



NEW POTENTIAL DISPOSITION AND STORAGE PATHS

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**Waste Disposition:
A New Approach to DOE's Waste Management
Must Be Pursued**



“For too long ... disposal decisions have been made based on artificial standards, ones that base waste classification on origin versus the actual characteristics and risk to human health arising from the waste.”

<http://www.energyca.org/publications/>



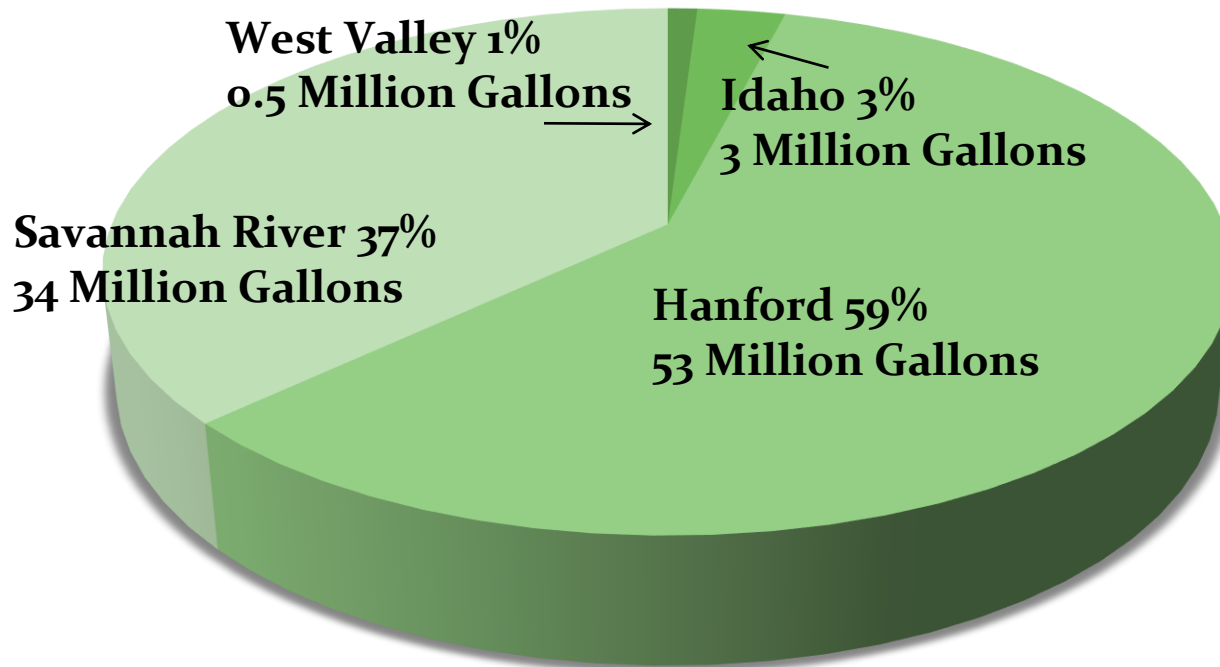
ECA Initiative

Push DOE and Congress
to consider alternative options
to move waste disposition and cleanup forward
to provide additional storage and disposal paths
for the waste.

- *WIPP*
- *Waste Control Specialists*
- *Holtec International*
- *Deep Isolation*



Tank Waste Volumes Nationally



More than half of the budget for
DOE's Office of Environmental Management
is spent on tank waste



What Problems Does HLW Redefinition Solve?

A shift to **bas**ing treatment and disposal decisions on the *actual* characteristics of the waste and risk to human health and the environment rather than origin can potentially:

- Cut years of operations.
- Accelerate tank retrievals and closures.
- Clear the way for tanks to be closed more easily.
- Allow treated HLW that qualifies as TRU to go to WIPP or a private facility before a HLW repository is available.
- Realize savings of more than \$40 billion.



ECA Recommendations

Two-pronged approach to address this:

An administrative approach that will use existing DOE authorities provided under DOE Order 435.1 to provide the clarity in how waste is defined.

A legislative approach to codify the statutory change in the legal definition.

Should happen in parallel with DOE but assume a longer process for developing any legislation to allow robust education and outreach to stakeholders.



ECA Recommendations

DOE needs to immediately work with the State of New Mexico on a permit modification for WIPP.

- Remove the blanket prohibition on tank wastes and wastes managed as HLW so that any TRU waste that meets the applicable requirements can be disposed of at WIPP.



ECA Recommendations

Congress and DOE should provide full funding for WIPP to support optimal use of WIPP, resumption of mining to increase capacity, and resumption of the full range of waste disposal capabilities.

- Fund capital asset projects including ventilation projects, shaft/conveyance.
- Recognize that other DOE/NNSA decisions in the State of New Mexico impact WIPP decisions



ECA Recommendations

DOE should begin working on pilot projects and waste management policy decisions in order to make full use of the clarified HLW definition.

- Pilot project to demonstrate feasibility of treatment and off-site disposal of Hanford low-activity tank waste.
- Document the technical basis and plan for disposition of certain tank wastes at Savannah River and Idaho as TRU waste to WIPP.



Key Caveats

1. Nothing will leave a site mysteriously once changes are made administratively or legislatively – the receiver sites need work.
2. Nothing goes anywhere unless it meets the WAC of proposed disposal facility.



What are we waiting for?

- Aging infrastructure
- Aging workforce
- 30+ years since NWPA passed
- Increasing lack of trust in DOE/Congress
- Local communities hosting DOE sites already serve as *de facto* interim storage sites and face increasing costs



DOE Existing Authority

- DOE Authority is provided under the *Atomic Energy Act of 1954*, as amended.
- DOE regulates radioactive waste under DOE Order 435.1 and associated implementing manual and guidance documents issued in 1999.
- In accordance with these documents, all radioactive waste subject to DOE Order 435.1 must be categorized as HLW, TRU or LLW.



DOE's Existing Authority and NWPA

- Nuclear Waste Policy Act defines HLW as:

(A) The highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and (B) other highly radioactive material that the Nuclear Regulatory Commission, consistent with existing law, determines by rule requires permanent isolation.

42 USC 10101, Section 2 of Section 2(12)

- In 1998, Congress amended the Atomic Energy Act, including the same definition for HLW as used in the NWPA.



DOE's Existing Authority and NWPA

***“Sufficient concentrations”* have not been quantified, leaving room for DOE to interpret.**



Grassroots Meetings

Briefings held for multiple stakeholder groups

- Congressional staffers
- New Mexico and South Carolina State Officials
- SRS Congressional Workshop
- Nuclear Waste Strategy Coalition
- Northern New Mexico Citizens Advisory Board
- Idaho Governor's Leadership in Nuclear Energy (LINE) Commission
- National Governors Associations Federal Facilities Task Force
- Environmental Council of the States
- SSABs
- EMAB



FY 18 National Defense Authorization Act

SEC. 3139. EVALUATION OF CLASSIFICATION OF CERTAIN DEFENSE NUCLEAR WASTE

“The Secretary of Energy shall conduct an evaluation of the feasibility, costs, and cost savings of classifying covered defense nuclear waste as other than high-level radioactive waste, without decreasing environmental, health, or public safety requirements.”

In conducting the evaluation, the Secretary shall consider:

- (1) the estimated quantities and locations of covered defense nuclear waste;
- (2) the potential disposal paths for such waste;
- (3) the estimated disposal timeline for such waste;
- (4) the estimated costs for disposal of such waste, and potential cost savings;
- (5) the potential effect on existing consent orders, permits, and agreements;
- (6) the basis by which the Secretary would make a decision on reclassification of such waste; and
- (7) any such other matters relating to defense nuclear waste or other reprocessing waste that the Secretary determines appropriate.

The report was due to Congress by February 1, 2018.

Status “unknown”



Yucca Mountain?

- ECA Policy – Support moving ahead with the Yucca Mountain licensing process.
 - Decision should be based on actual science rather than political science. If site is determined not to be safe, there will still be many applicable lessons learned for DOE, the NRC, the EPA and stakeholders that can inform the siting of another HLW repository ***which will still be necessary regardless of whether waste definitions are clarified.***



Next Steps

- Ensure revision of 435.1 remains a priority for DOE.
- Continuous meaningful stakeholder engagement.
- Get resources (DATA!) out to impacted communities and states to provide education and outreach.
 - The evaluation called for in the 2018 NDAA would be an excellent start.
- Begin working with/support NM on permit modification.
 - Increase capacity (how is/should volume be calculated?)
 - Remove prohibition of receipt of tank wastes under Land Withdrawal Act.



Next Steps

- Maximize existing facilities, commercial options and pilot projects.
- Determine how ECA and contractors can leverage our partnership to keep this discussion going.



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RESOURCE SLIDES



Potential Impacts

- Idaho National Laboratory

- 4,400 cubic meters of calcined waste resulting from reprocessing of the navy's SNF.
- Sodium-bearing wastes, derived primarily from the flushing of lines and vessels in new calcine processing facility, is considered HLW even though less than 5% of its liquid volume originated from reprocessing SNF.

- Savannah River Site

- 2,300 canisters (around 30% of vitrified tank waste) can be compliantly categorized as TRU and go to WIPP (assuming it meets the WIPP WAC).
- Offsets the need to build additional storage capacity and costs of indefinite storage.



Demonstrate Sense of Urgency

2017 GAO Report:

- DOE's environmental liability has almost doubled from a low of \$176 billion in 1997 to a fiscal year estimate in 2016 of \$372 billion.
- EM's portion of that liability has grown during the same period by over \$90 billion, from \$163 billion to \$257 billion.
- DOE has already paid out \$6.1 billion in damages (judgment fund payments estimated at ~\$800 million per year).
- Cost of inaction: ~\$2.5 million per day.



Potential Impacts

- Hanford

- All tank waste currently considered HLW needs to be vitrified and made into glass, but not necessarily if waste definition are clarified since all waste in the tanks did not actually result from reprocessing.
- Could eliminate the need to build supplemental LAW treatment plant to take tank waste that would not need to be dispositioned in a glass form.
- Some LLW could be treated and sent offsite even as LLW Pretreatment Facility is constructed.
- * *Positive forward movement on the Direct Feed LLW Facility which would still be needed.*



Next Steps

- What are your concerns?
- What do you need?
 - *Resources?*
 - *Educational Materials?*
 - *Who needs to be part of the discussion?*

