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## POLICY ISSUE (Notation Vote)

October 21, 2020

SECY-20-0098

FOR: The Commissioners

FROM: Margaret M. Doane  
Executive Director for Operations

SUBJECT: PATH FORWARD AND RECOMMENDATIONS FOR CERTAIN  
LOW-LEVEL RADIOACTIVE WASTE DISPOSAL RULEMAKINGS

PURPOSE:

The purpose of this paper is to provide considerations, options, and the staff's recommendation for proceeding with (1) the Part 61 of Title 10 of the *Code of Federal Regulations* (10 CFR) rulemaking, "Low-Level Radioactive Waste Disposal" (10 CFR Part 61 rule); and (2) a proposed rulemaking to promulgate requirements for the near-surface disposal of greater-than-Class C (GTCC) waste (hereafter referred to as the GTCC waste rulemaking) in a consolidated and integrated rulemaking.

SUMMARY:

The U.S. Nuclear Regulatory Commission (NRC) staff is currently implementing two Commission-directed rulemaking activities, which are in different stages: (1) the 10 CFR Part 61 rule, and (2) the GTCC waste regulatory basis. This paper describes how the staff plans to address the most recent Commission direction on the 10 CFR Part 61 draft final rule. For GTCC waste disposal, staff has completed development and issuance of a draft regulatory basis for public comment. The draft regulatory basis included the staff's preliminary conclusion

CONTACT: George Tartal, NMSS/REFS  
301-415-0016

Cardelia H. Maupin, NMSS/DUWP  
301-415-4127

Stephen Dembek, NMSS/DUWP  
301-415-2342

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that most of the GTCC waste streams analyzed in the draft regulatory basis are potentially suitable for near-surface disposal and that most GTCC waste could be safely regulated by an Agreement State. After an analysis of the public comments received, staff has determined that this preliminary conclusion remains valid. The staff has identified and evaluated considerations and options for its path forward. As these two rulemaking efforts would both amend 10 CFR Part 61 and have related proposed requirements, the staff recommends they be consolidated and integrated into one proposed rule based on expected cost savings, consideration of stakeholder input, and efficiencies.

#### BACKGROUND:

The NRC promulgated its 10 CFR Part 61 regulations for the land disposal of low-level radioactive waste (LLRW) in 1982 (47 FR 57446; December 27, 1982). The 10 CFR Part 61 regulations were based, in part, on studies regarding the types of LLRW likely to go into a commercial disposal facility in the late 1970s and early 1980s. These assumptions, in turn, were based on a survey of LLRW generators at that time. The results of this survey ultimately formed the regulatory basis for the requirements in 10 CFR 61.55, "Waste classification." Section 61.55 categorizes LLRW into three principal classes, namely Class A, Class B, and Class C, based on their radiological hazard as determined by the concentration and type of radionuclides prescribed for each class. Class A waste is the least hazardous and Class C waste is the most hazardous that can be disposed of in a near-surface disposal facility. Those LLRW streams that contain radionuclide concentrations exceeding the limits for Class C waste constitute a fourth class of LLRW and are referred to as "greater-than-Class C" waste. Under the NRC's current regulations, GTCC waste is considered to be generally unacceptable for near-surface disposal and must be disposed of in a geologic repository unless the Commission approves, on a case-by-case basis, disposal of such waste in a disposal site licensed pursuant to 10 CFR Part 61.<sup>1</sup>

The staff is currently implementing two Commission-directed activities that could result in amendments to 10 CFR Part 61: (1) a LLRW disposal rulemaking to address the disposal of waste streams (e.g., depleted uranium) that were not envisioned to be disposed of in significant quantities when 10 CFR Part 61 was originally promulgated in 1982, and (2) a GTCC waste rulemaking that would promulgate near-surface disposal requirements beyond the case-by-case approval currently authorized in 10 CFR Part 61. Additionally, as part of the direction related to GTCC waste, the Commission approved the staff's recommendation to amend the 10 CFR Part 61 definition of "waste" such that LLRW that is acceptable for disposal under 10 CFR Part 61 no longer excludes transuranic waste.

In SECY-13-0075, "Proposed Rule: Low-Level Radioactive Waste Disposal (10 CFR Part 61) (RIN-3150-AI92)," dated July 18, 2013 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML13128A160), the NRC staff provided the Commission with a proposed rule to amend 10 CFR Part 61. The purpose of the proposed rule was to address LLRW streams (e.g., depleted uranium) currently generated, or that have the potential to be generated, but were not considered when the 10 CFR Part 61 regulations were promulgated in 1982. Such LLRW streams are likely to emanate from commercial uranium enrichment facilities

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<sup>1</sup> 10 CFR 61.55(a)(2)(iv).

and blended LLRW. These waste streams may contain large quantities of material near the upper bounds of the 10 CFR 61.55 waste classification system (i.e., at the Class C waste upper concentration limits in Tables 1 and 2 of 10 CFR 61.55) or different concentrations of constituents than those previously considered. The potential for LLRW streams to differ significantly in quantity and concentration from that initially considered by the 10 CFR Part 61 regulations warrants an update to the overall regulatory framework to ensure the protection of the public health and safety.

The Commission approved publication of the proposed 10 CFR Part 61 rule in a staff requirements memorandum (SRM), SRM-SECY-13-0075, dated February 12, 2014 (ADAMS Accession No. ML14043A371). The NRC published the proposed 10 CFR Part 61 rule for an initial 120-day comment period in the *Federal Register* (FR) on March 26, 2015 (80 FR 16081).<sup>2</sup>

In SECY-16-0106, “Final Rule: Low-Level Radioactive Waste Disposal (10 CFR Part 61) (RIN 3150-AI92),” dated September 15, 2016 (ADAMS Accession No. ML16188A290), the staff submitted a draft final 10 CFR Part 61 rule for Commission approval. In SRM-SECY-16-0106, dated September 8, 2017 (ADAMS Accession No. ML17251B147), the Commission directed the staff to make certain substantive revisions to the draft final rule and to publish it as a supplemental proposed rule for a 90-day public comment period.

The land disposal of GTCC waste, including near-surface disposal, is allowed on a case-by-case basis after Commission approval. The NRC currently has no specific technical safety and security requirements for such disposal.<sup>3</sup> Developing a potential GTCC waste rulemaking was originally intended to follow the completion of the 10 CFR Part 61 rulemaking. A licensee would be subject to the physical protection program requirements in 10 CFR Part 37 (or Agreement State equivalent) and they may also be subject to 10 CFR Part 73 if they possess a Category III quantity of strategic special nuclear material (SSNM).<sup>4</sup> To establish requirements for the near-surface disposal of GTCC waste as a matter of course, the NRC would need to revise its regulations. In September 2014, the Commission directed the staff to provide a historical perspective on GTCC waste disposal in SRM-M140918, “Briefing on Management of Low-Level Waste, High-Level Waste, and Spent Nuclear Fuel” (ADAMS Accession No. ML14267A365). Following this September 2014 Commission direction, on January 30, 2015, the Texas Commission on Environmental Quality (TCEQ) submitted a letter (ADAMS Accession No. ML15034A181) to the NRC staff regarding Texas’ authority to license the disposal of GTCC waste. In response to the Commission’s direction and TCEQ’s letter, the staff submitted SECY-15-0094, dated July 17, 2015 (ADAMS Accession No. ML15162A849), to provide the Commission with a historical perspective on the disposal of GTCC LLRW and to seek

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<sup>2</sup> The public comment period closed on July 24, 2015. NRC reopened the comment period (80 FR 51964; August 27, 2015) in response to requests from the public; the reopened comment period closed on September 21, 2015.

<sup>3</sup> The NRC’s current regulation, 10 CFR 61.55(a)(2)(iv), provides that the default disposal path for GTCC waste is disposal in a geologic repository. This regulation, however, allows for disposal in a 10 CFR Part 61 land disposal facility subject to the approval of the Commission.

<sup>4</sup> Agreement State licensees are subject to the critical mass thresholds set forth in 10 CFR 150.11, “Critical mass.” Additionally, in accordance with 10 CFR 150.14, “Commission regulatory authority for physical protection,” “persons” in Agreement States “possessing, using or transporting special nuclear material” above the Category III SSNM critical mass thresholds must comply with the physical protection requirements of 10 CFR 73.67. The term “person” is broadly defined in 10 CFR 150.3.

Commission approval of the staff's recommendation to allow the State of Texas to license the disposal of GTCC waste.

In SRM-SECY-15-0094, dated December 22, 2015 (ADAMS Accession No. ML15356A623), the Commission directed the NRC staff to prepare a regulatory basis for the disposal of GTCC waste through means other than deep geologic disposal, including near-surface disposal, and to provide the regulatory basis to the Commission for information within six months of completing the 10 CFR Part 61 rule. The Commission further directed that the regulatory basis should analyze whether, in accordance with Section 274c.(4) of the Atomic Energy Act, of 1954, as amended (AEA), the disposal of GTCC waste presents a hazard such that the NRC should retain authority over its disposal. The Commission directed that, if the staff concluded that some or all GTCC waste is potentially suitable for near-surface disposal, the staff should then proceed to develop a proposed rule to include disposal criteria for licensing the disposal of such waste under 10 CFR Part 61. In addition, the Commission approved the staff's recommendation to address transuranic waste disposal in 10 CFR 61.2.

On October 23, 2018, in SRM-M181011 (ADAMS Accession No. ML18296A479), the Commission directed staff to decouple, to the extent practicable, the issuance of the draft GTCC waste regulatory basis directed in SRM-SECY-15-0094 from Commission action on the 10 CFR Part 61 rulemaking to allow for earlier public engagement on staff's analysis of any potential regulatory barriers to the disposal of GTCC waste.

#### DISCUSSION:

#### **10 CFR Part 61 Rulemaking: Low Level Radioactive Waste Disposal (10 CFR Part 61 rule)**

SRM-SECY-16-0106 directed staff to prepare a supplemental 10 CFR Part 61 proposed rule. The staff plans to address the Commission direction from SRM-SECY-16-0106 in the following ways:

- Reinstatement of the use of case-by-case basis (i.e., "grandfather provision") by only applying the new requirements to future sites or to existing facilities that will accept large quantities of depleted uranium in the future. Current sites that do not plan to dispose of large quantities of depleted uranium would continue to be governed by the current framework. The staff would define the term "large quantities of depleted uranium" to mean more than 10 metric tons of depleted uranium, or other quantity or concentration of depleted uranium as determined to be protective of public health and safety by the regulator on a case-by-case basis.
- Reinstatement of the 1,000-year compliance period while performing a qualitative analysis for beyond 1,000 years and apply the 1,000-year compliance period to the inadvertent intruder performance objective in 10 CFR 61.42 and the site stability performance objective in 10 CFR 61.44.
- Clarify that the safety case consists of the quantitative performance assessment, as supplemented by consideration of defense-in-depth measures.

- Narrow defense-in-depth consideration to solely providing additional assurance in mitigating the effects of large uncertainties that are identified during the performance assessment.
- Document, in a revised regulatory analysis, the results of the staff's public solicitation of stakeholder views on broader and more fully integrated, but reasonably foreseeable, costs and benefits to the U.S. waste disposal system resulting from the proposed rule changes, including pass-through costs to waste generators and processors.

Additionally, the NRC staff plans to incorporate a change to the 10 CFR Part 61 definition of "waste," as directed in SRM-SECY-15-0094, to address revisions in the definition resulting from the Low-Level Radioactive Waste Policy Amendments Act of 1985 (the Amendments Act). Specifically, the staff plans to propose the deletion of the term "transuranic waste" from the second sentence of the "waste" definition paragraph in 10 CFR 61.2. The effect of this change would be to include LLRW streams containing transuranic waste within the scope of 10 CFR Part 61.

Further, in accordance with direction from SRM-SECY-13-0001 (revised), "Staff Recommendations for Improving the Integration of the Ongoing 10 CFR Part 61 Rulemaking Initiatives," dated March 26, 2013 (ADAMS Accession No. ML13085A318), the staff plans to provide a Commissioner's Assistants (CA) note within 6 months of the completion of the 10 CFR Part 61 rulemaking effort to address the need for another rulemaking that would undertake a comprehensive revision to update the 10 CFR Part 61 waste classification framework.

### **GTCC Waste Rulemaking**

Following the Commission direction in SRM-SECY-15-0094, staff proceeded with the development of a draft regulatory basis. As the 10 CFR Part 61 rulemaking has not been finalized, staff used the framework of the 10 CFR Part 61 draft final rule, supplemented by the Commission direction in SRM-SECY-16-0106, including provisions related to site-specific analysis and the intruder requirements, to evaluate the suitability of the waste that could potentially be disposed at a facility licensed to accept GTCC waste.

In a letter dated April 26, 2019, to NRC Chairman Svinicki and the Secretary of the U.S. Department of Energy Rick Perry (ADAMS Accession No. ML19121A544), State of Texas Governor Greg Abbott indicated that the Federal government should allow states with disposal sites for low-level radioactive waste to decide whether to accept GTCC waste. Governor Abbott also stated, "[a]t this time, I oppose any increase in the amount or concentration of radioactivity authorized for disposal at the facility in Andrews County, Texas."<sup>5</sup> The Governor further noted that Texas was ready to work cooperatively with federal partners to safely manage the use and disposal of radioactive materials. On June 5, 2019 (ADAMS Accession No. ML19129A300), Chairman Svinicki responded to the Governor stating that once a regulatory basis is finalized, the NRC staff will develop a recommendation for the Commission regarding the need to proceed with rulemaking. The Chairman further stated that the rulemaking process would provide additional opportunities for participation by the State of Texas and other stakeholders,

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<sup>5</sup> Letter from Governor Greg Abbott, State of Texas, to Rick Perry, Secretary, U.S. Department of Energy, and Kristine Svinicki Chairman, U.S. Nuclear Regulatory Commission (April 26, 2019), at 1.

including a formal comment period, before promulgation of any changes to the existing regulations.

A draft regulatory basis, "Regulatory Basis for the Disposal of Greater-than-Class C (GTCC) and Transuranic (TRU) Waste," was issued for public comment on July 22, 2019 (84 FR 35037) (ADAMS Accession No. ML19059A403). On August 22, 2019, the staff held a public Webinar from NRC headquarters, followed by a public workshop on August 27, 2019, in Austin, Texas, to facilitate stakeholder engagement. The comment period, originally scheduled to end on September 20, 2019, was extended to November 19, 2019 (84 FR 48309), as a result of stakeholder requests. Based upon its generic evaluation of the hazards and other considerations, the NRC staff determined that most of the GTCC waste streams analyzed are potentially suitable for near-surface disposal (i.e., approximately 80 percent of the total volume of all GTCC waste), provided appropriate controls are implemented and a sufficient site-specific analysis is conducted to ensure protection to inadvertent intruders and offsite individuals. Site specific analyses and refinement in the waste stream inventories could also result in a differing quantity of GTCC waste potentially acceptable for near-surface disposal than was determined in NRC's generic analysis. Additionally, in response to the Commission's direction in SRM-SECY-15-0094, and in accordance with AEA Section 274c.(4), the staff determined that most GTCC waste could be safely regulated by an Agreement State (i.e., approximately 95 percent of the volume of GTCC waste determined to be potentially suitable for near-surface disposal). The one waste stream potentially suitable for near-surface disposal but not deemed suitable for Agreement State regulatory oversight is waste from a potential future facility for molybdenum-99 production. This waste stream was deemed not suitable for Agreement State regulation because of the likelihood the presence of this waste at a facility would exceed the critical mass threshold of 10 CFR 150.11. In addition, the NRC staff found another approximately 20 percent of the waste volume found suitable for near-surface disposal, if accepted by an Agreement State licensee, could subject that licensee to NRC regulatory oversight for purposes of 10 CFR 73.67 (physical security) compliance per 10 CFR 150.14 based on the quantity of SSNM.

The staff recognizes that there are two possible interpretations of the Amendments Act: (1) a strict or "plain language" interpretation that would allow for NRC licensing of a GTCC waste disposal facility only; and (2) a broad interpretation, based upon the Amendments Act's legislative history and construing the Amendments Act together with AEA Section 274, that would allow for a willing Agreement State to license such a facility. Both interpretations are legally valid. The staff, however, continues to support the recommendation it made in SECY-15-0094, namely, that the Commission should adopt the broad interpretation allowing for Agreement State licensing. The staff's recommendation is premised upon the Agreement State meeting all requirements of AEA Section 274, demonstrating that it has satisfied all requirements of the NRC's Agreement State program, and would be limited to licensing for disposal only those GTCC waste streams that the staff has deemed to be potentially suitable for near-surface disposal and that, in accordance with AEA Section 274c.(4), not present a hazard such that the NRC should retain authority over disposal.

Enclosure 1 provides an alternative view on whether GTCC waste can be regulated by an Agreement State.

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 (DOE), and approximately 7,000 form letters from environmental groups. Several commenters acknowledged the high quality of the regulatory basis document and technical analysis. DOE expressed concern regarding the use of generic analyses and assumptions and analyses to categorically exclude specific waste streams from near-surface disposal but supported the use of site-specific analyses for such determinations. Some commenters supported the near-surface disposal of GTCC waste, whereas the majority of public commenters stated that GTCC waste should only be disposed of in a deep geological repository. Some commenters, including the Organization of Agreement States, stated it would be more efficient for the NRC to combine the 10 CFR Part 61 and GTCC rulemaking activities, thereby allowing the Agreement States to conduct a single conforming rulemaking. Waste Control Specialists, LLC (WCS), the entity who expressed interest in disposing of GTCC waste, stated that the draft regulatory basis provides sufficient detail on actions an applicant must meet and provides a potential pathway for Agreement State licensing. WCS also noted that rulemaking may not be efficient if there is only one potential licensee. The dispositioning of stakeholder comments will be documented in the context of the proposed rule if the Commission directs GTCC rulemaking or in the final regulatory basis if the GTCC rulemaking is discontinued.

After consideration of the comments received from the public and various stakeholders, the NRC staff continues to view that (1) the potential suitability of GTCC waste for near-surface disposal would need to be demonstrated by the appropriate site-specific analyses for the proposed site, and (2) the NRC staff's generic analyses illustrated that most of the GTCC waste streams evaluated in the draft regulatory basis analyzed by the staff can have the potential to be safely disposed of in a land disposal facility licensed by an Agreement State. The NRC staff does acknowledge that, consistent with comments provided by DOE, the NRC's generic analyses do not represent a regulatory decision regarding the approval or disapproval of a specific site for disposal of GTCC waste. As there are no established standards or requirements for GTCC waste disposal under the current regulations, the review and evaluation of any application would be on a case-by-case basis. Site specific analyses and refinement in the waste stream inventories are important factors in determining whether or not any GTCC waste stream is acceptable for near-surface disposal.

The NRC would be the licensing agency for a land disposal facility that would accept GTCC waste for disposal if such a facility were to be located in either a non-Agreement State or in an Agreement State for which the NRC had not discontinued and relinquished to that State the regulatory authority for LLRW disposal pursuant to AEA Section 274b. Under the NRC's current regulation, 10 CFR 61.55(a)(2)(iv), there is a path forward for Agreement State licensing of a facility that can accept GTCC waste for disposal, provided the NRC has relinquished to that State the regulatory authority for LLRW disposal.<sup>6</sup> Absent rulemaking, the Commission must

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<sup>6</sup> In 1981, the Commission issued a revision to its policy statement, "Criteria for Guidance of States and NRC in Discontinuance of NRC Regulatory Authority and Assumption Thereof by States Through Agreement," to "allow states to enter into agreements for low level waste only, and to incorporate the provisions and requirements of the Uranium Mill Tailings Radiation Control Act of 1978," 46 FR 7540 (January 23, 1981). Through this policy, the Commission established low-level waste as a separate category of regulatory authority that could be relinquished to a State. Prior to the 1981 revision, the only recognized categories of regulatory authority were those listed in AEA Section 274b., namely, source material, byproduct material, and special nuclear material in quantities not sufficient to

first approve any such proposal given the current language of 10 CFR 61.55(a)(2)(iv), which requires that the Commission approve any alternative to the default disposal of GTCC waste in a geologic repository. As part of the Commission's determination, the staff would most likely have to perform an AEA Section 274c.(4) hazards analysis. Once the Commission approves of a land disposal alternative (in the near-surface or at an intermediate depth), then a duly authorized Agreement State would be able to license the facility, provided that the Agreement State program has been found to be both adequate and compatible with the NRC's Agreement State program objectives.

The draft regulatory basis recommended certain regulatory changes to NRC's requirements in 10 CFR Part 150, "Exemptions and continued regulatory authority in agreement states and in offshore waters under Section 274," to accommodate Agreement State regulatory oversight of most GTCC waste disposal without any dual regulation. However, under the Commission's 1979 final rule on the security of Category III quantities of SSNM, the agency stated such SSNM was subject to the Commission's interest in protecting the common defense and security. Under Section 274(m) of the AEA, such activities are reserved to the NRC and thus require dual regulation of this material (i.e., safety by the Agreement State and security by the NRC). Accordingly, certain GTCC waste streams containing Category III quantities of SSNM would require NRC oversight of security activities, absent an explicit Commission reconsideration of the basis for the 1979 final rule.<sup>7</sup>

If the Commission approves rulemaking to establish requirements for the near-surface disposal of GTCC waste, and following reconsideration of the 1979 final rule, if the Commission decides to accommodate Agreement State licensing of facilities that can accept GTCC waste for disposal, then the staff would recommend changes to certain 10 CFR Part 150 regulations as part of the GTCC waste rulemaking. As described in the staff's draft regulatory basis,<sup>8</sup> these recommended changes include revising 10 CFR 150.14 and exploring regulatory approaches that would allow for a single regulator for an Agreement State licensee disposing of GTCC waste in a land disposal facility.

The potential for dual regulation arises if a "person" in an Agreement State, who holds an Agreement State license, possesses, uses, or transports a Category III quantity of SSNM, thereby triggering the requirement in 10 CFR 150.14 to comply with the physical protection requirements of 10 CFR 73.67, a regulation that can only be enforced by the NRC. Most likely, an Agreement State licensee would either need to obtain an NRC license or become subject to an NRC order, to allow for NRC oversight, inspection and enforcement of the 10 CFR 73.67

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form a critical mass. The relinquishment of regulatory authority for LLRW disposals can be presumed to be included in all AEA Section 274b. agreements entered into prior to 1981, provided the NRC relinquished to that State the full extent of authority that may be relinquished under Section 274b. See SECY-15-0094, at 4.

<sup>7</sup> The physical security provisions for the protection of Category III SSNM under 10 CFR 73.67 and the provisions of 10 CFR 150.14 (reserving activities subject to 10 CFR 73.67 to NRC oversight) were issued in a final rule titled "Safeguards Requirements for Special Nuclear Material of Moderate and Low Strategic Significance" (44 FR 43280; July 24, 1979). The final rule stated these provisions were being issued in the Commission's interest of assuring adequate protection of the common defense and security for such materials.

<sup>8</sup> "Regulatory Basis for the Disposal of Greater-than-Class C (GTCC) and Transuranic (TRU) Waste" (July 2019), § 4.3.



requirements. Therefore, a potential rulemaking could explore appropriate requirements for the handling and disposal of such waste that could be regulated by an Agreement State.

Finally, the NRC can consider revising 10 CFR 150.15 by removing certain categories of persons in Agreement States from being subject to NRC licensing and regulatory requirements for the sole purpose of disposing of GTCC waste in a land disposal facility.<sup>9</sup> These categories of persons would then be subject to Agreement State licensing. The categories of persons that would be removed from the categories listed in 10 CFR 150.15 are those persons who seek to store or dispose of GTCC waste resulting from the “separation in a production facility of special nuclear material from irradiated nuclear reactor fuel” (10 CFR 150.15(a)(4)) and those persons who seek to store or dispose of reactor-related GTCC waste (10 CFR 150.15(a)(8)).

#### *Basis for approving GTCC Waste Rulemaking*

Based on its evaluation of the draft regulatory basis, stakeholder comments, and rulemaking regulatory process considerations, the staff recommends conducting a rulemaking on GTCC waste disposal for these reasons:

- The staff has concluded that most GTCC waste streams analyzed in the draft regulatory basis are potentially suitable for near-surface disposal. Given the appropriate site-specific characteristics, these waste streams could potentially be safely regulated by an Agreement State.
- A rulemaking to provide improved clarity and consistency in the requirements would provide applicants for the near-surface disposal of GTCC waste with greater regulatory certainty than the current case-by-case process under 10 CFR 61.55(a)(2)(iv).
- Although the staff has historically found that GTCC waste is being stored safely, the NRC considers waste disposal as the safest and most secure long-term LLRW management approach.<sup>10</sup> This rule potentially could make acceptable disposal pathways available sooner than the current, default geological repository pathway.

#### *Overview of a Potential GTCC Waste Rulemaking*

Any rulemaking authorizing the near-surface disposal of GTCC waste would need to include requirements for radiological protection during the facility’s operational period and after the closure of the disposal facility; these requirements would be to protect both inadvertent intruders and offsite individuals. The rule also would need to address regulatory concerns such as Agreement State licensing and the control of special nuclear material during operations.

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<sup>9</sup> The recommended changes to 10 CFR 150.14 and 150.15 related to GTCC waste disposal would also pertain to those activities preceding the disposal of the GTCC waste, including the transportation of the GTCC waste to the land disposal facility, the receipt of the GTCC waste by the licensee, and any storage pending disposal.

<sup>10</sup> See the Policy Statement of the U.S. Nuclear Regulatory Commission on Low-Level Radioactive Waste Management and Volume Reduction, (77 FR 25760), dated May 1, 2012, (ADAMS Accession No. ML15023A098).

In the draft regulatory basis, the staff provided an overview of potential impacts and revisions to 10 CFR Part 61 that would be needed for consideration of near-surface disposal of GTCC wastes. In developing a proposed rule, the staff would consider:

- Requiring applicants to submit a site-specific analysis showing that the performance criteria in Subpart C, “Performance Objectives,” of 10 CFR Part 61 would be met for any GTCC wastes being considered for near-surface disposal (the staff would expect to impose requirements essentially identical to those currently proposed in the 10 CFR Part 61 rulemaking).
- Requiring GTCC wastes to be disposed of at a minimum depth of 5 meters below the surface of the earth *and* with a 500-year intruder barrier in place.
- Amending 10 CFR 61.55(a)(2)(iv) to delete the requirement that GTCC waste must be disposed of in a geologic repository as defined in 10 CFR Part 60 or 63.
- Exploring regulatory approaches that would allow for a single regulator for an Agreement State licensee disposing of GTCC waste in a land disposal facility, including potential amendment to 10 CFR 150.14 and 150.15.

### **Options for Path Forward for the GTCC and 10 CFR Part 61 Waste Rulemakings**

Based on the above discussion, staff has identified the following options: Option 1 (preferred) – issue a re-proposed rule that consolidates and integrates the GTCC waste and 10 CFR Part 61 rulemaking activities, and Option 2 – discontinue the GTCC waste rulemaking and complete the 10 CFR Part 61 rulemaking.

#### Option 1: Issue a re-proposed rule that consolidates and integrates GTCC waste and 10 CFR Part 61 LLRW rulemaking activities

Under this option, the staff would conduct a rulemaking effort that consolidates and integrates GTCC waste and 10 CFR Part 61 rulemakings and implements the basis for the GTCC waste rulemaking discussed above.

The staff recommends issuing a new proposed rule that would include the scope of the 10 CFR Part 61 rule and its associated guidance, in combination with the scope of the GTCC waste rulemaking. The staff recommends to “re-propose” the rule because of the significant additional regulatory changes associated with the GTCC waste rulemaking that members of the public have not yet had an opportunity to comment on, and the substantive revisions to the 10 CFR Part 61 rulemaking that were directed by the Commission in SRM-SECY-16-0106. This approach would allow the agency to be able to clearly explain to the public its updated proposal within the context of all changes to the requirements. Stakeholders will be able to review and comment on the entire updated proposal at one time without having to reference other earlier documents, such as the NRC’s proposed 10 CFR Part 61 rule that was published in March 2015. The staff would be able to evaluate and address public and other stakeholder comments within the context of the new proposal.

This effort would effectively coordinate internal processes and require fewer resources than conducting separate rulemakings (see Enclosure 2 for detailed resource estimates). Specific areas of consideration are discussed below.

- 1) Overlapping Technical Requirements – The staff relied upon and imported technical concepts and methodologies from the 10 CFR Part 61 proposed rule into the GTCC regulatory basis, as appropriate. The two rulemakings have several areas of overlapping requirements, including site specific analyses, inadvertent intruder assessments, and performance assessments.
- 2) Resource Savings – Staff expects to save resources by consolidating the rulemakings; staff would develop and coordinate Commission review of one rulemaking package for the re-proposed rule, and one package for the final rule.
- 3) Enhanced Coordination – Pursuing one integrated rulemaking effort on the same part in 10 CFR would facilitate better use of staff resources and improve external coordination with other agencies, particularly, the Office of Management and Budget (OMB), as OMB will only review one rule affecting a 10 CFR part at a time.
- 4) Streamlined Stakeholder Outreach – An integrated rulemaking would facilitate communications and outreach with stakeholders. Specifically, re-proposing the 10 CFR Part 61 rule would provide clarity on the interface between the 10 CFR Part 61 and GTCC waste requirements, making it more straightforward for stakeholders to review and provide comment. An integrated rulemaking would provide the basis for a sound consideration of the cumulative effects of regulation and conserve stakeholder, industry, and Agreement States resources.
- 5) Schedule – The staff expects consolidating the rulemaking activities will involve a modest amount of additional time to complete the 10 CFR Part 61 rulemaking in order to provide for:
  - 1) Commission review of staff's proposal to integrate and issue a re-proposed rule; and
  - 2) additional Agreement State interaction on the GTCC waste aspects (approximately 2 months). Staff believes there is no significant disadvantage to the longer time frame because operating sites are already effectively meeting what would be the safety requirements proposed in the 10 CFR Part 61 rule.

The risk of this option would be spending time and resources to pursue rulemaking for GTCC waste, when there may be only a limited number of potential applicants. Option 1 mitigates this risk by limiting the additional resources needed to implement the GTCC rulemaking by consolidating and integrating it with the existing 10 CFR Part 61 rulemaking effort, as discussed above.

#### Option 2: Discontinuation of the GTCC waste rulemaking and completion of 10 CFR Part 61 rulemaking

Under this option, the staff would discontinue the GTCC waste rulemaking because:

- The current regulation, 10 CFR 61.55(a)(2)(iv), allows for the consideration of near-surface disposal through Commission approval on a case-by-case basis. Further, it is not certain that the NRC will receive an application for a license for the near-surface disposal of GTCC wastes. The staff expects that only one of the existing LLRW disposal facilities would express interest in accepting and disposing of GTCC waste because of the comparably small volume of GTCC waste that has been or is expected to be generated.
- There are some stakeholders who oppose this rulemaking and believe that the primary pathway for GTCC waste disposal should continue to be a geological repository because this pathway would provide a higher level of safety for GTCC wastes, which include long-lived radionuclides in greater concentrations than the LLRW currently authorized for near-surface disposal.

Without the GTCC waste rulemaking, any approval or licensing of GTCC waste disposal would be done on a case-by-case basis as provided in the current regulation, 10 CFR 61.55(a)(2)(iv). Under the NRC's current regulation, 10 CFR 61.55(a)(2)(iv), there is a path forward for Agreement State licensing of a facility that can accept GTCC waste for disposal, provided the NRC has relinquished to that State the regulatory authority for LLRW disposal. Absent rulemaking, the Commission must first approve any such proposal given the current language of 10 CFR 61.55(a)(2)(iv), which requires that the Commission approve any alternative to the default disposal of GTCC waste in a geologic repository. Once the Commission approves of a land disposal alternative (in the near-surface or at an intermediate depth), then a duly authorized Agreement State would be able to license the facility, provided that the Agreement State program has been found to be both adequate and compatible with the NRC's Agreement State program objectives.

If the Commission votes to discontinue the GTCC waste rulemaking, the staff would then proceed with the 10 CFR Part 61 rulemaking activities. The NRC regulations should be updated to address the current and potential disposals in low-level waste facilities that were not anticipated when 10 CFR Part 61 was first promulgated in 1982, as there remains a technical and safety basis to go forward with the 10 CFR Part 61 rulemaking.

Discontinuing the GTCC waste rulemaking would result in resource savings (shown in Enclosure 2), which could be re-allocated to higher-priority activities. As part of the discontinuation process, the staff would finalize the GTCC waste draft regulatory basis, with appropriate consideration of public comments, so it could be used to support potential future rulemaking efforts, if needed.

Under Option 2, the staff is proposing two sub-options for completing the 10 CFR Part 61 rulemaking. For Options 2a and 2b presented below, the staff expects either option would require approximately the same level of resources.

#### Option 2a. Issue a Supplemental 10 CFR Part 61 Proposed Rule

In accordance with direction from SRM-SECY-16-0106, the staff would make those directed revisions to the 10 CFR Part 61 draft final rule and publish those revisions as a supplemental

proposed rule for public comment. A supplemental proposed rule is intended to provide members of the public an opportunity to comment on NRC's changes to the proposed rule, which was previously published in the *Federal Register* in March 2015. As such, under this process, the public would be limited to only commenting on those changes necessary to address the SRM directed changes on the draft final rule, which was not subject to public comment. Any additional changes associated with addressing the public comments on the original proposed rule, if outside of the specific SRM direction, would not be subject to additional public comment. To understand the full context and extent of changes to 10 CFR Part 61, stakeholders would likely need to review the original proposed rule, the draft final rule, and the supplemental proposed rule.

The staff would submit the supplemental proposed rule to the Commission for review and approval. The staff expects that it would take approximately 12 months to develop a supplemental proposed rule.

#### Option 2b. Issue a 10 CFR Part 61 Re-Proposed Rule

The other option staff has identified is re-proposing the 10 CFR Part 61 rule, and associated guidance, in its entirety for public comment. The re-proposed rule would address Commission-directed changes in SRM-SECY-16-0106, along with the additional changes the staff had included in the draft final rule. The changes needed from the original proposed rule are substantive and affect a significant portion of its scope. The approach of issuing a re-proposed rule would allow the public to comment on the full contents and scope of the changes. This approach would also allow stakeholders who did not comment on the 2015 proposed rule to have an opportunity to comment on the entire rule now, based on updated information.

The staff would submit the re-proposed rule to the Commission for review and approval. The staff expects that development of a re-proposed rule would also take approximately 12 months. If the Commission chooses Option 2, the staff recommends Option 2b to facilitate clearer and more comprehensive stakeholder review without any additional resource needs.

#### COMMITMENT:

If the Commission approves Option 1, staff will:

1. Submit the re-proposed rule that consolidates and integrates GTCC waste and 10 CFR Part 61 LLRW rulemaking activities, and associated guidance documents, to the Commission within 14 months from the receipt of an SRM.
2. Submit the final rule to the Commission for approval within 12 months of the close of the comment period for the re-proposed rule.
3. Seek opportunities to communicate to external stakeholders the planned path forward.

4. Engage the active participation of Agreement State representatives during the development process, which is reflected in the time estimates.

#### RECOMMENDATION:

Consistent with the Commission's direction in SRM-SECY-15-0094, the staff has concluded that most of the GTCC waste streams it evaluated in the draft regulatory basis are potentially suitable for near-surface disposal. As further directed by SRM-SECY-15-0094, the staff has analyzed whether, in accordance with AEA Section 274c.(4), the disposal of GTCC waste presents a hazard such that the NRC should retain authority over its disposal. In this regard, the staff has concluded that most of the GTCC waste streams potentially suitable for near-surface disposal do not present a hazard such that the NRC should retain disposal authority. Based on these conclusions and consistent with the Commission's direction in SRM-SECY-15-0094, the staff recommends that the Commission approve Option 1 to issue a re-proposed rule that consolidates and integrates criteria for licensing the disposal of GTCC waste and 10 CFR Part 61 LLRW rulemaking activities, and provides for Agreement State licensing of those GTCC waste streams that meet the regulatory requirements for near-surface disposal and not presenting a hazard such that NRC should retain disposal authority. Additionally, for GTCC waste streams containing SSNM, the staff recommends exploring regulatory approaches that would allow for a single regulator for an Agreement State licensee disposing of GTCC waste in a land disposal facility, including potential amendment to 10 CFR 150.14 and 150.15.

Enclosure 1 to this paper includes alternative views that the federal government, and the NRC for civilian waste, must license any low-level waste facility accepting GTCC waste. The Executive Director for Operations and the Deputy Executive Director for Operations for Materials, Waste, Research, State, Tribal, Compliance, Administration, and Human Capital Programs as well as the Executives in the Office of Nuclear Materials Safety and Safeguards met with staff that filed the alternative views. We find these views to be compelling but not dispositive of the issues for the following reasons.

This paper is largely focused on the health, safety and environmental considerations of disposing of waste in a licensed low-level waste, near-surface facility, rather than a deep geologic repository. This question was previously left unresolved and now having considered the characteristics of the waste, from a technical perspective, the staff finds that a portion of the waste characterized as GTCC waste, possibly can be safely and securely disposed of in a near-surface, low-level waste facility. Importantly, the staff also finds that from a health and safety matter this material is not so hazardous that it requires exclusive federal jurisdiction as contemplated under AEA Section 274c(4). Finally, the Office of the General Counsel reviewed all the new information in this paper, including the alternative views, and concluded that as a legal matter, the Amendments Act can be read to support the recommended option.

Accordingly, the staff finds that as a policy matter, the better view is that surface disposal is best handled in a consistent manner. GTCC waste, like other low-level waste not requiring exclusive federal jurisdiction from a safety or security perspective, should be eligible for the NRC Agreement State program. This decision would also not affect the NRC's responsibility over the national materials program to develop safety and security regulations, and compatibility

standards for this material. Further, any GTCC waste requiring deep geologic disposal would remain a federal responsibility consistent with the NRC's jurisdiction to license a deep geologic repository for high level waste.

We very much appreciate the alternative staff view and feel that it has contributed to a thorough consideration of this matter.

#### RESOURCES:

Enclosure 2 (non-public) provides a detailed breakdown of current budgeted resources for the 10 CFR Part 61 and GTCC waste rulemakings, as well as estimated resources for both Options 1 and 2. Resources to support the 10 CFR Part 61 and GTCC waste rulemakings are included in the fiscal year (FY) 2021 President's Budget. Resources for FY 2022 and beyond would be addressed through the planning, budget, and performance management (PBPM) process. If the Commission approves Option 1 to conduct a consolidated rulemaking, staff would reallocate the surplus resources through the PBPM process.

#### COORDINATION:

The Office of the General Counsel (OGC) reviewed this package and has no legal objection (NLO) to this SECY paper and to enclosure 2. As a differing views statement, enclosure 1 is not encompassed within OGC's NLO review.

The Office of the Chief Financial Officer reviewed this package and determined that it has no financial impact other than those identified in the resource enclosure.

**Margaret M. Doane**

Margaret M. Doane  
Executive Director  
for Operations

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Doane  
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#### Enclosures:

1. Differing Views on Agreement State  
Regulation of GTCC Waste Disposal
2. Resources (non-public)

## **Differing Views on Path Forward and Recommendations for Certain Low-Level Radioactive Waste Disposal Rulemakings**

There are differing views among some of the U.S. Nuclear Regulatory Commission (NRC) staff on assertions made in the Commission paper, "Path Forward and Recommendations for Certain Low-Level Radioactive Waste (LLRW) Disposal Rulemakings" (henceforth referred to as "the Commission Paper"). The major point of disagreement is whether the Low-Level Radioactive Waste Policy Amendments Act of 1985 (LLRWPA) and the Atomic Energy Act of 1954, as amended (AEA) would allow greater than-Class C (GTCC) waste disposal to be regulated by Agreement States.<sup>1</sup> In addition, there are differing views on whether the NRC relinquished its GTCC regulatory authority to pre-1981 Agreement States.

### **LLRWPA and AEA: Supports NRC's Exclusive Authority Over GTCC Waste**

For more than 30-years, it was settled law and policy that GTCC waste disposal is a Federal responsibility requiring NRC-regulation under the LLRWPA. The NRC worked closely with Congress to craft this legislation to include, among other things, the insertion and application of the phrase "NRC-regulated" to GTCC waste disposal. In testimony before Senate and House committees, Mr. Wayne Kerr, then-Director of the Office of State Programs, clearly articulated the Commission's position that GTCC waste disposal should be a Federal responsibility and should be "NRC-regulated."<sup>2</sup> Commissioner Baran noted this history in his vote on SECY-15-0094, "Historical and Current Issues Related to Disposal of Greater-Than-Class C Low-Level Radioactive Waste," in which the NRC staff recommended that the State of Texas be allowed to license the disposal of GTCC waste at the Waste Control Specialists (WCS) LLRW facility in Andrews, Texas. By citing numerous examples from the LLRWPA's legislative history, the Commissioner's vote sheet clearly documents that Congress, States, and the NRC, all agreed, that the NRC is to be the exclusive licensing authority for all GTCC waste disposal. (See the NRC's Agencywide Documents Access and Management System [ADAMS] Accession No. ML15356A678). Commissioner Baran noted that:

The staff paper and TCEQ [Texas Commission on Environmental Quality] letter pose the threshold question of how to interpret the GTCC-related provisions of the [Low-Level Radioactive Waste Policy] Amendments Act. Although it is a complex question, I believe the soundest reading of the Amendments Act is that it provides for exclusive NRC licensing of all GTCC waste disposal... Section 3(b)(1) of the Amendments Act states: 'The Federal Government shall be

Contact: Cardelia Maupin, NMSS/DUWP  
301-415-4127

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<sup>1</sup> This differing view does not address the NRC guidance, "Concentration Averaging and Encapsulation Branch Technical Position," (80 FR 10165) that provided acceptable methods that can be used to perform concentration averaging of LLRW for the purpose of determining its waste class for disposal. However, it is notable that the Technical Position provides, "extreme measures to lower the waste classification should be avoided."

<sup>2</sup> The NRC testified on the proposed LLRWPA before three Senate Committees, and to two House Committees. All of the NRC testimony indicated that GTCC disposal was to be NRC-regulated: (1) June 4, 1985 letter from NRC Chairman Nunzio J. Palladino to the Honorable Strom Thurmond, Chairman of the Committee on the Judiciary, (ADAMS Accession No. ML051720671); and (2) July 26, 1985 letter from Carlton Kammerer, Director of OCA, to the Honorable Morris Udall, Chairman of the Subcommittee on Energy and the Environment Committee on Interior and Insular Affairs, United States House of Representatives (ADAMS Accession No. ML051720672).



responsible for the disposal of ... low-level radioactive waste with concentrations of radionuclides that exceed the limits established by the Commission for class C radioactive waste, as defined by section 61.55 of Title 10 of the *Code of Federal Regulations*, as in effect on January 26, 1983]. This provision clearly establishes that disposal of GTCC waste is solely a federal responsibility. Section 3(b)(2) directly addresses the question of who licenses a GTCC waste facility. ... The plain language of the statute clearly indicates that NRC is the licensing authority for disposal of GTCC waste. There is nothing in the text of the provision that suggests that Congress contemplated or provided for Agreement State licensing of GTCC waste disposal facilities. ....

Th[e] legislative history reinforces the plain language of the Amendments Act. ... The statements of these key members of the Senate and House also show that Congress meant what it said in the statute: GTCC must be disposed of in an NRC-licensed facility. Conspicuously absent from all of these Congressional descriptions of the licensing responsibility for GTCC waste disposal is any mention of Agreement States or suggestion that Agreement States could license such a facility. ... It is difficult to believe that Congress intended to allow Agreement States to license GTCC waste disposal facilities without any legislators even hinting that this was the case.

The analysis in the Commissioner Baran's vote sheet is consistent with numerous NRC official statements, correspondence, and publications on GTCC waste disposal. They include, but are not limited to: (1) SECY-86-085, "Low-Level Radioactive Waste Policy Amendments Act of 1985," dated March 11, 1986 (ADAMS Accession No. ML051730665); (2) Letter dated April 30, 1987 to the Honorable Quentin N. Burdick, Chairman, Committee on Environment and Public Works, United States Senate, from William C. Parler, NRC General Counsel, (ADAMS Accession No. ML051720675); (3) Transcript from the August 4, 1987, "Commission Briefing on the Management of Greater Than Class C (GTCC) Level Waste and the Low-Level Waste Program," (ADAMS Accession No. ML051720639); (4) NUREG/CP-0085, "Meeting With States on the Low-Level Radioactive Waste Policy Amendments Act (LLRWPA) of 1985," June 24-25, 1986; (5) NUREG/BR -021, "Regulating the Disposal of Low-Level Waste," (ADAMS Accession No. ML120720225) published August 1989; (6) NUREG-1213, Rev. 1, "Plans and Schedules for Implementation of U.S. Nuclear Regulatory Commission Responsibilities Under the Low-Level Radioactive Waste Policy Amendments Act of 1985 (P.L. 99-240)," published August 1987; and (7) SECY-07-0180, "Strategic Assessment of Low-Level Radioactive Waste Regulatory Program," dated October 17, 2007 (ADAMS Accession No. ML071350299). This Assessment states, "NRC is responsible for reviewing a license application for a GTCC disposal facility."

In addition, Section 4(b)(3)(A) of the LLRWPA states:

Nothing contained in this Act or any compact may be construed to confer any new authority on any compact commission or State ... to regulate the packaging, generation, treatment, storage, disposal, or transportation of low-level radioactive waste in a manner incompatible with the regulations of the Nuclear Regulatory Commission...

By the language in Section 4(b)(3)(A) and referencing the NRC's regulations at Section 61.55 of Title 10 of the *Code of Federal Regulations* (10 CFR) throughout the LLRWPA, Congress

made it abundantly clear that the NRC is the exclusive regulatory authority for establishing requirements for disposal of all LLRW in the Nation, including GTCC waste disposal. The law also declares that the NRC's authority is not to be usurped by any compact or State.

### **NRC's Regulations: Supports NRC's Exclusive Authority Over GTCC Waste**

In accordance with the LLRWPA and the AEA, the NRC demonstrated its authority in the area of GTCC waste disposal by the promulgation of its final rule, "Disposal of Radioactive Wastes," (54 FR 22583, dated May 25, 1989). Throughout the Statement of Considerations (SOC) for the final rule, it is stated that GTCC wastes must be disposed of in a facility licensed by the NRC and that it is a Federal responsibility similar to high-level waste. Paragraph (e) of the SOC stated, "...GTCC wastes must be disposed of in a facility licensed by the NRC--a constraint imposed by the [LLRWPA] LLWPA." Moreover, the SOC for the final rule provided:

First, by amending 10 CFR 61.55, it would henceforth require all greater-than-Class-C waste to be disposed of in a geologic repository unless an alternative proposal is approved by the Commission. Second, the jurisdictional reach of 10 CFR Part 61 would be extended to cover all activities of the Department of Energy that may be subject to the licensing and regulatory authority of the Commission. This is intended to reflect the policy of the Low-Level Radioactive Waste Policy Amendments Act, which provides that all commercially-generated waste with concentrations exceeding Class C limits shall be disposed of in a facility licensed by the Commission that the Commission determines is adequate to protect the public health and safety...

The language of the final rule implemented the NRC's authority over GTCC waste disposal in 10 CFR 61.55(a)(iv), which, among other things, provided:

Waste that is not generally acceptable for near-surface disposal is waste for which form, and disposal methods must be different, and in general more stringent, than those specified for Class C waste. In the absence of specific requirements in this part, such waste must be disposed of in a geologic repository as defined in part 60 or 63 of this chapter unless proposals for disposal of such waste in a disposal site licensed pursuant to this part are approved by the Commission.

### **NRC's Compatibility Determinations: Supports NRC's Exclusive Authority Over GTCC Waste**

As required by all Agreement States, the State of Texas acknowledged NRC's authority for GTCC waste disposal in its regulatory program by adopting regulations compatible with those of the NRC in 10 CFR 61.55 (a)(iv). The Texas Administrative Code 336.362(a)(2)(D), states:

Waste that is not generally acceptable for near-surface disposal is waste for which form, and disposal methods must be different, and in general more stringent, than those specified for Class C waste. Disposal of this waste is regulated by the United States Nuclear Regulatory Commission.

The adoption of this regulatory language by the State of Texas was required by the NRC as a matter of compatibility in an October 2, 2003, letter from Mr. Paul H. Lohaus, Director of the

Office of State and Tribal Programs, to Ms. Susan Jablonski, Technical Advisor, TCEQ. (ADAMS Accession No. ML032760041). Mr. Lohaus specifically noted that:

Texas is providing that Texas will regulate the disposal of GTCC waste. ... Texas cannot regulate the disposal of such GTCC waste. The State needs to alter its definition [of Federal Facility Waste] to exclude GTCC that results from activities of NRC licensees to meet compatibility.

The October 2, 2003, letter was approved by the NRC Office of General Counsel (No Legal Objection) and the Office of Nuclear Material Safety and Safeguards through the NRC's concurrence process. The letter made it absolutely clear that the NRC did not relinquish its authority for the regulation of GTCC disposal to the State when the Texas Agreement was signed in 1963; otherwise the State would not have been directed to revise its proposed rule language to "meet compatibility." Thus, the letter was used as an enforcement vehicle for implementation of various provisions of Section 274 of the AEA that require Agreement State programs to be compatible with the NRC's regulatory program and require the NRC to periodically review Agreement State programs to ensure continued compliance.

#### **Limits on Special Nuclear Material: Supports NRC's Exclusive Authority Over GTCC Waste**

Another reason for the prohibition of Agreement State regulation of GTCC waste is that most of these waste streams contain special nuclear material (SNM), including strategic SNM (SSNM). Accordingly, Section 274(b)(3) of the AEA prohibits the NRC from relinquishing its authority for the regulation of SNM in critical mass quantities to an Agreement State. In addition, Section 274(m) of the AEA provides:

No agreement entered into under subsection (b), and no exemption granted pursuant to subsection (f), shall affect the authority of the Commission under section 2201(b) or (i) of this title to issue rules, regulations, or orders to protect the common defense and security, to protect restricted data or to guard against the loss or diversion of special nuclear material.

#### **Prevention of Criticality Accidents: Supports NRC's Exclusive Authority Over GTCC Waste**

In addition, the high concentrations of SNM in GTCC waste streams raise concerns relative to potential criticality accidents at LLRW facilities. The NRC requirements that address these concerns are contained in 10 CFR 61.16 (b), *Safety information concerning criticality*. The adoption and enforcement of these regulations are reserved to the NRC and cannot be adopted by an Agreement State.

#### **Protection of Common Defense and Security: Supports NRC's Exclusive Authority Over GTCC Waste**

The authority for the protection of SSNM and SNM in critical mass quantities is related to the protection of the Nation's common defense and security and is reserved to the Federal government in accordance with the preamble of the Constitution of the United States of America. However, in spite of this reserved Federal authority, the NRC staff stated in the Commission paper:

Additionally, for GTCC waste streams containing SSNM, the staff recommends exploring regulatory approaches that would allow for a single regulator for an Agreement State licensee disposing of GTCC waste in a land disposal facility, including potential amendment to 10 CFR 150.14 and 150.15.

As such, with these statements, the staff is indicating that they are considering relinquishing the NRC's reserved authority for the protection of the common defense and security to an "Agreement State" regarding SSNM and SNM through these "regulatory approaches." It is notable that an example of a "regulatory approach" of relinquishing NRC reserved authority is currently in place at WCS. Specifically, an NRC Order exempts WCS from a license for 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material; thereby allowing the LLRW facility to possess SNM in quantities equal to or greater than critical mass quantities without NRC inspection or enforcement. It is very likely that the NRC staff will consider a similar "regulatory approach" to relinquish the regulation of GTCC waste disposal at the facility. In that, the Federal Register notice, "Waste Control Specialists, LLC (WCS); Order to Exempt Waste Control Specialists, LLC From Requirements Relative to the Possession of Special Nuclear Material (SNM)," 66 FR 57489, provides:

Pursuant to 10 CFR 70.14, 'the Commission may \* \* \* grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and common defense and security and are otherwise in the public interest'....WCS requested the exemption because it expects that **the current limits set forth in 10 CFR part 150 will severely impact its ability to compete in the mixed waste treatment market. (Emphasis added)**

The NRC Order indicates that the exemption was a measure to increase WCS's competitive edge in the waste market. Whereas, other operating LLRW facilities who are WCS's competitors, Hanford, WA and Barnwell, SC, were required to have an NRC license for SNM in critical mass quantities from 1970 to 1997. In 1997, Hanford and Barnwell decided to lower their SNM possession limits below critical mass quantities so they would no longer need an NRC license (64 FR 50779 dated September 20, 1999). However, it is questionable that WCS that is owned by the Lehman Brothers Holdings Inc. that is worth over \$600.00 billion in assets requested and received an exemption from an NRC license to possess SNM in critical mass quantities solely to increase their profit margins.

In addition, the NRC Order created a potential "gap" in the regulation of SNM at the WCS facility -- a virtual regulatory "free zone." In that, the provisions in the Texas Agreement and the Texas regulations, in 336.1(b) prohibit the State from regulating the possession of SNM in critical mass quantities. The Texas regulations provide that the NRC has authority for SNM in critical mass quantities in the State in accordance with 10 CFR Part 150, "*Exemptions and Continued Regulatory Authority in Agreement States and in Offshore Waters Under Section 274.*" While, the State of Texas Agreement provides that the State can only regulate SNM "in quantities not sufficient to form a critical mass." Thus, the Texas Agreement and regulations indicate that NRC has the responsibility for SNM in quantities equal to or greater than critical mass quantities. However, the NRC has exempted WCS from its critical mass quantities regulations in 10 CFR Part 70. As a result, a potential regulatory gap has been created for non-regulation of SNM in quantities equal to or greater than critical mass quantities at WCS. This type of regulatory arrangement is not consistent with the intents and purposes of Section 274 of the AEA and its legislative history. Specifically, the legislative history for Section 274 (g) of the AEA states:

Subsection g. provides that the Commission is authorized and directed to cooperate with the States in the formulation of standards for the protection of public health and safety from radiation hazards and to assure that State and Commission programs for protection against radiation hazards will be coordinated and compatible. ... **in order to avoid conflict, duplication, or gaps**. JCAE Report to accompany H.R. 8755 (H.R. Report No. 1125, September 2, 1959, 86th Congress, 1s Session) at p. 9. **(Emphasis added)**

**Avoidance of Dual Regulation: Supports NRC’s Exclusive Authority Over GTCC Waste**

In spite of the plain statutory language, clear legislative intent, longstanding administrative record, overwhelming evidence supporting GTCC as a Federal responsibility that is to be exclusively NRC-regulated, the Commission paper states:

The staff recognizes that there are two possible interpretations ... (1) a strict or “plain language” interpretation that would allow for NRC licensing of a GTCC waste disposal facility only, and (2) **a broad interpretation**, based upon the Amendments Act’s legislative history and construing the Amendments Act together with AEA Section 274, that would allow for a willing Agreement State to license such a facility. **Both interpretations are legally valid. (Emphasis added)** The staff, however, continues to support the recommendation it made in SECY-15-0094, namely, that the Commission should adopt the broad interpretation allowing for Agreement State licensing...

\* \* \* \* \*

The draft regulatory basis recommended certain regulatory changes to NRC’s requirements in 10 CFR Part 150, “Exemptions and continued regulatory authority in agreement states and in offshore waters under Section 274,” to accommodate Agreement State regulatory oversight of most GTCC waste disposal without any **dual regulation**. However, under the Commission’s 1979 final rule on the security of Category III **quantities of SSNM, the agency stated such SSNM was subject to the Commission’s interest in protecting the common defense and security. Under Section 274(m) of the AEA, such activities are reserved to the NRC and thus require dual regulation of this material (i.e., safety by the Agreement State and security by the NRC). Accordingly, certain GTCC waste streams containing Category III quantities of SSNM would require NRC oversight of security activities, absent an explicit Commission reconsideration of the basis for the 1979 final rule. (Emphasis Added)**

The NRC staff’s “broad interpretation” with its “construing” of laws would create a dual regulation framework that would allow Agreement State regulation of GTCC waste disposal. Thus, the staff is proposing to create a regulatory construct in direct conflict with the intents and purposes of Section 274 of the AEA and the provisions of 10 CFR 8.4, “*Interpretation by the General Counsel: AEC jurisdiction over nuclear facilities and materials under the Atomic Energy Act.*” Specifically, Section 274 of the AEA, in the purpose section, paragraph (a)(3) provides that the law is, “to promote an orderly regulatory pattern between the Commission and State governments with respect to nuclear development and use and regulation of byproduct, source, and special nuclear materials.” In order to ensure this orderly regulatory pattern, the legislative

history indicates that “dual regulation” should be avoided. The creators of the legislation expressed concerns that dual regulation could cause ambiguous lines of authority between the State and the Federal government that could lead to adverse impacts on public health and safety. The avoidance of dual regulation was expressed by the Commission’s General Counsel, at the time, Mr. Robert Lowenstein, during the May 1959, Section 274 hearings as follows:

We think it [concurrent jurisdiction] leads to divided responsibility and may lead to bad safety controls because you have too many cooks in the broth, so to speak, without any one level of government having a primary responsibility for it to assure that uses of materials are appropriately regulated.” (May 1959 hearings at page 315)

In addition, strong opposition to dual regulation was expressed in the Joint Committee on Atomic Energy (JCAE) Report that accompanied the final Section 274 bill as follows:

It is not intended to leave any room for the exercise of dual or concurrent jurisdiction by States to control radiation hazards by regulating byproduct, source or special nuclear materials. The intent is to have the material regulated and licensed either by the Commission, or by the State and local governments, but not by both. (Federal-State Relations in the Atomic Energy Field, Hearings before the JCAE, September 2, 1959, 86th Congress, 1st Session, Report No. 1125, pp. 10-12.)

#### **Federal Preemption: Supports NRC’s Exclusive Authority Over GTCC Waste**

In the Commission paper, at footnote 6, it provides that the NRC’s authority for GTCC waste disposal was relinquished to pre-1981 Agreement States (i.e., those signed before the publication of the “Criteria for Guidance of States and NRC in Discontinuance of NRC Regulatory Authority and Assumption Thereof by States Through Agreement” published on January 23, 1981, 46 FR 7540). The term “GTCC waste” was not defined until after the publication of 10 CFR Part 61 on December 27, 1982 (47 FR 57446). Nevertheless, by these statements, the staff is declaring that an NRC policy statement and a State Agreement document has more authority than the LLRWPA that was passed by Congress and signed into law by the President of the United States of America on January 15, 1986. Thus, the staff’s “broad interpretation” with its “construing” of laws conflicts with the Commission’s Federal preemptive authority as described in 10 CFR 8.4 (c) that states:

The Atomic Energy Act of 1954 had the effect of preempting to the Federal Government the field of regulation of nuclear facilities and byproduct, source, and special nuclear material. Whatever doubts may have existed as to that preemption were settled by the passage of the Federal-State amendment to the Atomic Energy Act of 1954 in 1959.

In addition, the NRC’s staff’s “broad interpretation” granting GTCC waste regulatory authority to pre-1981 Agreement States is contrary to preemption case law. In that, footnote 2, SECY-05-0170, “Proposed Agreement Between the State of Minnesota and the Commission Pursuant to Section 274 of the Atomic Energy Act of 1954, as amended,” (ADAMS Accession No: ML0525704), provides:

Case law establishes that Congress has preempted the field of nuclear safety. In Pacific Gas & Electric Co. V. State Energy Resources Conservation and

Development Commission, 461 U.S. 190 (1983), the Court concluded that “State safety regulation is not pre-empted only when it conflicts with Federal law. Rather, the Federal Government has occupied the entire field of nuclear safety concerns,.... When the Federal Government completely occupies a given field or an identifiable portion of it, ... the test of pre-emption is whether ‘the matter on which the State asserts the right to act is in any way regulated by the Federal Act.’ Rice v. Santa Fe Elevator Corp. decided June 4, 1990, Slip Opinion No. 89-152, scrutinized the pre-emption theory of the field of nuclear safety concerns, and reaffirmed the holding in Pacific that the field of nuclear safety is pre-empted.

Moreover, *The Preemption under the Atomic Energy Act of 1954*, provides, “if Congress has declared ‘unequivocally and expressly’ that the authority it grants shall be exclusive, then concurrent or complementary state regulation within the occupied field is barred.” This document also indicates that dual regulation cannot exist in an occupied field, i.e., GTCC waste regulation. <https://digitalcommons.law.utulsa.edu/cgi/viewcontent.cgi?article=1336&context=tlr>. Therefore, by the passage of Section 274 of the AEA and the LLRWPA, Congress closed the door to Agreement State regulation of GTCC waste disposal. Congress declared that GTCC waste disposal: (1) is a preempted Federal responsibility; (2) must be disposed of in a facility licensed by the NRC; and (3) must be disposed of in a facility the NRC has determined is adequate to protect the public health and safety. In conclusion, in analyzing the dual regulation and preemption issues associated with the NRC staff’s “broad interpretation,” the Honorable Edward McGaffigan, Jr., who was the longest serving NRC Commissioner and who passed away in 2007 while in service to the Nation, provided insightful guidance on these issues. Commissioner McGaffigan wrote:

... I too am a strong believer in preserving our [NRC] authority. NRC has spent significant resources over the last few years ensuring that other agencies do not encroach into our jurisdiction and attempt to apply inappropriate security requirements on our licensees. In the decommissioning area, we have expended a great deal of time and effort working with EPA to reduce dual regulation. This case should not be any different. [The case of GTCC waste disposal should not be any different] (SRM-SECY-0170 Vote Sheet).

### **Maxey Flats: The Case Against Pre-1981 Agreement State Authority for GTCC Waste**

The case against pre-1981 Agreement State authority for GTCC waste disposal regulation is further bolstered by the Maxey Flats LLRW site. The history of the operation and performance concerns at Maxey Flats LLRW facility that was licensed by the State of Kentucky in 1963 provides overwhelming evidence demonstrating that NRC’s policy of providing LLRW authority, including GTCC disposal, to all pre-1981 Agreement States is an outdated, arbitrary and capricious policy that is not commensurate with the protection of public health and safety and the environment. Like all other pre-1981 LLRW disposal sites, at the time the Maxey Flats facility was licensed, the term “GTCC” waste had not been defined, and performance standards for the land disposal of LLRW had not been established. As a result, the facility closed in the late 1970’s because of significant performance problems, including offsite contamination in air, water and soil that continues to this day. Maxey Flats is on the U.S. Environmental Protection Agency’s National Priorities List, which is comprised of hazardous waste sites to be remediated under the Comprehensive Environmental Response, Compensation, and Liability Act, also known as Superfund. The presence of GTCC waste at the site has contributed to it being considered non-reclaimable and it will have to be monitored and maintained in perpetuity.

## **Agreement State Program Revisions: The Case Against Pre-1981 Agreement State Authority for GTCC Waste**

Another barrier to pre-1981 Agreement State authority for regulation of GTCC waste is that the NRC has made numerous revisions to the requirements for an adequate and compatible Agreement State regulatory program since 1981. These revisions include, but are not limited to:

1. The publication of 10 CFR Part 61 on December 27, 1982 (47 FR 57446) that provided licensing procedures, performance objectives, technical requirements and financial assurance requirements for the issuance of licenses for the land disposal of LLRW.
2. The publication of the Criteria Policy Statement on July 21, 1983, to establish requirements for an adequate and compatible Agreement State LLRW regulatory program in Criterion 9.
3. The completion of SECY-97-054, "Final Recommendations on Policy Statements and Implementing Procedures for the Agreement State Program and Policy Statement on the Adequacy and Compatibility of Agreement State Programs;" on March 3, 1997.
4. The implementation of the Integrated Materials Performance Evaluation Program (IMPEP) in 2005 that established the integrated efforts of the NRC and the Agreement States to ensure the nationwide protection of public health, safety, security, and the environment from the hazards associated with radioactive material.

In spite of the numerous revisions to the programmatic elements needed for an adequate and compatible Agreement State Program, the NRC has continued to reference the outdated and superseded 1981 policy statement. Moreover, most, if not all, of these States that have pre-1981 LLRW authority will probably never use it. For example, the State of Florida with its high-water tables and coastal geography will probably never use its LLRW disposal authority. Nonetheless, the State continues to have this authority as documented in the Florida October 9, 2019 IMPEP Review Report that states:

In 1981, the NRC amended its Policy Statement, "Criteria for Guidance of States and NRC in Discontinuance of NRC Regulatory Authority and Assumption Thereof by States Through Agreement," to allow a State to seek an amendment for the regulation of Low-Level Radioactive Waste as a separate category. Although Florida has authority to regulate a LLRW disposal, the NRC has not required States to have a program for licensing a disposal facility until such time as the State has been designated as a host State for a LLRW disposal facility. When an Agreement State has been notified or becomes aware of the need to regulate a LLRW disposal facility, it is expected to put in place a regulatory program that will meet the criteria for an adequate and compatible LLRW disposal program. There are no plans for a LLRW disposal facility in Florida. Accordingly, the review team did not review this indicator.

## **DOE and the EPAct: The Case Against Pre-1981 Agreement State Authority for GTCC Waste**

The Energy Policy Act of 2005 (EPAct) eliminated any doubt that GTCC is a Federal responsibility. It further refutes the staff's assertion that NRC relinquished GTCC disposal authority to pre-1981 Agreement States and "nailed the door shut" to Agreement State regulation of GTCC waste disposal. The Act directed the Department of Energy (DOE) to complete all activities necessary to provide a facility for the safe disposal of all GTCC waste. In



addition, Section 636 of the EPCRA encouraged the DOE and the NRC to coordinate on regulatory matters relative to DOE's facilities, including those operated on the Department's behalf (i.e., a GTCC waste disposal facility). Thus, the NRC and the DOE have pivotal roles in implementing the Federal responsibilities for the management and regulation of GTCC waste disposal.

### **Comments on the GTCC Draft Regulatory Basis: The Case Against Agreement State Authority for GTCC Waste**

The draft regulatory basis for GTCC waste disposal was noticed in the Federal Register on July 22, 2019 (84 FR 35037) for public review and comment. Over 7,000 comments were received that challenged NRC's conclusions in the document. The Commission paper states, "After an analysis of the public comments received, staff has determined that this preliminary conclusion remains valid." However, these statements are not factual because the NRC staff has not completed its analysis of the public comments. Rather, the NRC staff was directed to forge ahead with the completion of the Commission paper before analysis of the public comments. Many of the public comments provided technical challenges to the NRC staff's analysis and conclusions relative to GTCC disposal and Agreement State regulation. As such, the conclusions in the Commission paper were pre-established without the consideration and resolution of public comments. In that, the DOE comments raised numerous technical concerns with the draft regulatory basis especially their concerns that NRC staff's analysis did not include the full GTCC inventory information maintained by DOE. In addition, the Agreement State of Oregon and others challenged the NRC's conclusion that GTCC waste can be regulated by Agreement States with the following comments:

We observed that even in the NRC's own technical support document for the GTCC Regulatory Basis, there was a significant difference between intruder modeling conducted by a contractor versus NRC staff. A single reduction factor in one of the models was implicated for the significant variation in dose to a future onsite receptor. The discovery of this factor was a result of in-depth analysis by NRC staff. **This difference between the NRC staff and contractor modeling results for the intruder illustrates the need for high technical rigor in the model development for this unique site-specific analysis. Consequently, we perceive a risk in allowing an Agreement State to have authority over the adequacy of such complex models without direct NRC technical oversight given their greater resources and experience in this highly specialized arena. (Emphasis added)**

Moreover, the NRC staff's conclusions in the Commission paper have not addressed the concerns in the September 30, 2020 letter from the Governor of Texas, Greg Abbott, to the Honorable Donald J. Trump, President of the United States, that stated:

In an April 2019 letter to the Department of Energy and NRC regarding this issue, I expressed my opposition to forcing states with low-level radioactive waste to accept more highly radioactive waste and its accompanying hazards without the consent of the state. I reiterate this concern and my opposition to increasing the

amount or concentration of radioactive waste permitted to be disposed of in Texas without state approval.

### **Federal Responsibility for GTCC Waste: Many Splendid Benefits**

Based upon the preceding discussions, the best course of action for the Nation would be for the NRC and the DOE to work together to implement the “plain” or “clear” statutory mandates in the LLRWPA and the EPAct that designated GTCC as a Federal responsibility. Some of the many benefits of this course of action are:

1. It is consistent with Section 3(b)(2) of the LLRWPA that provides that disposal of GTCC is to be disposed licensed by the NRC.
2. It is consistent with Section 3(b)(2) of LLRWPA that provides that DOE’s GTCC-like waste is required to be disposed of in a facility licensed by the NRC.
3. It is the most cost-effective, resource saving, and technically sound path forward because of the NRC resources that have already been used to develop and implement the LLRWPA since NRC’s participation in its conception in 1985, revisions to 10 CFR Part 61 and the development of the regulatory basis for GTCC disposal.
4. It ensures the protection of the Nation’s common defense and security commensurate with the federally reserved authority in the Constitution of the United States of America.
5. It ensures that NRC’s Federal authority and responsibilities are not eroded and encroached upon.
6. It ensures no regulatory gaps or dual regulation of GTCC waste disposal.
7. It establishes a clear-cut, exclusive Federal licensing pathway for GTCC waste disposal consistent with the LLRWPA and EPAct.
8. It provides the mechanism under LLRWPA and EPAct for DOE and NRC to move forward with a site-specific solution to GTCC waste disposal with or without a rulemaking action.

Additional benefits of the “plain” or “clear” interpretation of the laws were presented in the Commission Baran’s vote sheet and are briefly expounded upon below:

#### **Commissioner Baran’s Supporting Statement 1:**

There is no question that the potential hazards posed by GTCC waste would support a Commission decision to retain authority to license GTCC waste disposal facilities. In 1989, the Commission finalized a rule requiring disposal of all GTCC waste in a deep geologic repository unless a non-repository alternative is explicitly approved by the Commission. This rule reflected the view that GTCC waste is “not generally acceptable” for near-surface disposal and warranted “more stringent” disposal methods. In fact, at the recent Commission meeting on GTCC waste, the NRC staff explained that, for all isotopes, the average radionuclide concentrations of the GTCC waste inventory are at least 50 times higher than those of the transuranic waste currently being disposed of at the WIPP [Waste Isolation Pilot Plant] deep geologic repository. Some GTCC concentrations are 12,000 times higher than the transuranic waste bound for WIPP.

**Comment:** The DOE, *Final Environmental Impact Statement for the Disposal of Greater-Than-Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste*, supports the Commissioner’s statements, <https://www.energy.gov/nepa/downloads/eis-0375-final-environmental-impact-statement>.

### **Commissioner Baran's Supporting Statement 2:**

There are strong reasons for the Commission to exercise its authority to license GTCC waste disposal. First, there is no meaningful litigation risk associated with this approach because NRC has clear legal authority under the Atomic Energy Act to retain the licensing responsibility. Although the Commission would be on solid legal footing if it were to interpret the [Low-Level Radioactive Waste Policy] Amendments Act to provide for exclusive NRC licensing authority for GTCC waste disposal, this interpretation potentially would be challenged in court. Alternatively, if the Commission were to interpret the Amendments Act to allow TCEQ to license a GTCC disposal facility, there would be significantly more litigation risk. The result could be TCEQ licensing slowed down by years of litigation with a significant chance that the federal courts would ultimately decide that NRC was required to conduct the licensing anyway.

**Comment:** The litigative risks from a "broad interpretation" providing for Agreement State licensing of GTCC waste disposal remain a valid and realistic concern.

### **Commissioner Baran's Supporting Statement 3:**

Although I understand that TCEQ officials are familiar with the WCS site and already regulating WCS's Federal Waste Disposal Facility, the potential efficiencies of TCEQ conducting the GTCC waste disposal licensing would also be substantially diminished by the significant role NRC would need to play in approving any non-repository option pursuant to existing NRC regulations. Since NRC staff would be actively involved in assisting TCEQ with its review of a WCS application, it may well be more efficient for NRC to simply serve as the licensing agency. This is especially true if, in its final environmental impact statement, DOE presents multiple preferred alternatives, one or more of which NRC may have responsibility for licensing.

#### **Comment:**

As a result of developing the 10 CFR Part 61 regulation and all of its associated implementing guidance and developing the draft regulatory basis for GTCC waste disposal, NRC staff is best suited to conduct a review of a GTCC waste disposal license application.

### **Commissioner Baran's Supporting Statement 4:**

WCS has expressed concerns about whether NRC licensing would require the company to have a separate NRC-licensed GTCC disposal cell instead of being able to dispose of GTCC waste in its existing TCEQ-licensed Federal Waste Disposal Facility [FWF] cell. However, there is no clear relationship between which agency conducts the GTCC waste disposal licensing and whether WCS will need a separate GTCC cell. NRC could decide that the existing cell could hold GTCC waste or TCEQ could decide that a separate cell is required, that the existing cell would need to be modified before it could accept GTCC waste, or that near-surface disposal of GTCC waste is not appropriate at the WCS site.

**Comment:** These statements are listed as a "con" under Option 1 in SECY-15-0094 that provides for NRC regulation of GTCC waste disposal. The basis of the "con" is that NRC's review may result in a conclusion that the technical parameters at WCS are not be suitable for GTCC waste disposal and retrofitting the facility for acceptable standards may not be possible. As opposed to a "con," this should have been listed as a "pro." It is NRC's responsibility to ensure the safe disposal of GTCC waste without question or reservation.

**RECOMMENDATIONS:** Based upon the preceding discussions, the following recommendations are provided:

**Recommendation 1:** The NRC staff should provide the risk-informed basis for the proposed regulatory action of giving GTCC waste disposal to Agreement States, especially since no State has requested this authority.

**Recommendation 2:** The NRC staff should provide all supporting information for their “broad interpretation” allowing Agreement State licensing of GTCC waste. The “broad interpretation” should answer the following risk questions: (1) What are the risks from the “broad interpretation;” (2) What can go wrong from this interpretation; (3) How likely is something wrong to happen; and (4) What are the consequences of the “broad interpretation?”

**Recommendation 3:** The NRC staff should provide the criterion used to determine that Agreement States can license GTCC waste, especially since some Agreement States have returned basic Agreement authority back to the NRC, such as the regulation of sealed source and device reviews and approvals.

**Recommendation 4:** The NRC staff should explain how they determined that no legislation would be needed to authorize Agreement State licensing of GTCC waste including what are the risks associated with not changing the law. In that, DOE informed Congress in 2017 that legislation would be needed to allow Agreement State licensing of GTCC in “*Report to Congress: Alternatives for the Disposal of GTCC LLRW and GTCC-Like Waste*,” <https://www.energy.gov/sites/prod/files/2018/09/f55/GTCC-2017-Report-to-Congress-on-Disposal-Alternatives.pdf>.

**Recommendation 5:** After analyzing the “broad interpretation,” the NRC should proceed without reservation to align behind the “clear interpretation” of its responsibilities under the LLRWPA for the regulation of GTCC disposal that is unambiguous and defensible, that eliminates dual regulation, that protects the Nation’s common defense and security, and protects the public health and safety and the environment.

**Recommendation 6:** The NRC should ensure that no policy statements, agreements, arrangements, orders, regulations, licenses or other legal instruments are established that would erode or encroach upon its preemptive authority or render Federal laws without effect.

**Recommendation 7:** The NRC should no longer reference the outdated and superseded 1981 Criteria Policy Statement to convey LLRW authority, including GTCC waste disposal, upon Agreement States. It should implement and reflect in its IMPEP procedures and reports up-to-date policies and procedures to ensure that all Agreement State programs are adequate and compatible and to ensure that Agreement Programs are administered in a manner commensurate with the AEA, the LLRWPA and the EPAct.

**Recommendation 8:** The NRC should work closely with the DOE in accordance with the provisions to LLRWPA and EPAct to ensure the safe and secure disposal of all GTCC waste.

**Recommendation 9:** The NRC should carefully examine its practice of exempting LLRW operating sites that possess critical mass quantities of SNM and strategic SNM from an NRC Part 70 license.

**Recommendation 10:** The NRC should adhere to its Principles of Good Regulation in all its regulatory actions including but not limited to ensuring that public comments are thoroughly analyzed and considered as opposed to adhering to pre-established conclusions. Thus, the NRC should not use “alternative facts,” “alternative technical conclusions,” or “alternative legal interpretations” designed to benefit business interests at the expense of the protection of the common defense and security, public health and safety, and the environment.

***Curriculum Vitae of Ms. Cardelia Maupin, Sr. Project Manager/Health Physicist, NMSS/ DUWP – Substantiating Expert Level on Agreement State Issues and Credentials Relevant to Issues Discussed in Differing View:***

- Led development of GTCC LLRW regulatory basis effort
- Bachelors of Science in Biology, Clark Atlanta University, Atlanta, Ga.
- Master of Science in Radiological Science, Emory University, Atlanta, Ga.
- Residency in Health Physics at Argonne National Laboratory, Argonne, Ill.
- Began career at NRC in June 1984 (36 - faithful years)
- Over 21 years in NRC’s Agreement State Program
- Developed first two comprehensive Policy Statements on Agreement State Programs
- Developed and implemented the NRC’s first-ever Agreement State Allegation program
- Authored or co- authored over 28 NRC major papers on complex technical, regulatory, and policy issues relative to the Agreement States, LLRW, and nuclear regulation
- Publications relevant to Differing View, include but are not limited to:
  - NUREG/CP-0085, “Meeting With States on the Low-Level Radioactive Waste Policy Amendments Act (LLRWPA) of 1985; June 24-25, 1986;”
  - SECY-06-0233, “State Laws that Appear to Regulate In Areas Reserved to the NRC,” dated November 26, 2006;
  - SECY-91-039, "Evaluation of Agreement State Compatibility Issues;" dated February 12, 1991;
  - SECY-91-047, "Draft Proposal from Pennsylvania for a Limited Agreement to Regulate Low Level Waste Disposal;"
  - SECY-91-341,"Initial Response to Staff Requirements Memorandum M910611A on Compatibility dated June 25, 1991," dated October 24, 1991;
  - SECY-92-243, "Analysis of Comments on the Compatibility of Agreement State Programs and a Proposed Policy on the Compatibility of Agreement State Regulations for Low Level Waste Disposal;" dated July 14, 1992;
  - SECY-93-080, "Re-Evaluation of the Compatibility Divisions Assigned to the Performance Objectives in 10 CFR 61.41 through 61.44 and Evaluation of the Illinois 1 millirem Provision;" dated March 3, 1993;
  - SEC- 93-290, "Draft Policy Options on Compatibility," October 20, 1993;
  - SECY-93-349, "Draft Policy Statement for Agreement State Adequacy and Compatibility with NRC Regulatory Programs Necessary To Protect Public Health And Safety;" dated December 21, 1993;
  - SECY-94-025, “Additional Information On Issues Raised At January 24, 1994 Briefing on Draft Policy Statement For Agreement State Adequacy and Compatibility,” dated February 4, 1994;

- SECY- 95-112, "Final Policy Statement on Adequacy and Compatibility of Agreement State Programs;" dated May 5, 1995;
  - SECY-96-213, "Implementation Procedures for the Policy Statements: 'Statement of Principles and Policy for Agreement State Program' and 'Policy Statement on Adequacy and Compatibility of Agreement State Programs;'" dated October 3, 1996;
  - SECY-97-054, "Final Recommendations on Policy Statements and Implementing Procedures for the Agreement State Program and Policy Statement on the Adequacy and Compatibility of Agreement State Programs;" dated March 3, 1997;
  - SECY-97-087, "Oklahoma Agreement State Negotiations: State Requests that Major Facilities Undergoing Site Decommissioning not be Relinquished to the State;"
  - SECY-97-145, "The Evaluation of Current State Agreements," dated July 11, 1997;
  - SECY-98-263, "Request by New Mexico to Relinquish Authority for Sealed Source and Device Evaluation and Approval;"
  - SECY-05-0170, "Proposed Agreement Between the State of Minnesota and the Commission Pursuant to Section 274 of the Atomic Energy Act of 1954, as amended," dated September 20, 2005;
  - *Federal Register* notice, "Greater-Than-Class C and Transuranic Waste," 83 FR 6475, February 14, 2018; and
  - *Federal Register* notice, "Greater-Than-Class C and Transuranic Waste. "84 FR 35037 – 35040, dated July 22, 2019,
- **Ms. Maupin's 2003 NRC Meritorious Service Award provided:**

The Nuclear Regulatory Commission's Meritorious Service Award is presented to Cardelia Harvey-Maupin in recognition her extraordinary initiative and diligence in enriching the quality, efficiency, and effectiveness of the agency's Agreement State Program. Ms. Maupin measurably enhanced the program through her astute development of sound policy and procedures to support the agency's statutory responsibility to determine the adequacy and compatibility of Agreement State implementations of agency regulations. This was a challenging task, which involved integrating hundreds of regulatory requirements and supporting program elements. Nonetheless, Ms. Maupin successfully balanced State interests for flexibility in adopting equivalent requirements with the agency's need for national coherence and consistency. In addition, she regularly leads State review teams and is instrumental in developing programs for handling Agreement State allegations.

**Supporting Statement for Differing View on  
“Path Forward and Recommendations for Certain Low-Level Radioactive Waste  
Disposal Rulemakings”**

The Differing View to which this supporting statement is attached sets forth an impressively-researched, extensively-documented case, building on excerpts from Commissioner Baran’s voting record on SECY-15-0094, that the staff should re-examine the legal defensibility and state-federal relations impacts of relinquishing NRC regulatory authority for GTCC waste disposal without requiring an amendment to any State Agreement for this purpose. These arguments alone provide ample grounds to give the staff pause about asking the Commission to embark on this uncharted course. But assuming away for the moment all the litigative risk of a novel legal theory and the programmatic risks of dual regulation and an unwelcome change in Agreement State policy, there is also the question of whether the reputational risk to the agency would be prudent.

The very survival of the many industrial uses of nuclear materials, and the sustainability of this agency as we know it, depend on the public’s confidence that the safety and security of these materials are assured by an impartial, arm’s length regulator. The NRC has long appreciated the importance of this reputational capital and has maintained credible efforts over decades to preserve and enhance it. One of those efforts is the agency’s unswerving commitment to transparency. This alone has helped preserve our good standing by keeping us honest, and it has enabled most of us to be proud to work here. But even one decision that only appears to have been made preferentially and without a clear safety or security rationale can do serious and lasting damage to NRC’s standing with its most important constituency. And in this instance, the most salient developments do not furnish convincing evidence of a safety-based rationale:

- A technically well-grounded, stakeholder-vetted, but unproven set of planned new NRC requirements that, according to Commissioner Baran, would permit the commercial near-surface disposal of a GTCC waste inventory in average radionuclide concentrations at least 50 times higher than those of the transuranic (TRU) wastes currently shipped for deep geologic repository disposal at the Waste Isolation Pilot Plant. Some GTCC waste concentrations, he noted, are 12,000 times higher than those of the TRU wastes bound for WIPP.
- A distant, comprehensively addressed, but memorable history of environmental failures that resulted from the application of unproven disposal requirements that turned out to be non-conservative.
- A creative but unadjudicated legal strategy expressly devised for the sole purpose of circumventing the plain language of the LLRWPA mandate that NRC exercise exclusive, preemptive regulatory authority over the disposal of GTCC wastes. This strategy is also expected to obviate the need to amend any State Agreements to authorize state GTCC regulation, thereby facilitating the removal of NRC as the most technically-qualified regulator to oversee the implementation of its own rule on GTCC waste disposal.

CONTACT: Robert MacDougall, NMSS/REFS  
301-415-5175

- A sitting Governor of the host state for the candidate GTCC disposal facility personally writing the Chair of the Commission to object to being forced to accept wastes with higher concentrations of radioactive material.
- The resounding silence of all other Agreement State Governors in the nation at the prospect of amending their State Agreements to obtain regulatory authority for GTCC waste disposal.
- An apparent constituency of one – WCS -- for Agreement State regulation of GTCC waste disposal. This constituent was also the beneficiary of a 2001 NRC Order exempting it from, among other things, Part 150 SNM possession requirements. In its *Federal Register* notice on the Order, NRC noted that WCS had requested the exemption “because it expects that the current limits set forth in 10 CFR part 150 will severely impact its ability to compete in the mixed waste treatment market.” The FRN offered no other justification for the exemption.

All of which begs a fundamental question: who benefits from this set of circumstances? In the absence of a compelling safety case, the answer is all too apparent.

Undeniably, these circumstances add up to what is only an appearance of regulatory capture, and no doubt there are credible explanations for NRC’s positions. But in the realm of reputational risk management, appearances matter, and the staff’s currently-proposed path forward does not appear to have been the product of a safety- or security-conscious work environment.