

From: [Maupin, Cardelia](#)
To: [RulemakingComments Resource](#)
Subject: FW: Part 20 Comment
Date: Thursday, November 12, 2015 10:42:12 AM

Please add email to docket for : NRC-2009-0279

From: Flannery, Cindy
Sent: Monday, August 31, 2015 6:53 PM
To: Maupin, Cardelia <Cardelia.Maupin@nrc.gov>
Cc: Whaley, Sheena <Sheena.Whaley@nrc.gov>
Subject: FW: Part 20 Comment

Cardelia,

Below is a comment from an NRC staff person. Would you ensure that this gets docketed or entered into ADAMS (or handled by whatever is the appropriate process)?

Thanks,
Cindy

From: Lowman, Donald
Sent: Wednesday, June 03, 2015 3:07 PM
To: Flannery, Cindy
Cc: Cool, Donald; Maupin, Cardelia; Suber, Gregory; McKenney, Christopher; Pinkston, Karen; Grossman, Christopher; Esh, David
Subject: Part 20 Comment

Hi Cindy,

Per our discussion at the CRCPD meeting, below is my comment for the proposed Part 20 rulemaking. Thanks for your consideration of this comment and please let me know if you have any questions.

Background:

Appendix G of 10 CFR Part 20, "Requirements for Transfers of Low-Level Radioactive Waste Intended for Disposal at Licensed Land Disposal Facilities and Manifests," requires that an NRC uniform manifest (i.e., NRC Forms 540, 541, and, if necessary, 542) be prepared for waste intended for ultimate disposal at a licensed LLRW land disposal facility, and states that the activity of each of the radionuclides H-3, C-14, Tc-99, and I-129 contained in the shipment must be reported on the uniform manifest. These radionuclides were identified as being of particular concern for the groundwater pathway dose in the analysis performed for NUREG-0782, "Draft Environmental Impact Statement on 10 CFR Part 61 Licensing Requirements for Land Disposal of Radioactive Waste," published in September 1981. The concentration values provided in the 10 CFR Part 61 waste classification tables are based on intruder protection, and the potential groundwater pathway dose was not considered in the development of these tables. Instead, the NRC staff decided that the groundwater pathway for each disposal facility should be analyzed on a case-by-case basis

because the groundwater pathway impacts are site-specific and are a function of the total inventory of radionuclides at a disposal site. The quantities of the four radionuclides believed to be especially important to the groundwater pathway (i.e., H-3, C-14, Tc-99, and I-129) were required to be reported on the uniform manifest. According to NUREG/BR-0204, Revision 2, "Instructions for Completing NRC's Uniform Low-Level Radioactive Waste Manifest," if these four radionuclides are present in the waste in quantities less than the LLD, they must be reported as being present at the LLD value on the uniform manifest. Because these radionuclides are difficult to measure, the LLD values are potentially much higher than the actual concentrations in the waste. Overestimation of disposal site inventory could lead to premature loss of disposal system capacity, whereas underestimation of inventory could lead to public health and safety concerns. Of the four operational disposal facilities (Hanford, WA, Barnwell, SC, Clive, UT, and Andrews, TX), only Hanford uses the LLD values from the manifest for use in their performance assessment; the other three disposal facilities essentially "zero-out" the LLD values from the manifest, thus creating a possible health and safety issue.

Comment:

Waste generators have been reporting the activities of H-3, C-14, Tc-99, and I-129 on the manifests since the early 1980's and the majority of the time these isotopes are reported at the LLD value. A lot of time, money, and personnel radiation exposure has been spent taking waste samples and analyzing them for these isotopes over the years providing little benefit or human protection. This is especially true in the case of the three disposal facilities who zero-out the manifest values if they are below the LLD. Staff recently issued RIS 15-02 allowing generators to use indirect methods such as scaling factors or computer modeling to help relieve some of the burden. However staff, during revision of Part 20, should determine whether reporting these four isotopes provides for safer disposal of waste or whether the reporting is an unnecessary regulatory burden. If the latter, Part 20 should be revised as applicable. Additionally, 10 CFR Part 61 (Licensing Requirements for Land Disposal of Radioactive Waste) is currently being revised via rulemaking and the revisions allow the use of site specific performance assessments to determine regulatory compliance. It's possible that some of the site specific performance assessments will determine that H-3, C-14, Tc-99, and I-129 are not a concern for the groundwater pathway dose. If this is the case, without a revision to Part 20, all generators would still have to report values for these isotopes even though they are not an exposure concern at the disposal facility.

Please let me know if you have any questions.

Thanks,

Don Lowman

Project Manager
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