



STATE OF WASHINGTON

DEPARTMENT OF HEALTH
OFFICE OF RADIATION PROTECTION

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May 15, 2018

May Ma
Office of Administration
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U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUNSI Review Complete
Template = ADM-013
E-RIDS=ADM-03
ADD= Kellee Jamerson

COMMENT (#54)
PUBLICATION DATE:
2/14/2018
CITATION # 83 FR 6619

**Re: Request for Comments on the Very Low-Level Radioactive Waste Scoping Study as Published at 83 Federal Register p. 6,619
Docket ID NRC-2018-0026**

Dear May Ma,

Washington State reviewed the above document and offers the following comments for your consideration:

1. The United States does not have a formal regulatory definition of VLLW. What should the NRC consider in developing its own regulatory definition for VLLW? Is there another definition of VLLW that should be considered? Provide a basis for your response.
To maintain consistency, the VLLW definition should fit into the already established Part 61 waste classification system. The actual total activity any RCRA (or state equivalent) permitted facility or NRC/Agreement State specifically licensed VLLW disposal facility accepts should be limited, or capped, based on a site-specific dose assessment to ensure that the projected dose remains within the NRC's goal of "a few millirem per year".
2. The existing regulatory framework within 10 CFR 61.55 divides low-level radioactive waste into four categories: Class A, Class B, Class C, and Greater Than Class C. Should the NRC revise the waste classification system to establish a new category for VLLW? What criteria should NRC consider in establishing the boundary between Class A and VLLW categories?
To maintain consistency with the already established Part 61 waste classification system, VLLW could be limited to 10% of the Class A limit. The actual total activity any RCRA (or state equivalent) permitted facility or NRC/Agreement State specifically licensed VLLW disposal facility accepts should be limited, or capped, based on a site-specific dose assessment to ensure that the projected resulting dose stays within the NRC's goal of a

“few millirem per year”. If the NRC opts to establish a VLLW category, it should be consistent (to the extent practical) with the existing radioactive waste structure in use internationally.

3. The NRC’s alternative disposal request guidance entitled, “Review; Approval, and Documentation of Low-Activity Waste Disposals in Accordance with 10 CFR 20.2002 and 10 CFR 40.13(a),” which is undergoing a revision, allows for alternative disposal methods that are different from those already defined in the regulations and is most often used for burial of waste in hazardous or solid waste landfills permitted under the Resource Conservation and Recovery Act (RCRA). Should the NRC expand the existing guidance to include VLLW disposal or consider the development of a new guidance for VLLW disposal? Why or why not?

Given the potential for the disposal of VLLW to expand beyond an already permitted RCRA disposal facility, to new disposal facilities specifically licensed by NRC/Agreement States to accept VLLW, either new guidance should be developed as to how these facilities will be licensed, or the current guidance should be expanded to specifically address the licensing of these VLLW disposal facilities. This guidance should include information on: how to license the facility if it is not a RCRA facility; if the facility is an already established RCRA facility, how the NRC based regulations interact with the RCRA regulations; how the performance assessment should be conducted; what closure and institution controls should be in place; how the facility will track total site source term; environmental monitoring requirements; how dose for workers and the public will be monitored; inspection frequency expectations; are there waste form limitations (e.g. will bulk liquid disposal be acceptable, will uncontainerized dispersible waste be accepted).

4. If the NRC were to create a new waste category for VLLW in 10 CFR Part 61, what potential compatibility issues related to the approval of VLLW disposal by NRC Agreement States need to be considered and addressed? How might defining VLLW affect NRC Agreement State regulatory programs in terms of additional responsibilities or resources?

Compatibility should be set at C or D to allow Agreement States the control of determining if and how these regulations will be implemented. The addition of a new NRC/Agreement State license type, or oversight of an existing RCRA facility, would most likely require the development of a program and staff, and thus require a license fee.

Also, does the NRC intend on reviewing the states oversight of these disposal facilities during their IMPEP reviews? If so, will these facilities be Common or Non-Common Performance Indicators? For states that do not currently have Non-Common Performance Indicator facilities, this facility type could require additional technical staff; states that currently do have LLRW Non-Common Performance Indicator facilities most likely already house the technical expertise to licensee/permit and oversee these facilities.

5. Following the Low-Level Radioactive Waste Policy Amendments Act of 1985, states formed regional compacts for the disposal of low-level radioactive waste. If the NRC were to create a new waste category for VLLW, does it fall within regional compact authority to control VLLW management and disposal? How might defining VLLW affect regional compacts in terms of additional responsibilities or resources?

Yes, if the NRC proceeds with the suggested designation of VLLW as a new waste category within 10 CFR 61 (e.g. the bottom 10% of the Class A limits in 10 CFR 61.55), VLLW would still be Part 61 material and susceptible to Northwest Interstate Compact (NWIC) control. Additional resources and responsibilities may result if a separate VLLW disposal facility is sited. Before any such facility is authorized for construction or use, the Compact would need to specifically authorize it (basis: decision in EnergySolutions, LLC v. State of Utah (Case 09-4122) filed by the U.S. Court of Appeals for the Tenth Circuit filed on November 9, 2010 that prevented out-of-compact (Italian) waste from coming to Energy Solutions). Additionally, if the VLLW disposal facility is a RCRA facility, the NWIC would need to establish a regulatory relationship with the RCRA disposal facility. The initial onset of implementing a VLLW disposal site, whether a RCRA facility or NRC/Agreement State specifically licensed VLLW disposal site, will require legal and staffing support to ensure the authorities of the Compact are implemented correctly.

Also, forming this new waste category such that it falls within the compact's authority ensures member states maintain import control and not be required to accept VLLW from the entire country.

6. Environmental Protection Agency imposed waste analysis requirements for facilities that generate, treat, store, and dispose of hazardous wastes are defined in 40 CFR Parts 264 through 270. How would NRC incorporate and apply waste analysis requirements for VLLW at RCRA Subtitle C and D facilities? Should the NRC impose concentration limits and/or treatment standards for VLLW disposal?

The NRC should impose dose limits and treatment standards. The dose limits can be used, in conjunction with a site-specific dose assessment, to determine site concentration limits. The treatment standards should address the acceptance of liquids, uncontainerized dispersible material, and gases (e.g. radon).

The Association of State and Territorial Solid Waste Management Officials issued a guidance document, "Waste Generation and Disposal: Awareness, Management, and Disposal Guidance for Solid Waste Containing Technologically Enhanced Naturally Occurring Radioactive Material (TENORM)" in February 2018, that addresses these issues in regards to RCRA C and D facilities accepting TENORM waste.

7. Are there any unintended consequences associated with developing a VLLW waste category? If the intent of the VLLW waste category is to reduce disposal costs by diverting this waste

stream from disposal at a Part 61 LLW facility, the establishment of the VLLW category has economic consequences. Since the state of Washington LLRW disposal site (US Ecology) is rate-regulated (e.g., each package costs \$13,010, each shipment \$18,810, and each cubic foot costs \$198.30) to achieve a state-mandated revenue amount, any reduction in the number of packages, shipments and volume from a diversion to a VLLW site will have impacts. In a common year, Class A waste makes up a great majority of the volume (> 80%), shipments and packages received at the disposal facility operated by US Ecology. Of the Class A waste received, much of it is less than 10% of the Class A limit in 10 CFR 61.55.

If the VLLW category is established near/at 10% of the Class A limit, disposal prices at US Ecology could double. The enabling legislation for the NWIC does not authorize the Compact to prohibit the exportation of waste from its 8 member states. Without a prohibition against exporting, NWIC members would likely find it cost effective to export qualifying waste to the VLLW site in a neighboring state, thereby leaving the other LLRW disposal site users to pay much higher prices to achieve the state-mandated revenue requirement for the site operator.

Currently there is only one nuclear power plant within the NWIC, and this plant is not slated for decommissioning. The NWIC's US Ecology disposal site will not experience capacity issues due to increased waste volumes from decommissioning power plants. Based upon current projections, the disposal site will not be full when it closes in 2056, and will have sufficient capacity to meet the future needs of generators that use it.

The potential for a non-RCRA VLLW disposal facility to be requested seems likely. The licensing, operations, and closure activities would fall solely under NRC – Agreement State jurisdiction. Clear regulations and guidance must be developed to ensure licensing, operations, and closure are performed in an ALARA manner.

8. What analytical methods/tools should be used to assess the risk of disposing of VLLW at licensed LLW disposal facilities or RCRA Subtitle C and D facilities? (i.e., generic or site specific)

A dose modelling tool. The Association of State and Territorial Solid Waste Management Officials issued a guidance document, "Waste Generation and Disposal: Awareness, Management, and Disposal Guidance for Solid Waste Containing Technologically Enhanced Naturally Occurring Radioactive Material (TENORM)" in February 2018, that addresses these issues in regards to RCRA C and D facilities accepting TENORM waste.

9. How should economic factors be considered in the VLLW Scoping Study?

Economic factors should include financial components for implementation expenses incurred by the states and Compacts as well as the viability impacts to current Part 61 disposal facilities due to the reduced waste volumes.

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The establishment of VLLW regulations and facilities could require additional staffing for the State of Washington.

The establishment of VLLW category has economic consequences for the LLRW regulatory program in the state of Washington. The LLRW program is funded on a per cubic foot waste received basis. Since the state of Washington's LLRW disposal site (US Ecology) is rate-regulated (e.g., each package costs \$13,010, each shipment \$18,810, and each cubic foot costs \$198.30) to achieve a state-mandated revenue amount, any reduction in the volume from a diversion to a VLLW site will reduce state program funding. In a common year, Class A waste makes up a great majority of the volume (> 80%) received at the disposal facility operated by US Ecology, and of the Class A waste, much of it is less than 10% of the Class A limit in 10 CFR 61.55. If volumes were reduced 50%, significant program impacts would occur.

Thank you,



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cc: Earl Fordham, Northwest Interstate Compact