

## U.S. Nuclear Regulatory Commission Public Meeting Summary

**Title:** Regulatory Concepts for Integrated Low-Level Radioactive Waste Disposal Rulemaking

**Meeting Identifier:** 20230463

**Date of Meeting:** May 17, 2023

**Location:** Webinar

**Type of Meeting:** Informational meeting with a Question and Answer session

**Purpose of the Meeting:** The purpose of this public meeting was to discuss potential changes to 10 CFR Part 61 low-level waste disposal regulations to integrate criteria for licensing the near-surface disposal of Greater-than-Class C (GTCC) waste and to ensure that the low-level radioactive waste streams that are significantly different from those considered during the development of 10 CFR Part 61, such as depleted uranium, would continue to be disposed of safely.

**General Details:** The U.S. Nuclear Regulatory Commission (NRC) staff conducted a public webinar on May 17, 2023, to discuss the regulatory concepts being addressed in the NRC's Integrated Low-Level Radioactive Waste Disposal rulemaking. This meeting was intended to discuss these regulatory concepts and request public feedback to inform the NRC staff's proposed rule being developed. The meeting started at 1:00 p.m. ET and concluded at 4:00 p.m. ET. There were approximately 100 participants, including NRC staff and management, other Federal government agencies, State representatives, industry, non-governmental organizations, trade press, and other members of the public.

George Tartal from the Office of Nuclear Material Safety and Safeguards (NMSS) started the meeting by welcoming all attendees and describing the purpose, agenda, and meeting logistics. Jeremy Groom from NMSS provided opening remarks for the meeting and welcomed attendees. Mr. Tartal noted that the NRC staff would pause at the end of each technical topic to ask for questions and request feedback.

Cardelia Maupin from NMSS presented background information on waste classification and on the history of the rulemaking. David Esh from NMSS presented on safety case, technical assessments, and timeframes (compliance period). Priya Yadav from NMSS presented on waste acceptance criteria, exception criteria, significant quantities, and implementation guidance. Tim McCartin from NMSS presented on Agreement State matters and operational safety and criticality for GTCC waste. Mr. Tartal then presented on next steps, ways to obtain more information, and how to provide meeting feedback. The participants asked numerous questions during the staff presentations, as presented below. Mr. Tartal then adjourned the meeting. The meeting slides are available in ADAMS (see References below).

### Summary of Questions and Answers:

Q: Is all transuranic waste greater than 100 nCi/g being redefined as low-level waste?

A: Under Part 61, a licensee has always been able to dispose of transuranic waste. The current definition in Part 61 excludes transuranic waste. The change being contemplated in this rulemaking is to include transuranic waste in the definition of low-level waste.

Q: Does the NRC intend to identify each of the past Commission directions on this topic, and will the NRC address the line items from the GTCC regulatory basis document?

A: In the notice for this public meeting, the NRC provided links to two websites that describe the history of this rulemaking. The proposed rule will summarize some of these directions.

Q: Has the NRC analyzed how the proposed rule would impact current low-level waste disposal capacity in the U.S.?

A: The proposed rule is expected to enhance the ability to dispose of GTCC waste.

Q: Will the proposed rule require a safety case? Will there be guidelines on how to prepare one? Will it follow IAEA standards?

A: Yes, the proposed rule would require a safety case. It will be similar to but not identical to the IAEA safety case.

Q: What is the definition of a safety case? Will there be resources allotted to the public to intervene? Will the performance assessment be made publicly available so then can independently assess it and participate meaningfully?

A: Computer models and assessments should be documented and available unless there is some restricted information within. An objective for the safety case is to ensure transparency and availability of the information.

Q: Does the NRC anticipate expanding any of the low-level waste streams disposal to include HAZMAT facilities that currently can only receive low level waste with the case-specific approval from the NRC?

A: The NRC staff did not have an answer to this question during the meeting.

Q: Other than updating the definition of low-level radioactive waste, what aspect of the proposed rulemaking could be achieved through the development of regulatory guidance?

A: Guidance is not a requirement; therefore, it is not enforceable. The guidance supporting this rulemaking addresses how to implement the proposed rule changes, which are enforceable only in regulations.

Q: How would control rods from nuclear reactors be categorized under this proposal?

A: Staff responded that the NRC expectation is that these types of components will be stored and disposed of as part of the spent fuel assembly packages; in these cases, the control rods would be disposed as high-level waste. [Additional clarification the staff is providing after the meeting: the NRC recognizes that these components, if removed from fuel assemblies or not an integral part of the fuel assembly (e.g., control blades), would be considered activated metals and treated as low-level radioactive waste. The control rods would then be categorized based on their activity]. (Reference: The 2007 DOE document, "Greater-Than-Class C Low-Level Radioactive Waste And Doe Greater-Than-Class C-Like Waste Inventory Estimates," pages 21-22.)

Q: Will the site-specific intruder assessments assume a probability of 100% or will there be an allowance for a more reasonable probability based on current and foreseeable land uses? Will

the site stability assessment include a timeframe and will it be a separate compliance and or performance period?

A: No, though the probability of an intruder is difficult to estimate. There is a probability included in the 500 millirem dose limit that will be included in the intruder performance objective with the proposed rule changes, as this is higher than the public dose limit in 10 CFR Part 20 (100 millirem). There is no timeframe prescribed for or associated with the site stability analysis in terms of compliance and performance period.

Q: Can you provide some additional details about the regulatory basis for the waste types that you looked at to determine 10,000 nCi/g for transuranic radionuclides would be suitable for disposal at a near surface disposal facility?

A: The GTCC analysis is based on a 500-year intruder barrier and a minimum disposal depth of five meters. At that point the scenario moves from excavation to drilling and the radiological impacts are lower. It can also depend on how much waste is involved to make the case it could be safe.

Q: Is the use of the term "safety case" intended to be simply a set of facts or arguments supporting a position or decision, rather than an entirely standalone and new series of analysis that supporting a decision? There was an implied sense that this case was to be an entirely standalone set of supporting analyses.

A: The safety case is the set of facts or arguments supporting a position or decision.

Q: What is the technical basis for the five-meter depth requirement?

A: The five-meter requirement provides some safety margin in a scenario where a house might be built on that location and five meters is below the depth a typical house foundation might be excavated.

Q: Can the WAC override the tables in 10 CFR 61.55?

A: The NRC is planning to allow flexibility such that a licensee can develop its WAC based on its technical analysis in 10 CFR 61.13 and not be required to use the tables in 10 CFR 61.55, and the licensees meet with the Agreement State regulatory regularly to review their waste acceptance program. [Additional information staff is providing after the public meeting: Staff notes that waste classification tables in 10 CFR 61.55 will still be used by waste generators to classify low-level waste for shipment].

Q: Aside from the GTCC matters, is everything that was presented the same as the NRC had been proceeding with previously on Part 61?

A: There are some differences in the details below the staff presented on, but in general, yes, staff began with what was included in SECY-16-0106 for the current proposed rule changes.

Q: The cutoff for TRU waste is 100 nCi/g in the waste classification tables. Is the only way to dispose of greater than 100 nCi/g through a site-specific performance assessment?

A: The NRC is not changing the classification tables in this rulemaking. Above 10,000 nCi/g is generally considered not acceptable for low-level waste disposal in the near surface. There are also site-specific considerations.

Q: What happens between 100 nCi/g and 10,000 nCi/g? Is a site-specific assessment needed?

A: Yes, a site-specific assessment is needed for GTCC waste.

Q: Based on Commission direction on waste classification tables and technical basis for performance objectives, is the staff going to need another rulemaking?

A: The site-specific analyses required in this rulemaking will accommodate waste that does not fit well in the construct of the waste classification tables. Through site-specific technical analyses, licensees may be able to demonstrate that these other wastes can be disposed of safely. [Additional information staff is providing after the public meeting: The Commission previously issued SRM-SECY-2013-0001 that directs staff, after completion of the Pt 61 rulemaking, to evaluate whether there is a need for a second rulemaking to update the waste classification tables.]

Q: With regards to Agreement States having authority to license GTCC, under the Atomic Energy Act the NRC has exclusive licensing authority over certain materials that pose an unacceptable risk to the public. If the NRC chooses to provide that authority, then that has to be done by order or a rule. Would the rule have a prohibition or the inability for an Agreement State to license and dispose of transuranic waste exceeding 10,000 nCi/g, or how would an Agreement State license that?

A: Agreement States need to have compatible regulations to the NRC, and for the waste classification tables they have to be essentially identical.

Q: Is the exception to allow existing sites to choose not to take the new categories of waste and then not do any additional analysis or does it just allow them to take it without doing analysis?

A: The exception would be for existing licensees that do not want to take large quantities of long-lived radionuclides. If existing licensees are not interested in accepting those additional waste streams, then they would be excepted from doing the revised analysis [they would instead continue to meet the original Part 61 regulations]. If they are existing in effect and they are not planning to change what they are accepting to include significant quantities of long-lived radionuclides, then they would meet this exception. All sites that want to take waste streams that are long-lived would have to do the revised technical analysis and the performance objectives and all the other changes in the regulation unless they meet this exception.

Q: At site closure, would licensees have to revisit the analysis they did for waste that was previously received if the exception criteria applies to them?

A: If the licensees are using the exception criteria, whatever analyses they did originally for the waste at their site, they would continue with those types of analyses at site closure. So the licensees would do what they did originally, whenever they get to site closure.

Q: How long after staff delivers the proposed rule to the Commission will the Commission approve the draft proposed rule for public comment?

A: The Commission works to their own schedule and the Commission will provide direction to the staff once all Commissioners have voted on it.

Q: Will there be hearings or public meetings in Texas, South Carolina, Washington and Utah?

A: Once the Commission votes and if they approve to publish the proposed rule, the schedule will be set for additional public meetings in other locations. There are no specific plans for public meetings in those or other states at this time.

Q: Is there any analysis on comments that have been previously provided before the proposed rule is submitted to the Commission, since a number of comments have been provided, but it's

not clear how those comments have been addressed and many of the same comments could be provided again if they have not been addressed.

A: Regarding the prior Part 61 rulemaking comments, the proposed rule was published for comment in 2015 and we held 7 public meetings during that comment time. We issued a response to those comments in SECY-16-0106. There is an entire enclosure that has responses to all the comments that were made in the 2015 version of the Part 61 rule. Regarding the GTCC regulatory basis comments, there will be a summary of comments and responses included in the statements of consideration for the proposed rule.

Q: Will you be holding public meetings on the rulemaking and locations near the current low- level waste disposal facilities that would be affected by this rulemaking?

A: Once the Commission votes and if they approve to publish the proposed rule, we will do something similar to what we did in 2015 where we had meetings in all of the sited States and we had a meeting at headquarters and we had a webinar.

Q: In the SRM to SECY-20-0098 the Commission directed that the staff should take another look at the technical basis for the performance objectives in Part 61 and ensure that the compliance period is based upon scientific data, and use a graded approach. The third item in that direction states if, during the development of the new proposed rule, the staff determined that provisions in the final rule provided to the Commission in SECY-16-0106 are protective of public health and safety, including for long-lived radionuclides, the staff should propose those provisions to the Commission. Have you reached a conclusion about that particular challenge or direction by the Commission?

A: We believe that direction gives us the flexibility to go back to what was proposed in SECY-16-0106 and, for example, the site-specific waste acceptance criteria, the safety case, and other elements as a starting point for this proposed rule. We interpreted the language on the compliance period as allowing flexibility for the staff to propose other than what was directed in SRM-SECY-16-0106, that directed us to use 1,000 years as the compliance period.

### **Next Steps:**

The NRC staff is developing a proposed rule that is currently scheduled to be delivered to the Commission in November 2023. If the Commission approves, the NRC staff will publish the proposed rule in the *Federal Register* notice for public comment. After considering the public comments, the NRC staff plans to deliver a final rule to the Commission (date TBD).

### **References:**

- 5/17/2023 Public Meeting Notice - Public Meeting on Regulatory Concepts for the Integrated Low-Level Radioactive Waste Disposal Rulemaking, May 12, 2023 (ADAMS Accession No. ML23132A148)
- 5/17/2023 - NRC Staff Presentation on Regulatory Concepts for the Integrated Low-Level Radioactive Waste Disposal Rulemaking, May 17, 2023 (ADAMS Accession No. ML23130A189)

SUMMARY OF MAY 17, 2023, PUBLIC MEETING TO DISCUSS REGULATORY CONCEPTS FOR THE INTEGRATED LOW-LEVEL RADIOACTIVE WASTE DISPOSAL RULEMAKING

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GTartal, NMSS  
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**ADAMS Accession Nos.: ML23145A268**

OFFICE	NMSS/REFS/MRPB/PM	NMSS/REFS/MRPB/RS	NMSS/REFS/RRPB/BC	NMSS/DUWP/LLW PB/BC
NAME	GTartal	DBearde	JShepherd	PYadiv
DATE	5/25/2023	6/08/2023	6/08/2023	6/02/2023

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## MEETING ATTENDANCE

### PUBLIC MEETING TO DISCUSS REGULATORY CONCEPTS FOR THE INTEGRATED LOW-LEVEL RADIOACTIVE WASTE DISPOSAL RULEMAKING

#### WEBINAR

MAY 17, 2023, 1:00 P.M. – 4:00 P.M. (Eastern Time)

<b>U.S. Nuclear Regulatory Commission</b>	
Sarah Lopas	Maurice Heath
Tim McCartin	Adam Schwartzman
Boby Abu-Eid	Ryan Whited
Aaron Sanders	Hans Arlt
George Tartal	Kevin Williams
David Esh	Ryan Alexander
Neil Sheehan	Sheldon Clark
Steve Koenick	David Garmon
Priya Yadav	Diana Diaz Toro
Jill Shepherd	Joseph Giacinto
Jeremy Groom	Binesh Tharakan
Gary Purdy	Christine Pineda
Christianne Ridge	Joseph Azeizat
David Brown	Tricia Lizama
James Park	Don Lowman
Suzanne Dennis	Dafna Silberfeld
Laura Shrum	Julie Ezell
Krupskaya Castellon	Jessica Bielecki
Harry Felsher	

<b>Public</b>	
<b>Name</b>	<b>Affiliation (if provided)</b>
Christina Logan	Savannah River Site
Cheryl Head	State of Illinois
Larry Camper	
James Kirk	Savannah River Site
Coley Chappell	
Stephen Raines	
Cason	
Janet Schlueter	Nuclear Energy Institute
Jeff Burright	State of Oregon
Dan Shrum	
Larry Saraka	Terranear PMC
Mike Callahan	
Kirsten Davies	State of Connecticut
Andrea Mellon	State of New York
James Joyce	U.S. Department of Energy

Enclosure

Vern Rogers	Energy Solutions
Rodrigo Lobos	U.S. Department of Energy
Susan Krenzien	
Tim Orton	Energy Solutions
Austin Clark	Kairos Power
Caitlin Lindsey	Robben Law
Aaron White	U.S. Department of Energy
Gerard Couture	
Michael Kido	U.S. Department of Energy
Leonard Slosky	
Ron Parsons	State of Tennessee
Darcy Campbell	Electric Power Research Institute
Edgard Espinosa	U.S. Department of Energy
Diane D'Arrigo	NIRS
Mike Stephens	State of Florida
Wyatt Padgett	
Rich Janati	State of Pennsylvania
Bill Dundulis	State of Rhode Island
Doug Tonkay	U.S. Department of Energy
Noah Huston	USEcology
Daniel Cray	State of New York
Paul Underwood	Savannah River Site
Larry Kellum	
Hans Weger	State of Texas
Sean	
Kristen Schwab	State of Washington
Brad Broussard	State of Texas
Cassandra Fike-Hanley	
Mike Ault	USEcology
Philip Peterson	State of Colorado
Anthony Leshinskie	State of Vermont
Lidiana Cunningham	Government Accountability Office
Tom Kalinowski	
Marc Pawlowski	Constellation Nuclear
Rhonda Ford	U.S. Department of Energy
Bret Randall	State of Utah
Clifford McWilliams	State of Tennessee
Matt Hendrickson	State of Oregon
Tim	
Roger Seitz	
Chris Schwarz	
Earl Fordham	State of Washington
Daniel Schultheisz	U.S. Environmental Protection Agency
Linda Morris	
Michael Klebe	
Justin Marble	U.S. Department of Energy
Hillary Haskins	State of Oregon
Steven Loftus	



Lisa Bruedigan	State of Texas
Sherry Frenette	USEcology
Michael Snee	State of Ohio
Lloyd Generette	U.S. Environmental Protection Agency
Carlos Corredor	U.S. Department of Energy
Tim Gregoire	American Nuclear Society
Kelly Dixon	State of Oklahoma
Amanda Jablonski	DG Polan Law
Maatsi Ndingwan	U.S. Department of Energy
Matt Bowen	
Christopher Kemp	U.S. Department of Energy
Sonny	
Alyse Peterson	State of New York
James McCullough	State of New Jersey
Timothy Jenkins	USEcology
Tim Martinson	
Douglas Frenette	USEcology
Beth Moore	U.S. Department of Energy
Ashley Forbes	State of Texas
Amie Robinson	U.S. Department of Energy
Amber Schmidt	
Matthew Greenwood	State of Tennessee
Suzanne Klar	
Cassandra Fike-Hanley	
Patrick LaPlante	
Thomas Magette	Enercon
Todd Carpenter	State of Oregon
Jerry Ingram	State of Washington
Janice Dean	State of New York
Janey M	
John Greeves	
Dan Leone	Exchange Monitor
Ben Foard	MSTechnology
Linda	
Cassandra Fike-Hanley	
Scott Hansen	State of Virginia
Eric Boone	
Karl Von Ahn	State of Texas
Jerry Bingaman	State of Tennessee
Karen Burgard	
Rama Wusirika	State of Oregon
Cassandra Fike-Hanley	
Kim Steves	CRCPD
Tom Carver	U.S. Department of Energy
Suzanne Klar	
Joel Grimm	U.S. Department of Energy

Note: Attendance list based on Microsoft Teams participant list. This list does not include individuals who did not provide their last name either in registering for the meeting or by a follow-up email.