[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[NRC-2011-0022]

Concentration Averaging and Encapsulation Branch Technical Position

AGENCY: Nuclear Regulatory Commission.

ACTION: Branch technical position; request for comment.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is requesting comments on whether the NRC staff should formally document a position on contaminated material and contaminated trash. The NRC issued Revision 1 of the Branch Technical Position on Concentration Averaging and Encapsulation (CA BTP) in February of 2015. The CA BTP provides acceptable methods that can be used to perform concentration averaging of Low-Level Radioactive Waste (LLRW) for the purpose of determining its waste class for disposal. When the NRC issued the revised CA BTP, it noted that one issue, distinguishing contaminated materials from contaminated trash, may need further clarification. The NRC also stated that it would consider whether additional guidance, such as a Regulatory Issue Summary (RIS), would be warranted for distinguishing contaminated materials from contaminated trash.

DATES: Submit comments by **[INSERT DATE 60 DAYS FROM DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. Comments received after this date will be considered if it is

practical to do so, but the Commission is able to ensure consideration only for comments received before this date.

ADDRESSES: You may submit comments by any of the following methods (unless this document describes a different method for submitting comments on a specific subject):

- **Federal Rulemaking Web Site:** Go to http://www.regulations.gov and search for Docket ID **NRC-2011-0022**. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.
- **Mail comments to:** Cindy Bladey, Office of Administration, Mail Stop: OWFN-12-H08, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

For additional direction on obtaining information and submitting comments, see "Obtaining Information and Submitting Comments" in the SUPPLEMENTARY INFORMATION section of this document.

FOR FURTHER INFORMATION CONTACT: Don Lowman, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-5452; e-mail: Donald.Lowman@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Obtaining Information and Submitting Comments

A. Obtaining Information

Please refer to Docket ID **NRC-2011-0022** when contacting the NRC about the availability of information for this action. You may obtain publicly-available information related to this action by any of the following methods:

- **Federal Rulemaking Web Site:** Go to http://www.regulations.gov and search for Docket ID **NRC-2011-0022**.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public Documents collection at http://www.nrc.gov/reading-rm/adams.html. To begin the search, select "ADAMS Public Documents" and then select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. Volume 1 and Volume 2 of the revised CA BTP are available in ADAMS under Accession Nos. ML12254B065 and ML12326A611, respectively.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

B. Submitting Comments

Please include Docket ID **NRC-2011-0022** in the subject line of your comment submission. The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in you comment submission. The NRC will post all comment submissions at http://www.regulations.gov as well as enter the comment submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment submissions into ADAMS.

II. Background

The NRC issued Revision 1 of the CA BTP ("Revised CA BTP") on February 25, 2015, (80 FR 10165). This revision provided updated guidance on the interpretation of § 61.55(a)(8) of title 10 of the *Code of Federal Regulations* (10 CFR), "Determination of concentrations in wastes," as it applies to the classification (as Class A, B, or C waste) of a variety of different types and forms of LLW. Section 61.55(a)(8) states that radionuclide concentrations can be averaged over the volume of the waste or its weight if the units are expressed as nanocuries per gram. The average radionuclide concentrations are compared with the waste classification tables in § 61.55 to determine the class of the waste. The waste class determines the minimum safety measures to be applied in order to provide reasonable assurance of safe disposal of the waste. The previous version of the CA BTP was published in 1995 (ADAMS Accession No. ML033630732).

In developing the Revised CA BTP, the staff identified one issue that may need further clarification. One of the categories of discrete wastes that are subject to additional concentration averaging constraints is "contaminated materials." Both the 1995 and Revised CA BTPs define contaminated materials as components or metals on which radioactivity resides

on or near the surface in a fixed or removable condition. To demonstrate compliance with these averaging constraints, the radiological characteristics and volumes of individual items are typically determined. However, items with surface contamination may also be categorized as contaminated trash which has fewer averaging constraints. Both the 1995 and the Revised CA BTP used the term contaminated trash which is intended to be the equivalent of waste descriptor codes 39 and 40 (i.e., Compactible Trash and Noncompactible Trash) of NRC Form 541, "Uniform Low-Level Radioactive Waste Manifest—Container and Waste Description." Items in contaminated trash do not need to be individually characterized. Instead, a container of contaminated trash can be surveyed to determine its overall radioactivity and its classification determined by dividing the overall activity by the waste volume. Neither the 1995 CA BTP nor draft revisions published for public comment provided guidance for categorizing items as either contaminated materials or contaminated trash. In addition, the NRC received no comments from stakeholders on this issue. The NRC is now addressing whether additional guidance, such as a Regulatory Issue Summary (RIS), is warranted for distinguishing contaminated materials from contaminated trash.

III. Specific Request for Comments

The NRC is trying to determine what items that could be defined as contaminated material per the CA BTP, if any, are currently being disposed of as contaminated trash. The NRC is requesting that persons consider and address the following questions as they develop and provide their comments:

1. Is additional guidance needed to clarify the distinction between contaminated trash and contaminated material?
2. When filling out the Uniform Waste Manifest (UWM)(NRC Forms 540, 541, and 542), how is contaminated equipment (UWM code 33) currently distinguished from contaminated trash (UWM codes 39 and 40)?
3. Should numerical constraints be developed to clarify the distinction between contaminated materials and contaminated trash? If so, what basis should be used to develop the numerical constraints? If not, what qualitative factors should be considered?
4. If numerical values are developed, would activity or concentration constraints be preferable? Would an option to use either be feasible to implement?
5. What challenges, if any, do you foresee with implementing numerical thresholds for distinguishing between contaminated trash and contaminated materials? How could these challenges be ameliorated?
6. Would an emphasis on using process knowledge be sufficient to avoid the unintended consequence of causing licensees to characterize individual pieces of trash that have radionuclide concentrations significantly less than the class limits?
7. The NRC understands that items referred to as “high rad trash” are placed in containers of contaminated trash and averaged. The NRC also understands that this practice reduces worker exposure as compared to evaluating each item of trash. Please provide examples of “high rad trash,” estimated annual volume, areas of the facilities where this waste is generated, and typical contact dose rates (if available).

8. When classifying contaminated trash, is the same sample data (e.g., scaling factors) for determining the radionuclide content of “normal” contaminated trash used for classifying the “high rad trash”?
9. What process currently is used to determine whether items of “high rad trash” can be disposed of with lower-activity contaminated trash or whether items are treated as contaminated materials and averaged with the constraints described for contaminated materials under the 1995 CA BTP?
10. Is clarification needed for the term “component” in the definition of contaminated materials used in the 1995 and 2015 CA BTP?

Dated at Rockville, Maryland this 12th day of January 2016.

For the Nuclear Regulatory Commission.

Andrew Persinko, Deputy Director
Division of Decommissioning, Uranium Recovery
and Waste Programs
Office of Nuclear Material Safety
and Safeguards.

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