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NRC's Proposed Interpretative Rule on Transfer of Very Low-Level Waste to Exempt Persons for the Purpose of Disposal

What kind of waste are we talking about?

- Very Low-Level Waste (VLLW) is Class A waste with the lowest activity, containing some residual radioactivity, including naturally occurring radionuclides, which may be safely disposed of in hazardous or municipal solid waste landfills.
- Examples include some incinerator ash from research facilities, demolition debris, soil, and garbage.

What disposal options exist for VLLW using the *current* interpretation of the regulations?

- Part 20, Subpart K, "Waste Disposal" provides rules for waste generators (e.g., nuclear reactors, hospitals, etc.)
 - § 20.2001(a)(1) allows waste transfer for disposal to an "authorized recipient"
 - § 20.2002 provides an alternate method for obtaining approval of proposed waste disposal procedures
- The majority of current VLLW disposal is in land disposal facilities consistent with § 20.2001(a)(1)
 - A licensed land disposal facility is allowed to "receive, possess, and dispose of radioactive waste" on their site
 - There are currently four active land disposal facilities in the United States; all four are located in Agreement States and licensed by their respective state regulatory agency
- Some VLLW goes to hazardous or municipal solid waste landfills, which are governed by Resource Conservation and Recovery Act (RCRA) regulations, using the § 20.2002 review and approval process
 - Minimal to no dose associated with the VLLW disposed at these facilities (not a health and safety issue)
 - Each request is reviewed on a case-by-case basis under the § 20.2002 review and approval process
 - Reviews of the disposal actions are performed by the NRC and/or Agreement State depending on the location of the waste generator and location of the disposal site.

What would the current proposal change regarding the methods for disposal of VLLW?

- The proposed change would expand the options available for disposing of VLLW to include transfers to waste disposal facilities not licensed but specifically exempted to receive radioactive waste for the purpose of disposal.
- Does not affect any other disposal method authorized under the NRC's regulations, including § 20.2002.
- The proposed change would result in a revision to current guidance documents related to VLLW disposal.

What specifically are we proposing to change?

- There is no definition of "authorized recipient" in the NRC's regulations. However, the guidance on § 20.2001, NUREG-1736, limits "authorized recipient" to persons licensed under the parts listed in the regulation.
- The specific change would modify the interpretation of "authorized recipient" to include persons who hold specific exemptions issued for the purpose of disposal.

What would be the review process?

- Disposal facilities could request an exemption in order to accept and dispose of VLLW without a license.
 - The request should include specifications on the type, concentration, and/or quantity of waste that can be disposed at the facility, and a proposed timeframe for receiving VLLW under the specific exemption.
- The NRC would review the request, considering the cumulative dose from all current and potential future disposals to a site worker or member of the public to ensure it does not exceed an annual dose of 25 mrem per year at any time during facility operation or closure (i.e., the dose remains less than the criteria for license termination and unrestricted use at 10 CFR 20.1402) and, if appropriate, approve the exemption from licensing.
- VLLW – consistent with the specifications set out in the specific exemption – may be transferred from a waste generator to the exempted disposal facility for land burial.
- Licensees would be responsible for identifying the exempted facility they intend to send the VLLW material to and confirming that the material meets the approved specifications for that facility. Likewise, exemption holders would be responsible for ensuring that any waste transferred to them is within the waste acceptance criteria specified in their specific exemption.
- Licensees would be allowed to transfer VLLW for burial at an exempted disposal facility without additional, case-by-case reviews and separate regulatory approval.
 - This process would be the same as waste transfers that currently occur where the recipient has a license for such disposal.

Example of the Proposed Process

- XYZ Landfill wants to be an “authorized recipient”
 - Submits exemption request to the appropriate regulatory agency for review and approval
 - Appropriate regulatory agency reviews and approves a specific exemption (or equivalent)
 - XYZ Landfill is now considered an “authorized recipient” under § 20.2001(a)(1)
- Licensee X has VLLW for disposal and wants to send it to XYZ Landfill
 - Licensee X contacts XYZ Landfill, provides details regarding the VLLW, and confirms the material can be accepted within the constraints of the site’s specific exemption
 - Provided XYZ Landfill approves and the material is with the parameters of the specific exemption issued to the landfill, Licensee X may transfer VLLW to XYZ Landfill for disposal

What would it take to receive an exemption from the NRC and thereby be an “authorized recipient” under the proposed interpretation?

- Applicant should include a safety analysis containing:
 - A description of the proposed method of land burial at the disposal facility
 - A description of the types of material, including what radionuclides and what maximum concentration the disposal facility is willing to accept (the requesting facility proposes what they are willing to accept and not accept within the bounds of their specific exemption/approval)
 - A description of the proposed disposal site, including process and procedures, recordkeeping, and the requirements of the current RCRA permit (including approval or confirmation from RCRA that VLLW disposal is acceptable)
 - A discussion regarding the conceptual and mathematical models and parameters used in the dose assessment related to the proposed disposal of VLLW during the timeframe requested by the disposal facility
 - A site-specific dose assessment, or sensitivity and uncertainty analysis when performing the dose assessment, to estimate the radiological impacts to members of the public
- NRC staff prepares an Environmental Assessment related to the proposed disposals, when necessary.
- Agreement States may establish more restrictive values under their own regulatory authority.

What is the ultimate goal for expanding the definition of “authorized recipient”?

- Develop an efficient review process while not impacting health and safety or the environment.
- Allow flexibility to waste generators to dispose of VLLW in a manner commensurate with its safety significance.