

December 18, 2017

US Ecology, Inc.

Subject: Docket ID NRC-2017-0198, Comments on Draft-Final Guidance for the Reviews of Proposed Disposal Procedures and Transfers of Radioactive Material under 10 CFR 20.2002 and 10 CFR 40.13(a), Revision to Previous EPPAD 3.5, October 2017 (ML# 16326A063)

US Ecology, Inc. has operated licensed low-level radioactive waste disposal facilities in the United States since the 1960s. The company is also a pioneer in providing safe, secure disposal of Very Low Level Waste (VLLW) at permitted Subtitle C hazardous waste disposal facilities. Alternative disposal at appropriate Subtitle C facilities has provided a protective, cost-effective disposal option to many NRC and Agreement State licensees.

Expanded utilization of appropriate alternative disposal for VLLW is in the national interest to conserve both economic resources and existing LLRW disposal capacity while minimizing interim storage timeframes pending disposal. We commend NRC staff for this effort to provide more consistency and clarity in its VLLW disposal reviews and offer the following comments to assist the guidance development process.

Comment #1: We recommend that Staff take advantage of this timely guidance initiative to ensure consistent, risk-informed, performance-based regulation for VLLW disposal in the United States.

As explained further below, the performance and risk-based standards for offsite Alternate Disposal Requests (ADR) under §20.2002 and specific disposal approvals for Unimportant Quantities of Source Material (UQSM) under §40.13(a) are not consistently applied in the revised guidance. Specifically, Section 7.1.2 confirms that the “less than a few millirem” dose standard (interpreted as less than 5 millirem per year [$<5\text{mrem/yr}$]) would be retained for ADR reviews. Section 7.2.2, however would retain the current sliding dose acceptance standard established by SRM-SECY-00-0201 for disposal of UQSM. SRM-SECY-00-0201 authorizes offsite disposals of UQSM at non-NRC licensed facilities where calculated doses to members of the public range from 25 mrem/yr to $>100\text{mrem/yr}$.

Notwithstanding differences in licensing status between low-activity source material (where a general exemption may apply) and byproduct material (where a specific exemption may be required), the performance-based dose standard for ADR approvals at non-NRC licensed facilities should be consistent regardless of the radioactive nuclide content of the waste and licensee type. Applying a consistent, risk-informed and performance-based dose standard is appropriate for multiple reasons:

1. The basis for applying 25 mrem/yr as the baseline ADR dose criterion for appropriately controlled facilities like RCRA Subtitle C landfills is already established in SRM-SECY-00-0201 in the following direction to Staff:

“The context for the Commission’s consideration of this matter is in connection with releases of material for disposal in appropriate facilities (e.g., a RCRA Subtitle C facility authorized for such material). The discussion of the tolerable dose limits in the Statement of Consideration should be modified to reflect this constraint. If releases of exempt material for other purposes are sought (e.g., recycle), the staff

should evaluate the acceptability of the potential dose on a case-by-case basis until the Commission's approach to the release of solid material is resolved. The dose limits described in the proposed rule may not be appropriate in contexts other than disposal."

Since ADRs under §20.2002 are evaluated by NRC staff on a case-by-case basis, the staff should apply this same standard for ADRs involving disposal at RCRA Subtitle C landfills.

2. There is no difference in the health and safety impact considerations for packaging, transportation, and disposal of ADR wastes and UQSM wastes where a site-specific safety evaluation indicates a calculated annual dose of 25 mrem/yr for each. If the latter dose standard is adequately protective for one, it is adequate for the other too. By applying different standards, certain licensees would have access to cost-effective alternative disposal options that other licensees would not. Basic fairness argues for consistent treatment.
3. Staff's "cumulative dose" methodology would not be lost using an ADR dose limit of 25 mrem/yr versus the current 5 mrem/yr limit. US Ecology's experience with the NRC over the last 12 years indicates that under the current ADR regulatory process, it is very unlikely that a single non-NRC licensed facility could approach the 100 mrem/yr public dose limit in any calendar year from concurrent ADRs. Moreover, NRC would have direct control of any concurrent processes in the event cumulative dose was an issue.

For these reasons, US Ecology recommends that NRC revise the ADR dose limit in the EPPPAD 3.5 Revised Guidance document to **25 mrem/yr** consistent with the published guidance for UQSM evaluations established in SRM-SECY-00-0201. Equating the ADR dose performance standard with the UQSM review standard would (a) improve regulatory consistency and clarity; (b) continue to ensure a safe and appropriate measure of health and safety protection for the public; (c) meet the ALARA requirement for ADRs in §20.2002(d) continues to be met; and (d) be in the best interests of all licensees by facilitating expanded access to safe and secure alternate disposal options for low-activity and very low-activity wastes in the United States. The last benefit was specifically stated as a goal by NRC during public presentations on the Revised Guidance since "increased VLLW volumes [are] expected in the near-term due to reactor decommissioning"¹

Comment #2: Transportation workers should not be considered in dose assessments for ADR submittals under §20.2002

On July 7, 2011, US Ecology submitted a letter to NRC recommending that transportation workers no longer be considered in the dose assessments for ADR submittals under §20.2002 (ML 112291006). Our rationale was based on the fact that transportation of generic radioactive materials are already adequately regulated under 49 CFR Subtitle B.

On February 12, 2012, Staff sent a response letter to US Ecology (L Camper to J Weismann) indicating that *"the Division of Waste Management and Environmental Protection had reviewed US Ecology's request and had determined the issues raised require a thorough and formal evaluation."*

¹ "NRC's Alternative Disposal Request Guidance Document Revision." Presentation to NRC Public Meeting, October 19, 2017, NRC Headquarters, Rockville, MD.

The letter went on to state “...*The staff believes this issue, along with a number of other emerging issues merit a more comprehensive review*” and that “...*staff will follow up with [US Ecology] in future correspondence to formally address your request.*” US Ecology has not received additional correspondence on this subject. We understood, however, that staff was revising the EPPAD 3.5 Guidance Document as part of NRC’s overall Strategic Assessment and assumed transportation aspects would be included in that initiative. Section 7.1.2 of the Draft-Final Revised Guidance confirmed our assumption.

Section 7.1.2 of the Revised Draft Guidance, however, continues to require that dose assessments for offsite ADRs and UQSMs “...*should consider transportation of the material to the disposal facility and evaluate doses to members of the public, including transportation workers.*” US Ecology continues to believe that inclusion of transportation workers as potential “maximally exposed individuals” in ADR dose assessments subject to the “less than a few millirem per year” criterion should not be required for the reasons stated in our 2011 letter.

Transportation of low-activity radioactive materials by commercial carriers is ubiquitous in the United States. It includes large quantities of NORM, TENORM, accelerator-produced materials, and various byproduct, source, and special nuclear materials that have been granted exemptions from licensing. None of these materials have been determined to require any form of *a priori* dose assessment, active dose monitoring, or regulatory dose limits in order for them to be safely and compliantly transported to their intended destination beyond confirmation that the dose rate in the cab of the vehicle is less than 2 mrem/hr as required by 49CFR173.441(b)(4).

The irony of the <2mrem/hr DOT standard is that there are numerous scenarios where a commercial carrier could receive more than 100 mrem/hr conveying VLLW or other types of low-activity radioactive materials outside of NRC regulatory jurisdiction. While these scenarios should not be advocated or condoned, their possibility highlights the inconsistency of limiting transportation associated with an ADR to <5 mrem/yr. This dose limit is unnecessarily low and serves only to limit cost-effective access to safe and secure VLLW disposal at non-NRC licensed facilities.

Further, alternate disposal facilities such as our Idaho Subtitle C facility is unfairly penalized by this requirement, since transport workers still receive the same dose, whether the material is shipped to our facility or a Part 61 LLRW facility.

US Ecology appreciates the NRC’s efforts on the Draft-Final Revised ADR Guidance document. Please contact me at 208-319-1634 or joe.weismann@usecology.com if we can provide additional information.

Respectfully Submitted,

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