UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

(FSME-14-057, June, Other, Uniform Waste Manifest)

June 3, 2014

ALL AGREEMENT AND NON-AGREEMENT STATES
STATE LIAISON OFFICERS

AVAILABILITY OF THE DRAFT REGULATORY ISSUE SUMMARY, "REPORTING OF H-3, C-14, TC-99, AND I-129 ON THE UNIFORM WASTE MANIFEST" FOR PUBLIC COMMENT (FSME-14-057)

Purpose: To inform Agreement and Non-Agreement States and State Liaison Officers of the availability of the U.S. Nuclear Regulatory Commission (NRC) staff's issuance of a draft Regulatory Issue Summary (RIS), "Reporting of H-3, C-14, Tc-99, and I-129 on the Uniform Waste Manifest" for public comment on June 2, 2014 (79 FR 31348).

Background: Appendix G of 10 CFR Part 20 requires that an NRC uniform manifest (i.e., NRC Forms 540, 541, and 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 ground water pathway dose in the analysis performed for the 10 CFR Part 61 Draft Environmental Impact Statement in the early 1980s (NUREG-0782). However, the concentration values provided in the 10 CFR Part 61 waste classification tables are based on intruder protection, and the potential ground water pathway dose was not considered in the development of these tables. Instead, the NRC staff decided that the ground water pathway for each disposal facility should be analyzed on a case-by-case basis because the ground water 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 ground water 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, Rev 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 lower limit of detection (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. Research indicates that the use of the LLD values may result in a significant over-estimation of the inventory of these four radionuclides in disposal facilities and could lead to loss of disposal system capacity (e.g., early closure of disposal facilities) as these nuclides can potentially drive the ground water doses for these facilities.

This RIS gives shippers the flexibility to use indirect methods (e.g. scaling factors, material accountability, computer codes), to report the inventories of these four radionuclides when present at less than the LLD. Licensees may be able to generate and report more accurate uniform manifest numbers for wastes that have radionuclide concentrations that are less than the LLD by using indirect methods. Accurately reporting the activities of these radionuclides is important to better decision making regarding the disposal of low-level radioactive waste.

Discussion: The NRC is seeking input from the public, licensees, Agreement States, non-Agreement States, and other stakeholders on this draft RIS by July 2, 2014. Instructions for submitting comments can be found in the *Federal Register* notice, http://www.gpo.gov/fdsys/pkg/FR-2014-06-02/pdf/2014-12720.pdf.

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