August 17th, 2026

U.S. Nuclear Regulatory Commission
11555 Rockville Pike,
Rockville, Maryland 20852

Subject: Public Comment on NRC's Integrated Low-Level Radioactive Waste Disposal (RIN 3150-AI92)

Dear NRC Staff,

The Nuclear Innovation Alliance (NIA) is an independent, non-profit, non-partisan "think-and-do" tank whose mission is to help create the conditions for success for new nuclear energy so it can play a major role as an energy security and climate solution. Through policy analysis, research, outreach, and education, NIA is catalyzing the next era of nuclear energy. We focus on regulatory modernization, federal and state policy, and enabling private investment to support new reactor commercialization while meeting national environmental and energy security goals.

NIA appreciates the opportunity to comment on the July 1, 2026, proposed Integrated Low-Level Radioactive Waste Disposal rule and draft guidance NUREG-2175. NIA is generally supportive of the proposed rule but notes some specific areas of concern. The following sections address some of the NRC's questions in their request for comment in addition to areas identified by NIA.

NRC Authority over Greater than Class C (GTCC)

NRC notes in this proposed rule that "consistent with the best reading of LLRWPAA [Low-Level Radioactive Waste Policy Amendments Act of 1985], this proposed rule would retain NRC's sole authority over licensing GTCC waste disposal facilities." The Agreement States have been able to assume regulatory authority for low-level waste in Class A, B, and C, but not every Agreement State has chosen to take this responsibility. It appears that the proposed rule language could raise issues regarding the respective roles of NRC and some Agreement States. The NRC previously granted the Waste Control Specialists LLC (WCS) in Andrews, Texas, exemptions from certain NRC regulations and permitting requirements to allow for storage of certain waste and in 2018 DOE issued an environmental assessment for the disposal of GTCC and GTCC-Like waste at WCS. WCS "has been safely working with GTCC LLRW for over two decades" [1] as they temporarily stored GTCC-like waste for DOE. WCS is regulated by the Texas

[1] http://wcstexas.com/support-wcs/

Commission on Environmental Quality (TCEQ). Additionally, it is not uncommon for waste brokers to use "concentration averaging" to combine materials with higher and lower activity so that the overall average is below the Class C upper limit. This was common practice for disposal of high activity sources used in oil/gas exploration by mixing it with concrete in a 55-gallon drum or other metal container to make the overall concentration in the container less than the Class C upper limit. On page 69 of the proposed rule, NRC states that the proposed changes to Part 61.16(b)(1) and (2) would not change the current orders for WCS or the Energy Solutions facility in Utah. Recognizing the complexity of having dual Federal and State regulators, generally federal environmental, health and safety statutes provide options for Federal agencies, like the EPA or OSHA, to empower their state counterparts with plenary regulatory authority, subject to review by the Federal agency. In contrast, proposed Part 61 does not address these potential complexities. If an existing site is authorized by the State to dispose of low-level waste, adding a GTCC license to the site would mean that both state and federal regulations apply, and federal and state regulators have jurisdiction, at one facility. For areas where the regulations overlap, like radiation measurements, the site would need to comply with both State and Federal regimes simultaneously. NRC does not provide any insight into how the process would work where these overlaps arise. **NIA recommends providing clearer definitions for what the Agreement State can regulate and how a facility with both low level and GTCC waste would be regulated.**

In Question 2 of NRC's request for comment, NRC asked what steps they can take to ensure that "states' insights are considered and received with respect to licensing GTCC facilities", **NIA recommends that NRC directly interact with the individual states on this topic.** The state agencies overseeing nuclear activities in the state will be highly impacted by this rule and may encounter dual regulations. Not every state will be impacted the same way because of state-by-state programmatic differences. Furthermore, some states send their waste to the Utah Energy Solutions facility or other facilities identified by compacts.[2] The pathways created through the compact program could be at risk because the rule and guidance are silent on compacts. Pursuant to 42 USC 2021(b), the Atomic Energy Act allows for States to take over certain regulatory responsibilities. In addition, 42 USC 2021(i) of the Atomic Energy Act allows for cooperation between the NRC and a willing state in circumstances where the NRC must retain or has retained jurisdiction.[3] Strengthening the NRC-State interactions on GTCC waste could lead to a cooperative agreement with a State or group of states to perform inspections or other functions as the NRC deems appropriate. Even though the NRC retains jurisdiction over the licensing of GTCC waste, cooperative agreements could allow a State to conduct appropriate licensing functions as long as the NRC retains ultimate authority. Where a facility is already licensed by a State, allowing the State through a cooperation agreement to exercise much of the licensing function over GTCC waste could foster synergies and administrative efficiencies. It is important that NRC fully understand any disruption or changes Part 61 may cause to current licensed facilities and the states where they are located.

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[2] Compacts are a group of two or more U.S. States that have formed alliances to dispose of low-level radioactive waste (LLW) per Compact | Nuclear Regulatory Commission

[3] "The Commission in carrying out its licensing and regulatory responsibilities under this chapter is authorized to enter into agreements with any State, or group of States, to perform inspections or other functions on a cooperative basis as the Commission deems appropriate." 42 USC 2021(i)

NRC also asked whether Part 61 Subpart F appropriately enables states to consider and provide input in NRC licensing of GTCC facilities. **NIA recommends that NRC further revise the outdated Subpart F**. As is currently written, states and Tribal populations can request participation "in the review of a license application for a land disposal facility." Subpart F was originally written in the 1980s and since then the relationship between the states and the NRC has changed significantly. Specifically, the Agreement States and NRC have developed a strong relationship as co-regulators. The NRC's Principles of Good Regulation were included in two joint NRC-State documents -- the Policy Statement on Adequacy and Compatibility of Agreement State Programs and the Statement of Principles and Policy for the Agreement State Program-- to foster "the common culture that the NRC and Agreement States share as co-regulators."[4] Furthermore, the States may be able to provide historical knowledge for some of the sites. Since the proposed rule would make NRC responsible for GTCC waste, **NIA recommends that NRC maintain this strong federal-state relationship and automatically allow the States' involvement rather than requiring States to request it.** NIA recognizes that NRC still will make the final regulatory decisions on GTCC, but NRC needs to revise Subpart F to take into account the evolved relationship with the States.

The NRC must also maintain a strong relationship with the Tribal populations. The NRC has Regional State Liaison Officers (RSLOs) who primarily interface between the states and the NRC but also maintain relationships with the federally recognized Tribes. These government-to-government relationships help create confidence, respect, and public trust. NRC must maintain communication with Tribal populations and allow participation in the reviews to the extent possible. As such, Subpart F should be revised to reflect the strong, engaged relationship that NRC has with the Tribal populations today.

Waste Acceptance Criteria (WAC)

In the proposed rule, Part 61.58 introduces two new definitions for site-specific and generic waste acceptance criteria. The proposed generic waste acceptance criteria refer back to the classifications defined in 61.55 and the characteristics in 61.56. It is important to note the term "waste acceptance criteria" is new in NRC regulations, but DOE uses this term in NE O435. The NRC notes that this proposed rule would help move stranded GTCC waste from DOE facilities. However, DOE and NRC define waste acceptance criteria differently, which could cause confusion instead of streamlining a path for this waste.

- **DOE definition of waste acceptance criteria:** The technical and administrative requirements that a waste must meet in order for it to be accepted at a storage, treatment, or disposal facility
- **NRC definition of waste acceptance criteria:** the requirements developed through technical analyses or other methods to ensure, in part, that waste disposed in a facility will meet the established performance objectives set forth in this part.

NRC has a clearer definition because it further defines generic and site-specific WAC and waste characterization. DOE does not have a breakdown of specific criteria. In general, the DOE criteria has not resulted in DOE accepting any GTCC waste for disposal despite the clear direction in the Low-Level Radioactive Waste Policy Act, as explained in the NRC proposed

[4] https://www.federalregister.gov/documents/2017/10/06/2017-21542/agreement-state-program-policy-statement

rule preamble. Draft NUREG-2175 section 8 addresses NRC's description of these definitions and what is allowed. Additionally, NRC classifies waste by Class A, B, C, and GTCC whereas DOE uses High-Level, Transuranic, and Low-Level waste. The proposed rule designates the new waste acceptance criteria definition as compatibility Category B for Agreement States, which means program elements cross jurisdictional boundaries and should be addressed to ensure uniformity of regulation on a nationwide basis. Compatibility Category B requires the Agreement State program element to be essentially identical to the NRC. Throughout the proposed rule, there is a strong emphasis on creating a path for stranded waste in addition to the various other proposed rulemakings that address transitions from DOE to NRC licensing. It would be more efficient if DOE adopted the NRC's definitions to allow for better characterization of waste. **NIA recommends that NRC and DOE align on these definitions to increase the efficiency of moving GTCC waste and to meet the emphasized goal of a path for stranded GTCC waste.**

Thresholds for Radionuclide Concentrations

NIA supports the NRC's proposal to establish a site-specific waste acceptance criteria pathway while retaining the existing generic classification approach. Differences between actual site conditions and practices at land disposal facilities and the generic assumptions used to develop the LLW classification system may result in the radionuclide concentration limits being either too restrictive or not restrictive enough. NIA agrees that site-specific technical analyses can better account for the characteristics of an individual disposal facility when it is conducted appropriately and can provide a more risk-informed and flexible framework compared to relying solely on generic concentration limits. However, NIA requests additional clarification on several aspects of the proposed rule to improve transparency, implementation, and regulatory certainty.

In the preamble of the proposed rule, the NRC does not identify the technical basis for the radionuclide concentration thresholds in proposed Table 3 of 10 CFR Part 61.55. Unlike the original Tables 1 and 2, which were derived and documented in NUREG-0945, the proposed rule does not explain how the Table 3 values were selected or where the supporting analyses may be found. Further, the proposed rule states that "some GTCC waste streams with concentrations of transuranic alpha-emitting radionuclides below 10,000 nanocuries per gram are suitable for near-surface disposal". However, the proposed Table 3 appears to establish substantially higher concentration thresholds for those radionuclides (e.g., 500,000 nanocuries per gram for the sum of alpha-emitting radionuclides with half-life greater than 50 years). **NIA recommends that the NRC explain the technical basis for the proposed Table 3 concentration thresholds and clarify the relationship between those thresholds and the 10,000 nanocuries per gram discussion in the preamble.**

Furthermore, NIA notes that future licensees may choose to utilize the generic classification approach rather than the site-specific approach, and that the generic classification approach may benefit from being updated to account for current and future waste streams. The NRC notes that the generic radionuclide concentration limits in Tables 1 and 2 found in 10 CFR Part 61.55 were developed in 1982 based on the technical analyses and waste characteristics available at the time, and documented in NUREG-0945, *Final Environmental Impact Statement on 10 CFR Part 61, Licensing Requirements for Land Disposal of Radioactive Waste".* More specially, as discussed in III.A of the proposed rule, the NRC states "isotopic concentration limits [in tables 1 and 2 of 10 CFR Part 61.55] were based on the NRC's understanding of the characteristics and volumes

of commercial LLW reasonably expected for commercial disposal through the year 2000, as well as the disposal methods likely to be used." Additionally, the NRC states that it "based the LLW classification tables in the current § 61.55 on radionuclide concentrations that would yield an annual dose comparable to 5 mSv (500 mrem) and adjustments to those values based on expectations about the composition of waste streams, among other factors." As advanced reactors are deployed, they are expected to generate novel GTCC waste streams with radionuclide inventories that differ from the waste streams the NRC evaluated when developing the generic concentration limits in Tables 1 and 2. **NIA recommends that the NRC evaluate whether the generic concentration limits remain appropriate or should be updated to reflect the characteristics of current and future waste streams**. Doing so would help ensure that the generic pathway remains a technically sound and practical option, rather than inadvertently forcing licensees to pursue a potentially more resource-intensive site-specific approach simply because the generic concentration limits no longer reflect current and anticipated waste streams.

ALARA

The proposed rule "replaces the 'as low as is reasonably achievable' requirements in the performance objectives for protection of the general population from releases of radioactivity and protection of individuals during operations in §§ 61.41 and 61.43, respectively, with references to dose limits in 10 CFR part 20."[5] On July 15, 2026, the NRC issued a proposed rule, Reforming and Modernizing the Radiation Protection Framework. This rule amends the regulations that govern radiation protection (Part 20) and removes references to ALARA. **NIA urges NRC to resolve any contradictions between the two proposed rules and ensure that they are harmonized in their implementation.** NIA will submit separate comments on the proposed Reforming and Modernizing the Radiation Protection Framework rule.

Compliance Periods

In NRC's request for comment Question 1, NRC requests input on what challenges could arise from performing analyses over the compliance period timeframes. NIA recognizes the long history of establishing compliance periods in the prior rulemaking efforts. Notably, in the prior proposed rulemaking NRC-2011-0012 Low-Level Radioactive Waste Disposal, NRC had proposed a 1,000-year compliance period and a 10,000-year protective assurance period. The protective assurance period was defined as the period from the end of the compliance period through 10,000 years following closure of the site.[6] Prior to the draft NRC-2011-0012 Low-Level Radioactive Waste Disposal, the NRC also considered a 20,000-year compliance period but ultimately moved towards the 1,000-year compliance period and the 10,000-year protective assurance period in that rulemaking.

This proposed rulemaking says nothing about a protective assurance period and instead follows a 1,000 year and 10,000-year compliance period, depending on the long-lived radionuclides at the site. The shift away from a vague protective assurance period to a clearer compliance period will help create more certainty and consistency across licensing. NRC notes in the current guidance associated with the rulemaking (NUREG-2175) that the "requirement is flexible such that

[5] Page 6 of the proposed rule
[6] https://www.regulations.gov/document/NRC-2011-0012-0077

different compliance periods can be used for different facilities and wastes. Some LLW may pose long-term risks while other types of LLW may not."

NIA is encouraged to see NRC take a more risk-informed approach to waste management. Appendix H of the NUREG describes how to determine which compliance period is appropriate. NIA commends the staff for providing a detailed Appendix H that also includes example scenarios. NIA is supportive of the changes but has some concerns about Agreement States implementing this method. The proposed rule designates the compliance period definition change as Category C, which means Agreement State programs may be more restrictive than NRC program elements. The current LLW facilities are all in Agreement States. If one of these facilities applies for a GTCC license through the NRC, there may be conflicting evaluations for the compliance period. **NIA recommends including in Appendix H how a conflict like this would be addressed as an additional example.**

Conclusion

The NRC emphasizes the goal of creating a path forward for stranded GTCC waste. The proposed rule needs to be durable and provide clear bounds for how GTCC waste will be handled with respect to existing waste sites, Agreement states, the Department of Energy, and current radionuclide thresholds.

NIA appreciates the Commission's leadership on this issue and the opportunity to provide input. If you have any questions, please contact Miranda McGuire at mmcguire@nuclearinnovationalliance.org.

Sincerely,

Judi Greenwald
President & CEO
Nuclear Innovation Alliance