

**EPA Perspective on Very Low-Level Waste (VLLW)**  
 Insights from EPA's Exploration of Low-Activity Waste Disposal Options

March 13, 2018

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Presented to:  
 Nuclear Regulatory Commission  
 Regulatory Information Conference  
 Session T10  
 Rockville, MD

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**Overview of Presentation**

EPA's "Low-Activity Waste" Advance Notice of Proposed Rulemaking (ANPR)

- Points of comparison to NRC's scoping study

Issues raised in public comments

- Justification
- State flexibility
- Regulatory structure
- Technical Analyses
- Applicability
- Compacts

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**EPA's "Low-Activity Waste" ANPR (1 of 2)**

EPA requested input on potential use of hazardous waste landfills for disposal of low-activity waste


- 68 FR 65120, November 18, 2003
- NRC participated in developing the ANPR

Suggested hazard as a basis for disposal decisions

- Hazard-based levels determined through modeling
- Described regulatory/non-regulatory approaches
- Asked about using solid waste landfills as well

Broader universe of waste than VLLW

- TENORM, "pre-1978" byproduct material
- Potential applicability to DOE waste

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## EPA's "Low-Activity Waste" ANPR (2 of 2)

EPA identified several potential advantages of defining "low-activity waste" for disposal

- Uniform design and engineering standards for Resource Conservation and Recovery Act (RCRA) Subtitle C (hazardous waste) landfills
- Greater geographic distribution and lower transportation and disposal costs
- More effective and efficient cleanups/decommissioning
- Facilitating protective disposal of "hard to dispose" wastes, e.g., certain mixed wastes
  - Limited options and high cost for relatively small volumes
- Increased public confidence in disposal decisions



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## Justification for Change

A number of commenters, including states, questioned the need for such an approach:

- Disposal capacity/options are available
- Cost savings alone is not sufficient justification
- Proposed approach is deregulatory and less protective
- Could cast current practices in a negative light, without demonstrating that they are unsafe



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## State Flexibility

16 States submitted comments on the ANPR, and EPA heard from several others informally:

- States need flexibility to determine whether this is in their interest
  - Some distinction based on presence of RCRA-C landfills
- States have limited resources (funding and people)
  - Public concern is likely to increase demands for oversight
- States need to have approval authority
  - States must be able to exclude some waste
- Needs to be a coordinated federal approach



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## Regulatory Structure

EPA was particularly interested in thoughts on how to implement the suggested approach, given the mix of federal and state authorities involved:

- NRC could defer entirely to EPA RCRA authority
  - RCRA permit could be used to specify conditions
- NRC could apply some level of licensing
  - Specific licensing for facilities accepting waste
  - General licensing specifying compliance with RCRA permit
  - Intermediate "Part 61 light" license developed by NRC
- Changes needed to RCRA framework? e.g.,
  - Post-closure care and financial assurance
  - Operational practices at disposal facilities (e.g., dosimetry)



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## Technical Analyses

EPA suggested modeling to derive concentration limits, using basic exposure scenarios

- Comments covered a range of views on modeling
  - "One size fits all" with no exceptions, to limit disputes over modeling details and demands on state resources
  - Set a common baseline, but allow site-specific analyses for "better" sites to accept higher concentrations
  - Completely site-specific, avoiding "average" parameter values
- Additional restrictions were supported by some
  - Limits on long-lived or highly mobile radionuclides (e.g., Tc-99)
  - Activity or volume caps (per cell or per site)
- Some suggested that NRC create a "lower limit" first
  - VLLW scoping study could identify such an endpoint



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## Applicability

EPA focused on use of hazardous waste (RCRA-C) landfills, but asked whether the concept could be extended to solid waste (RCRA-D) landfills

- RCRA-D likely to be more complicated/controversial
  - Not all meet the same standards
  - Many more throughout the country
  - Public opposition likely to be higher
  - Waste is less controlled for characteristics/waste form/content
  - Greater demand on limited resources
- RCRA-D can fall under this approach
  - Provides states with even more control
  - Precedents show this can be effective and protective



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## Compacts

Since the ANPR, one more compact facility has opened (Waste Control Specialists)

- Some saw potential effects on Compacts
  - Could damage viability of Compact sites
  - Inappropriate attempt to circumvent law
  - Waste should not be diverted from existing options
  - Could undercut demand/reduce need for new sites
- Others saw limited impact
  - Waste outside scope of Compacts (true for VLLW?)
  - Compact has sufficient authority to require disposal at regional site



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## Conclusion

NRC's VLLW scoping study is the starting point for a potentially highly complex undertaking

- Multiple competing interests
- Communication challenges at all levels
- Shifting waste generation landscape
  - Increasing focus on decommissioning in coming years
- Wise to consider unintended consequences
  - Economic factors may dominate decision-making/acceptance, both for waste generators and facility operators
- Could facilitate decision-making in emergency situations
  - EPA's primary focus at present



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