complex set of constituent, environmental, regulatory, and economic development needs.

QUESTIONS

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