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## **RULEMAKING ISSUE** **(Notation Vote)**

May 29, 2024

FOR: The Commissioners SECY-24-0045

FROM: Raymond V. Furstenau  
Acting Executive Director for Operations

SUBJECT: PROPOSED RULE: INTEGRATED LOW-LEVEL RADIOACTIVE WASTE  
DISPOSAL (RIN 3150-AI92; NRC-2011-0012)

PURPOSE:

The purpose of this paper is to obtain Commission approval to publish in the *Federal Register* the enclosed proposed rule (enclosure 1) that would amend regulations in Title 10 of the *Code of Federal Regulations* (10 CFR) Parts 20, 61, 73, and 150 to (1) require new and revised site-specific technical analyses and permit the development of site-specific criteria for low-level radioactive waste (LLW) acceptance based on the results of these analyses, and (2) authorize the near-surface disposal of certain Greater-Than-Class-C (GTCC) waste streams and provide for Agreement State licensing of these waste streams if certain requirements are met. The rulemaking would change requirements at currently licensed and operating LLW facilities that plan to accept GTCC waste or significant quantities of long-lived radionuclides after the effective date of this rulemaking but would provide criteria for a case-by-case application of certain revised requirements for existing facilities that do not plan to accept these waste streams.

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## BACKGROUND:

The NRC developed 10 CFR Part 61, "Licensing Requirements for Land Disposal of Radioactive Waste," based on assumptions regarding the types of LLW likely to go into a commercial land disposal facility at the time the original rule was promulgated in 1982. Since that time, the NRC has identified LLW streams that differ significantly in quantity and concentration from those initially considered by the NRC in these regulations. These waste streams include depleted uranium and blended LLW streams (mixed LLW with different concentrations of radionuclides) in quantities greater than previously expected. In addition, new technologies might result in the generation of different LLW streams that have not previously been considered.

The NRC published a proposed rule in the *Federal Register* on March 26, 2015 (80 FR 16081), to address these new waste streams. In SECY-16-0106, "Final Rule: Low-Level Radioactive Waste Disposal (10 CFR Part 61) (RIN 3150-AI92)," dated September 15, 2016, the staff submitted a draft final rule to the Commission. In SRM-SECY-16-0106, dated September 8, 2017, the Commission directed the staff to make certain substantive revisions to the draft final rule and to publish it as a supplemental proposed rule.

Contemporaneous to the low-level radioactive waste disposal rulemaking, the NRC undertook a separate effort to analyze disposal of GTCC and transuranic (TRU) waste. In SRM-SECY-15-0094, "Staff Requirements—SECY-15-0094—Historical and Current Issues Related to Disposal of Greater-than-Class C Low-Level Radioactive Waste," dated December 22, 2015, the Commission directed the staff to prepare a regulatory basis for the disposal of GTCC waste through means other than deep geologic disposal, including near-surface disposal. The NRC staff issued a draft regulatory basis for public comment on July 22, 2019 (84 FR 35037). The NRC received over 70 individual comment submissions from members of the public, environmental groups, industry stakeholders, a Tribal nation, various State agencies, and the U.S. Department of Energy, and approximately 7,000 form letters from environmental groups. Enclosure 3 summarizes these comments.

On October 21, 2020, the staff submitted SECY-20-0098, "Path Forward and Recommendations for Certain Low-Level Radioactive Waste Disposal Rulemakings," to the Commission. In the paper, the staff recommended that these two rulemaking activities (the LLW draft final rule and the GTCC waste draft regulatory basis) be consolidated and integrated into one proposed rule. In SRM-SECY-20-0098, dated April 5, 2022, the Commission approved the staff's recommendation to issue a new proposed rule that consolidates and integrates criteria for the licensing and disposal of GTCC waste and 10 CFR Part 61 rulemaking activities.

Section II of the proposed rule (Enclosure 1) gives additional details on the background and previous rulemaking history related to LLW and GTCC waste.

## DISCUSSION:

### Overview of Proposed Changes to NRC Regulations

The proposed rule would amend 10 CFR Part 61 to permit the development of site-specific waste acceptance criteria. The rule would require new and revised site-specific technical analyses to permit the development of site-specific waste acceptance criteria that are based on the results of these analyses. These amendments would also better align the 10 CFR Part 61



requirements with current health and safety standards. The new requirements would facilitate identification of additional measures that provide flexibility to licensees to determine the best approach to meeting the Part 61 performance objectives. Additionally, the proposed rule would amend 10 CFR Part 61 to allow for the near-surface disposal of certain GTCC waste streams and provide specific regulatory requirements for this disposal, including radiological protection requirements to protect individuals during the facility's operational period and after the closure of the disposal facility. Similarly, the rule would include radiological protection requirements to protect inadvertent intruders. The proposed rule also would amend 10 CFR Part 20 and 10 CFR Part 61 to revise the definition of "waste" such that LLW that is acceptable for disposal under 10 CFR Part 61 no longer excludes "transuranic waste." Additionally, the proposed rule would (1) amend 10 CFR Part 150, "Exemptions and Continued Regulatory Authority in Agreement States and in Offshore Waters under Section 274," to address additional regulatory issues, including Agreement State licensing and the control of special nuclear material during operations, and (2) amend 10 CFR Part 73, "Physical Protection of Plants and Materials," to exempt certain waste material at a near-surface disposal facility from the requirements for physical protection of special nuclear material of low strategic significance or a Category III quantity of Special Nuclear Material. Section III.C of Enclosure 1 includes additional details on technical areas related to these proposed revisions. Lastly, the proposed rule would make editorial changes within 10 CFR Part 61 and conforming changes to regulations in 10 CFR parts 20, 73, and 150.

### Regulatory Analysis

The proposed rule would result in a cost-justified change based on net (i.e., taking into account both costs and benefits) averted costs to NRC and Agreement State licensees of \$136 million using a 7 percent discount rate. The NRC would experience net costs of (\$160,000) using a 7 percent discount rate. The Agreement States would experience net costs of (\$1,270,000) using a 7 percent discount rate. The proposed rule would result in net averted costs to the industry, the NRC, and Agreement States of \$134 million using a 7 percent discount rate. In 2017, the NRC published a Federal Register notice requesting public comment on the draft regulatory analysis to the 2016 draft final rule. The regulatory analysis for this proposed rule summarizes the public comments received in response to the specific request for comments in 2017. Enclosure 2 provides the regulatory analysis supporting the proposed rule.

### Stakeholder Engagement

The NRC conducted several public outreach activities with stakeholders during the development of the proposed rule, as detailed in Enclosure 1, Section II.E. These activities included holding public meetings to share preliminary proposed rule concepts and guidance and to receive public feedback. The NRC also had an Agreement State representative on the working group developing the proposed rule and met with Agreement State representatives to provide an overview of the draft proposed rule package.

### Implementation Guidance

If the draft proposed rule is approved by the Commission, the NRC would issue for comment draft implementation guidance in NUREG-2175, Revision 1, "Guidance for Conducting Technical Analyses for 10 CFR Part 61" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML23255A282). Specifically, the NUREG would provide detailed guidance in new areas, such as the inadvertent intruder assessment and performance period analysis. Additional topics would include (1) demonstration that radiation doses are

minimized to the extent reasonably achievable, (2) identification and screening of the features, events, and processes to develop scenarios for technical analyses, (3) use of the waste classification tables or the results of the technical analyses to develop site-specific waste acceptance criteria, and (4) use of performance confirmation to evaluate and verify the accuracy of information used to demonstrate compliance before site closure. Section XVI of Enclosure 1 contains additional details on the availability of guidance.

#### Backfitting and Issue Finality Considerations

This rulemaking would apply to applicants for a new LLW facility license, current LLW facility licensees, and current LLW facility licensees that submit an application for a license amendment to receive GTCC waste or significant quantities of long-lived radionuclides. These licensees would be regulated in accordance with 10 CFR Part 61. As 10 CFR Part 61 contains no backfitting provisions, and these licensees are not within the scope of an NRC regulation that contains a backfitting or issue finality provision, the proposed rule would not be within the scope of the NRC's backfitting and issue finality provisions. Section VIII of Enclosure 1 includes additional details on backfitting and issue finality.

#### RECOMMENDATION:

The staff recommends that the Commission approve the enclosed proposed rule for publication in the *Federal Register*.

If the Commission approves publication of the proposed rule, the staff will complete the following activities:

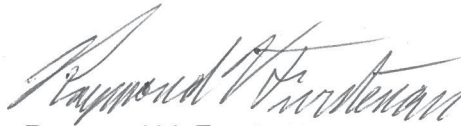
- The staff will publish the proposed rule in the *Federal Register* for a 90-day public comment period.
- The staff will submit information collection requirements to the Office of Management and Budget for its review and approval on or immediately after the date of publication of the proposed rule in the *Federal Register*.
- The Office of Congressional Affairs will inform the appropriate congressional committees.
- The staff will work with the Office of Public Affairs on an appropriate public communication when the NRC publishes the proposed rule in the *Federal Register*.
- The staff will hold public meetings during the comment period for the proposed rule.
- The staff will issue draft NUREG-2175 for comment concurrent with the publication of the proposed rule.

#### COORDINATION:

The Office of the General Counsel reviewed this package and has no legal objection to the publication of the proposed rule. The Office of the Chief Financial Officer reviewed this package and has no concerns with the estimated resources in Enclosure 4. The staff met with the Advisory Committee on Reactor Safeguards (ACRS) on February 7, 2024. In a letter to the



Commission dated February 26, 2024 (ADAMS Accession No. ML24051A106), the ACRS recommended that the proposed rule be issued for public comment.



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Acting Executive Director  
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Enclosures:

1. Proposed Rule
2. Regulatory Analysis
3. GTCC Regulatory Basis  
Public Comments Summary
4. Estimated Rulemaking  
Resources (nonpublic)

SUBJECT: PROPOSED RULE: INTEGRATED LOW-LEVEL RADIOACTIVE WASTE DISPOSAL (RIN 3150-AI92; NRC-2011-0012) DATED: May 29, 2024

ADAMS Accession Number: ML23242A249 pkg ML23242A261 document  
 WITS: SRM-S20-0098-1-NMSS/OEDO-22-00209 \*via email

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DATE	8/31/2023	9/7/2023	9/8/2023	10/12/2023	10/12/2023	10/2/2023
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DATE	9/19/2023	10/27/2023	10/25/2023	11/28/2023	12/12/2023	12/8/2023
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