

POLICY ISSUE

Notation Vote

July 17, 2015

SECY-15-0094

FOR: The Commissioners

FROM: Mark A. Satorius **/RA/**
Executive Director for Operations

SUBJECT: HISTORICAL AND CURRENT ISSUES RELATED TO DISPOSAL OF
GREATER-THAN-CLASS C LOW-LEVEL RADIOACTIVE WASTE

PURPOSE:

To provide the Commission with an historical perspective on disposal of Greater-Than-Class C (GTCC) low-level radioactive waste (LLRW) and to seek Commission approval of the staff's recommendation to allow the State of Texas to license the disposal of GTCC waste. Resolution of this issue would support a response to the Texas Commission on Environmental Quality's (Texas) January 2015 inquiry regarding whether it possesses the authority to license a GTCC waste disposal cell that would receive GTCC, GTCC-like,¹ and transuranic (TRU) waste streams.

SUMMARY:

The Low-Level Radioactive Waste Policy Amendments Act of 1985 (Amendments Act) states that U.S. Nuclear Regulatory Commission (NRC) licensee generated GTCC waste "shall be disposed of in a facility licensed by the [NRC]." In 1989, the NRC promulgated a regulation specifying that GTCC waste must be disposed of in a geologic repository licensed by the NRC unless the Commission approves an alternative proposal.² In September 2014, the Commission directed the staff to provide an historical perspective on GTCC waste disposal in Staff Requirements Memorandum (SRM)-M140918, "Briefing on Management of Low-Level Waste, High-Level Waste, and Spent Nuclear Fuel."

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¹ For purposes of this paper, "GTCC waste" refers to that waste produced as a result of Atomic Energy Act (AEA)-licensed activities and "GTCC-like waste" is U.S. Department of Energy (DOE) generated or owned LLRW that may also contain TRU wastes with characteristics similar to GTCC. This paper is focused on AEA licensee generated GTCC and TRU waste.

² See Title 10 of the *Code of Federal Regulations* (CFR) § 61.55(a)(2)(iv).

As a separate matter, on January 30, 2015, Texas sent a letter³ to the NRC requesting responses to questions concerning the State's authority to license a disposal cell for GTCC, GTCC-like, and TRU waste. As described in this paper, the staff has conducted an analysis of Texas' authority to license and regulate the disposal of GTCC, GTCC-like and TRU waste in order to answer Texas' inquiry. The staff has developed three options, identifying and evaluating the strengths and challenges for each of the options. Based on the results of the staff's analysis, the staff recommends proceeding with **Option 2**: the NRC would allow the State of Texas to license and regulate the disposal of GTCC waste which may be co-mingled or co-located with GTCC-like and TRU waste under Commission approval pursuant to 10 CFR § 61.55(a)(2)(iv) and the NRC staff would pursue a rulemaking to address TRU waste disposal in Part 61.

BACKGROUND:

The 10 CFR § 61.2 defines LLRW as radioactive waste not classified as high-level radioactive waste, TRU waste,⁴ spent nuclear fuel, or byproduct material as defined in paragraphs (2), (3), and (4) of the definition of byproduct material set forth in 10 CFR § 20.1003.

10 CFR § 61.55(a)(2) sets out the classification scheme for LLRW; outlining LLRW as Class A, Class B, Class C, and waste, "for which form and disposal methods must be different, and in general more stringent, than those specified for Class C waste" (i.e., GTCC).

In 1985, Congress amended the Low-Level Radioactive Waste Policy Act of 1980 (1980 Act) to clarify the responsibilities of the States versus those of the Federal Government. In the Amendments Act, Congress addressed all classes of LLRW, including GTCC. Responsibility for the disposal of federally generated waste streams as set forth in Sections 3(b)(1)(A)-(C) of the Amendments Act, as well as GTCC waste described under Section 3(b)(1)(D), was assigned to the Federal Government. Under Sections 3(b)(1)(A)-(C), the Federal Government is responsible for the waste that the DOE generates, certain naval waste streams, and waste the Federal Government generates or owns as a result of activities related to atomic weapons. Furthermore, Section 3(b)(2) of the Amendments Act states that GTCC wastes resulting from activities licensed by the NRC under the AEA "shall be disposed of in a facility licensed by the [NRC] that the Commission determines is adequate to protect human health and safety." Thus, Federal waste streams designated a Federal responsibility under Sections 3(b)(1)(A)-(C) could conceivably consist of all classes of LLRW and may be disposed of in a facility of DOE's choosing, either Federal (established by DOE or the U.S. Department of Defense (DOD) or commercial (licensed by NRC or an Agreement State). It is only the GTCC waste streams in Section 3(b)(1)(D), as conditioned by Section 3(b)(2), for which the Amendments Act explicitly designates the licensing authority for a disposal facility as the NRC. In February 1987, the DOE issued a Report to Congress (DOE/NE-0077), in which DOE acknowledged its responsibility for the waste designated in Section 3(b)(1)(D) of the Amendments Act.

Following the enactment of the Amendments Act, the NRC amended 10 CFR § 61.55 to provide a mechanism by which GTCC waste may be disposed of in an NRC licensed LLRW facility

³ The letter can be found at NRC's Agencywide Documents Access and Management System (ADAMS) Accession No.: ML15034A174.

⁴ TRU waste is explicitly excluded from the definition of LLRW. However, the NRC has determined that LLRW containing TRU nuclides meeting certain criteria may be suitable for disposal within a 10 CFR Part 61 disposal facility. See 10 CFR § 61.55(a)(3), Table 1.

subject to Commission approval of the disposal.⁵ As a part of that rulemaking, the Commission clarified that it found no health and safety basis to limit GTCC waste disposal to Federal facilities to the exclusion of other facilities licensed under the AEA (which would include facilities licensed by Agreement States), and that the Amendments Act appeared to recognize the continued authorities of States to license facilities to accept GTCC waste for disposal.⁶

In September 2014, the Commission directed the staff in SRM-M140918 to provide a paper on NRC's regulatory history on GTCC waste disposal with a discussion on the types of GTCC waste streams and disposal challenges, including risk-significant sealed sources. A discussion on the statutory language and regulatory history of GTCC waste is provided in Enclosure 1 beginning with the Amendments Act and ending with the amendment of 10 CFR § 61.55.

To meet its obligation under the Amendments Act, the DOE issued in 2011 a "Draft Environmental Impact Statement [EIS] for the Disposal of Greater-Than-Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste." The draft EIS considered the potential environmental impacts associated with constructing and operating a new facility or facilities, or using an existing facility, for the disposal of an estimated total volume of 8,800 m³ (311,000 ft³) of GTCC waste. DOE categorized the GTCC waste into activated metals, sealed sources, and other waste and analyzed four methods of disposal: geologic repository, above grade vault, enhanced near-surface trench, and intermediate depth borehole. The GTCC waste could be co-mingled with TRU waste.⁷ DOE did not identify a preferred alternative in the draft EIS. Although DOE does not specifically discuss Agreement State authority, it asserts in its EIS that GTCC waste "cannot be disposed of in currently licensed commercial LLRW disposal facilities." As to the licensing authority, DOE reiterates the language from the Amendments Act, stating that the NRC is to license the disposal of GTCC waste addressed in Section 3(b)(1)(D). The NRC staff understands that DOE anticipates issuing the final EIS considering stakeholder comments and suggesting a preferred alternative in calendar year 2015. Additional discussion on the types of GTCC waste streams and disposal challenges is provided in Enclosure 2 of this paper.

On June 20, 2014 (resubmitted on July 21, 2014), Waste Control Specialist LLC (WCS) filed a Petition for Rulemaking (PRM) with the State of Texas. The PRM requests the State revise certain provisions of the Texas Administrative Code to remove prohibitions on disposal of GTCC and GTCC-like waste at their LLRW disposal facility, which would allow WCS to receive the DOE inventory of GTCC and GTCC-like waste. As a result of the PRM, Texas submitted a letter to the NRC on January 30, 2015, requesting clarification of its jurisdiction to license the disposal of GTCC, GTCC-like, and TRU waste.⁸ The Texas letter raises legal and policy issues regarding GTCC, GTCC-like and TRU waste disposal. The remainder of this paper is devoted to the issues raised by the Texas letter.

⁵ See "Disposal of Radioactive Waste," 54 FR 22578, 22583 (May 25, 1989).

⁶ *Id.* at 22579.

⁷ In its draft EIS, DOE considers this waste as GTCC and specifies TRU waste as a waste category that applies to wastes owned or generated by DOE.

⁸ The Texas letter relates to disposal matters only.

DISCUSSION:

The Texas letter raises two fundamental questions: Can the State of Texas, as an Agreement State, regulate⁹ the disposal of GTCC waste and what is the regulatory path for disposal of TRU waste? As noted earlier, disposal of LLRW — including commercially generated GTCC — is governed by the Amendments Act. Under the Amendments Act, Congress delineated responsibility between the States and Federal Government for disposal of certain classes of waste. The States are responsible for disposal of LLRW waste generated within their borders, and the Federal Government is responsible for certain waste streams it generates (i.e., waste generated or owned by the DOE, certain naval waste streams, and waste the Federal Government generates or owns as a result of activities related to atomic weapons), as well as GTCC waste. The Amendments Act, however, lacks clarity for purposes of answering Texas's question regarding authority to license a GTCC disposal facility. Specifically at issue is the operative provision regarding licensing of a GTCC facility found in Section 3(b)(2). A strict reading of this provision would lead to the conclusion that only the NRC can license a GTCC waste disposal facility (or, at a minimum, that only the NRC can license a facility for the disposal of GTCC waste resulting from activities licensed by the NRC, which would be activities licensed in States that are not Agreement States), while a broader reading of the statute, along with its legislative history, could allow for the conclusion that an Agreement State may license such a facility.¹⁰

Under Section 274b. of the AEA, the NRC may relinquish portions of its AEA-derived regulatory authority to license and regulate byproduct materials, source materials, and certain quantities of special nuclear materials to States that have entered into an Agreement with the NRC. Texas entered into its Agreement with the NRC in 1963. Under its Agreement, the State of Texas has the full extent of authority that may be relinquished under Section 274b., including disposal of LLRW.

A review of the legislative history of the Amendments Act provides some insight into Congressional intent and purpose behind the Amendments Act. The Congressional purpose behind Section 3 of the Amendments Act was to delineate responsibility for waste disposal to ensure there was no “orphan waste;” it was not to retool authority or jurisdiction for regulating disposal. While it is clear that Congress wanted to establish the responsibilities for waste disposal, particularly since the 1980 Act had been less than effective at compelling States into action, it is equally clear that Congress did not want to dissuade State action on LLRW disposal by foisting an obligation on States to dispose of waste streams that were less well understood at that time.

In addition to the question concerning jurisdiction for GTCC waste disposal, Texas asked about the disposal path for TRU waste. Part 61 is not internally consistent with respect to its treatment of TRU waste. As noted earlier in this paper, the Part 61 definition of LLRW specifically excludes TRU waste. Nonetheless, provisions describing the purpose and the scope of Part 61 do not list

⁹ As used in this discussion, the term “regulate” would include licensing and oversight of the disposal cell.

¹⁰ As previously stated, the Amendments Act does not specify a licensing authority for the Federal waste streams designated a Federal responsibility under Sections 3(b)(1)(A)-(C). Therefore, these waste streams may be disposed of in a facility of DOE's choosing, either Federal (established by DOE or the DOD) or commercial (licensed by NRC or an Agreement State).

disposal of TRU waste among the activities specifically excluded from Part 61 and, in fact, waste streams containing TRU nuclides are addressed in Table 1 of 10 CFR § 61.55. Therefore, the best reading of Part 61 is that disposal of waste streams containing TRU nuclides is included within the scope of Part 61.¹¹ In a 1988 amendment to the AEA, a definition for TRU waste was added, “material contaminated with elements that have an atomic number greater than 92 . . . and that are in concentrations greater than 10 nanocuries per gram, or in such other concentrations as the [NRC] may prescribe to protect the public health and safety.” While TRU waste is excluded from the definition of LLRW under Part 61, based on Table 1 of 10 CFR § 61.55, waste streams that contain alpha emitting TRU nuclides with half-lives greater than 5 years and a concentration that does not exceed 10 nanocuries (nCi)/gram (gm) are not TRU waste, because they do not meet the nanocurie limits in the AEA definition of TRU waste, and thus may be disposed of as Class A waste.¹² Waste streams containing alpha emitting TRU nuclides with half-lives greater than 5 years and a concentration greater than 10 nCi/gm, but less than 100 nCi/gm, are “TRU” waste as defined under the AEA, but as a health and safety matter have characteristics that fall within the limits set by Part 61 for Class C waste.¹³ Thus, these waste streams can be treated as LLRW, consistent with the latter portion of the AEA definition of TRU waste allowing the NRC to prescribe concentrations protective of public health and safety. TRU waste streams with concentrations greater than 100 nCi/gm is not LLRW and cannot be disposed of in a LLRW disposal facility.

To further complicate the definition of TRU waste, the 1980 Act defined LLRW in a manner that excluded waste not classified as, amongst other things, TRU waste. This is consistent with the characterization of LLRW found within the definition of waste in Part 61. The Amendments Act, however, amended the original definition of LLRW used in the 1980 Act by removing TRU waste from the list of items that could not qualify as LLRW.¹⁴ The NRC never made a corresponding change to Part 61, although it could have done so. Thus, the NRC regulations do not include TRU waste as a LLRW. Enclosure 3 contains a history of TRU waste disposal.

It is worth noting that waste with non-defense¹⁵ alpha emitting TRU nuclides with half-lives greater than 5 years and a concentration greater than 100 nCi/gm may be co-mingled with the GTCC waste. The DOE has indicated that up to 87 percent of the current and projected volume of 8800 m³ of GTCC wastes cited in DOE EIS has TRU nuclides greater than 100 nCi/gm.¹⁶

¹¹ See 10 CFR § 61.1(b)(1)-(3) which provides that the regulations in Part 61 do not apply to specifically excluded activities (e.g., disposal of high level waste under Parts 60 or 63, or disposal of uranium or thorium tailings).

¹² See 10 CFR § 61.55(a)(3)(i).

¹³ See 10 CFR § 61.55(a)(3)(ii).

¹⁴ The Texas Low-Level Radioactive Waste Disposal Compact Consent Act definition of LLRW is consistent with Amendment Acts LLRW definition. However, the LLRW definition in six Compact Consent Acts was consistent with the 1980 Act while the three remaining Compact Acts allow disposal of TRU nuclides within certain concentrations.

¹⁵ Defense waste containing more than 100 nCi of alpha emitting TRU isotopes per gram of waste, with half-lives greater than 20 years can be disposed of at the Waste Isolation Pilot Plant.

¹⁶ In its draft EIS, DOE refers to this waste stream as “GTCC” but because the waste meets the definition of “TRU waste” set forth in the AEA, this paper refers to this waste as “TRU waste.”

Options for GTCC Waste Disposal (including GTCC waste that is co-mingled or co-located with GTCC-like and TRU waste)

The staff has reviewed the Amendments Act, legislative and regulatory history, and health and safety aspects associated with such waste and, based on this analysis, offers three options to address the relevant issues. It should be noted that for Options 1 and 2, staff would review and may need to update NUREG-1200, "Standard Review Plan for the Review of a License Application for a Low-Level Radioactive Waste Disposal Facility" (SRP). The SRP was issued in 1994, prior to the events of September 11, 2001, and a fresh assessment will be warranted to ensure the SRP adequately addresses issues such as physical security of GTCC and TRU waste.

Option 1: The NRC would license and regulate the receipt and disposal of GTCC waste at WCS and would pursue rulemaking to amend Part 61 to address TRU waste disposition.

Under a plain reading of Section 3(b)(2) of the Amendments Act, the NRC is the licensing authority for disposal of GTCC waste (or, more specifically, GTCC waste resulting from activities licensed by the NRC). Similarly, under the plain reading of this Section, GTCC waste specified in Section 3(b)(2) that is comingled with DOE's GTCC-like waste, would be required to be disposed of in a facility licensed by the NRC. This is because, under this reading of the Amendments Act, DOE may only dispose of GTCC waste in an NRC licensed facility. It is the NRC staff's understanding that as a practical matter, separation of the co-mingled GTCC, GTCC-like, and TRU waste is not an option. For waste that is not co-mingled, if GTCC waste and GTCC-like waste are disposed of in separate cells, then the NRC would be required to license only that cell in which the GTCC waste is disposed.

The NRC staff would need to perform a review and evaluation of the license application, including the performance assessments prepared by the applicant and other information required in Part 61. Staff would also need to develop site-specific technical safety and security requirements to be included as license conditions for such waste as an alternate proposal under 10 CFR § 61.55(a)(2)(iv).¹⁷ Because licensing GTCC waste disposal would be a major Federal action significantly affecting the quality of the human environment, staff would need to prepare an EIS as required by 10 CFR § 51.20(a)(1). After consideration of staff recommendations, the Commission could then make the necessary determinations to address health and safety of TRU and GTCC waste disposal under 10 CFR § 61.55(a)(2)(iv) and make a licensing decision.

Because the NRC would be developing site-specific safety and security criteria and license conditions to prescribe adequate conditions for the disposal of GTCC and TRU waste, a rulemaking to develop generic standards for disposal of GTCC and TRU waste would not be

¹⁷ Licensing of such a facility would be done under 10 CFR Part 2, Subpart L. This would afford an opportunity for hearing for "those persons whose interest may be affected by a proceeding and who desires to participate as a party." 10 CFR § 2.309.

required in order to pursue Option 1.¹⁸ However, although not required, the Commission would initiate a rulemaking to address TRU waste disposal in Part 61. Because the current definition of LLRW in 10 CFR § 61.2 specifically excludes TRU waste, this rulemaking would provide a generically applicable disposal criteria for TRU waste. As a part of the rulemaking, NRC staff would develop a regulatory basis to determine whether TRU waste with concentrations greater than 100 nCi/gm can be disposed of using near-surface disposal. It is possible that the staff could use the technical basis developed to support the licensing action at WCS as a foundation for development of generic safety and security criteria for the near-surface disposal of TRU waste. The Commission could also elect to include development of generic safety and security criteria for GTCC waste disposal in the rulemaking in order to establish a broadly applicable program to facilitate review of future disposal applications.

Pros:

- Option 1 is a legally and technically sound option because the proposed approach will result in development of site-specific safety and security criteria that will ensure protection of the health and safety of the public while carrying out Congressional direction reflected in the specific language set forth in Section 3(b)(2) of the Amendments Act that specifies that GTCC waste shall be disposed of in a facility licensed by the NRC.
- Option 1 would establish a clear-cut, exclusive Federal licensing pathway for GTCC waste disposal.
- Licensing of GTCC and TRU waste disposal could go forward without a rulemaking as a site-specific solution.

Cons:

- WCS would either have to construct a new cell for disposal of GTCC, GTCC-like, and TRU waste, or the NRC would have to issue a new license applicable to that portion of the facility used for GTCC waste disposal after conducting a review of a license application from WCS and offering an opportunity for a hearing. The WCS facility currently includes a Federal Waste Facility (FWF) licensed by Texas under its Part 61 compatible State regulations. The FWF is a cell devoted to waste designated a Federal responsibility under the Amendments Act. Therefore, there may be a desire to use the FWF for GTCC waste disposal, as opposed to constructing a new cell. Use of the FWF would in all likelihood require that the license issued by Texas be amended to remove the

¹⁸ As discussed on page 5 of the paper, Part 61 is not internally consistent with respect to its treatment of TRU waste. Consequently, there is some question as to whether TRU waste is captured in 10 CFR § 61.55(a)(2)(iv) as the definition of “waste” in 10 CFR § 61.2 specifically excludes TRU waste. However, 10 CFR § 61.55(a)(2)(iv) addresses waste generally not suitable for near-surface disposal that, “must be disposed of in a geologic repository as defined in Part 60 or 63” so the term “waste” as used in 10 CFR § 61.55(a)(2)(iv) is not limited to LLRW as defined in 10 CFR § 61.2. By virtue of the authority granted to the Commission under the AEA, the Commission can issue a license addressing materials and activities included within the scope of the AEA. Specific Commission action, through issuance of a license, would remove any doubt as to whether the term “waste” as used in 10 CFR § 61.55(a)(2)(iv) encompasses TRU waste. Such licensing action would act, in effect, as an exemption to the definition that excludes TRU waste in Part 61.

FWF from that license. Such action may pose technical challenges as it relates to the disposal of GTCC and TRU waste.¹⁹

- In order to undertake Option 1 with existing NRC resources, current priorities and workload would need to be reevaluated and adjusted. Some current activities would need to be shed.
- This option would be more resource intensive than Option 2. For example, in addition to the licensing action, staff would either develop an inspection program for the NRC licensed cell or explore the possibility of entering into a 274i agreement with the State of Texas to allow the State to inspect the facility instead of the NRC.

Option 2: The NRC would allow the State of Texas to license and regulate the disposal of GTCC waste and NRC staff would pursue a rulemaking to address TRU waste disposal in Part 61.

Under Option 2, the State of Texas would license the GTCC waste disposal facility. However, the Commission would have to approve a proposal from the State of Texas to license near-surface disposal of GTCC waste in accordance with 10 CFR § 61.55(a)(2)(iv). The NRC staff would be available to support the State of Texas in conducting the licensing action including developing technical safety and security criteria and could conduct a peer review, if requested. Regulation of such disposal would be reviewed under the Integrated Materials Performance Evaluation Program (IMPEP). On March 25, 2015, TCEQ requested the NRC staff to perform a peer review of the performance assessment model submitted to TCEQ by WCS on GTCC waste disposal at the Texas site. The NRC staff has provided preliminary comments and TCEQ has requested continued engagement on this model. Ultimately, as the licensing authority, Texas would need to issue a new license or amend the facility's existing license to incorporate the necessary criteria into the license.

To generically resolve the issue of TRU waste disposal, the NRC would need to conduct a rulemaking to address TRU waste in Part 61 as referenced under Option 1. Once the NRC issues the final rule addressing TRU waste in Part 61, Texas would adopt compatible requirements.²⁰

Alternatively, the State of Texas could license the facility but only for the disposal of GTCC and GTCC-like waste that does not include TRU waste. This more limited disposal option would alleviate the need for a rulemaking to address TRU waste in 10 CFR Part 61 but would offer only a partial solution to disposal of the commercially generated GTCC waste currently in and projected to be in DOE's possession (i.e., according to DOE, at a minimum, 13 percent of the total volume of GTCC waste is not contaminated with TRU nuclides greater than 100 nCi/gm). It

¹⁹ For instance, a review by NRC staff may result in a conclusion that different technical parameters are necessary for disposing of GTCC, GTCC-like, and TRU waste in the FWF. Retrofitting the FWF for GTCC, GTCC-like, and TRU waste disposal may or may not be possible.

²⁰ In theory, Texas could develop its own regulations for disposal of TRU waste (as well as GTCC waste). Like any other new or amended State regulation, Texas' proposed regulations for disposal of GTCC and TRU waste would be subject to NRC review prior to issuance. In order to review a proposed regulation from the State of Texas for disposal of these waste streams, the NRC would need to develop a technical basis for evaluating Texas' proposed regulations. Therefore, even if Texas proceeds to develop its own regulations for disposal of these waste streams, the NRC would still need to conduct the same analysis that would be needed should the NRC proceed with a rulemaking.

is questionable whether such a small amount of GTCC waste would warrant a pursuit of this disposal solution.

Pros:

- Option 2 with rulemaking offers the benefit of providing generic regulatory requirements for disposal of GTCC and TRU waste.
- Option 2 is consistent with the historical Commission statement expressing a desire to retain the option of allowing States to regulate GTCC waste disposal.²¹
- From a practical perspective, Option 2 is advantageous because Texas is familiar with the site at WCS, having licensed the facility. This may result in greater regulatory efficiency if Texas is responsible for the licensing of a GTCC waste disposal cell at WCS.
- Option 2 would establish clear-cut Federal and State licensing pathways for disposal of GTCC waste.

Cons:

- Completing a rulemaking to incorporate TRU into the definition of LLRW could cause licensing delays.
- There is some risk with this option because the statute could be read as conferring authority only upon the NRC.
- Current priorities and workload would need to be reevaluated and adjusted to coordinate with the State of Texas in development of technical safety and security criteria for the review of an application and conduct a rulemaking to generically resolve issues concerning TRU and GTCC waste disposal with existing FTE resources. Some existing activities may need to be shed.

Option 3: No-action.

The Commission could decline to extend the 10 CFR Part 61 licensing scheme to allow near-surface disposal of GTCC and TRU waste without further development of a safety and security regulatory framework. This option maintains the Commission policy preference for the disposal of GTCC waste in a geologic repository. The GTCC and TRU waste streams can continue to be safely stored until geologic disposal is developed for these wastes. The NRC would advise Texas that the State does not have authority to license disposal of GTCC or TRU waste without Commission action.²² The response to the Texas letter should clarify that the State will need to ensure any action it takes on the WCS PRM should not result in any incompatible regulations.

Pros:

- Option 3 requires minimal staff resources to address the disposal of GTCC and TRU waste at this time, allowing the NRC to focus on other higher-priority safety issues. This assumes, based on the Commission's direction that staff would only need to respond to Texas's inquiry.

²¹ See "Disposal of Radioactive Waste," 54 FR 22578, 22579 (May 25, 1989).

²² This would not be a legal interpretation that an Agreement State lacks the authority to license such a facility but, rather, that further Commission consideration would be necessary before such an action could be undertaken by an Agreement State.

Cons:

- Option 3 would delay any decisions regarding disposal of GTCC and TRU waste until a geologic repository is developed or an alternative justified.
- No specific technical safety and security criteria would be developed to address disposal of GTCC waste.

RECOMMENDATION:

While all of the options are protective of public health and safety, based on its analysis, the staff recommends Option 2. Staff also recommends a rulemaking in order to generically revise the definition of LLRW to address TRU waste in 10 CFR § 61.2. Proceeding with Option 2 would allow the Federal Government to meet its statutory responsibilities under the Amendments Act and the AEA, as amended, by authorizing Texas to exercise its AEA-derived regulatory authority for the licensing of LLRW.

Option 2 with rulemaking offers the benefit of providing a broadly applicable regulatory solution for any future disposal questions concerning TRU and GTCC waste, as the standards promulgated through a rulemaking would be codified, rather than limited to just the more narrowly tailored set of site-specific criteria developed for WCS.

The staff recognizes that proposing a rulemaking under Option 2 could be reviewed as inconsistent with the current and projected environment of constrained resources. However, as noted above, the staff has outlined compelling reasons for the need for a rulemaking including creating a national standard for an otherwise orphan waste stream. Note that Enclosure 4, which provides the resources for the various options, indicates that Option 2 would require less resources than Option 1. Further, DOE is expected to issue its final EIS on GTCC waste disposal in 2015. While Commission approval of either Option 1 or Option 2 would establish a clear licensing pathway for DOE's GTCC waste disposal, Option 2 offers additional practical efficiency as Texas has already licensed the WCS facility for disposal of Class A, B, and C LLRW.

COMMITTMENT:

The NRC staff will prepare a letter responding to the questions raised by Texas in its letter, dated January 30, 2015, based on the Commission direction's in response to this paper.

RESOURCES:

The resource implications of the various options are addressed in the non-public Enclosure 4.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objection. The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objection.

/RA/

Mark A. Satorius
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for Operations

Enclosures:

1. Statutory Language and Regulatory History of GTCC LLRW Disposal
2. Technical Considerations Associated with GTCC LLRW Disposal and Qualitative Examination of Disposal Challenges
3. Statutory Language and Regulatory History of Commercial Transuranic Waste Disposal
4. Resource Needs to Support Staff Efforts on GTCC Activities