

WM2017 Conference Panel Report

PANEL SESSION 76: Disposal of Greater-Than-Class C and Transuranic Waste: What Happens Next?

Co-Chairs: **Larry Camper**, *Advoco Professional Services, LLC*

Tom Magette, *Pricewaterhouse Coopers Advisory*

Panel Reporter: **Rateb (Boby) Abu-Eid**, *US NRC*

1. **Theresa Kliczewski**, *Environmental Protection Specialist, USDOE EM*
2. **Gregory Suber**, *Chief of the Low-Level Waste Branch, US NRC*
3. **Michael Ford**, *Vice President, Licensing & Corporate Compliance, Waste Control Specialists LLC*
4. **Charles Maguire**, *Director Radioactive Materials Division, Texas Commission on Environmental Quality*
5. **John Greeves**, *Senior Partner, Predicus LLC*
6. **Thomas Kalinowski**, *Managing Member, DW James Consulting, LLC.*

Panelists:

Session #76 Co-Chairs, **Larry Camper** and **Tom Magette** introduced this session panel members and provided a summary of the purpose of the session. The presentations and discussions focused on status and updates of “Greater Than-Class C (GTCC)” and “Transuranic (TRU)” waste categories from different perspectives focusing on technical and regulatory aspects being developed. The presenters addressed US DOE “Final Environmental Impact Statement (FEIS)” and follow-up activities; the US NRC Commission direction and concurrent staff action regarding GTCC, as well as next actions to be undertaken by Waste Control Specialists or the concerned authorities of the State of Texas. Approximately 60 people attended this session.

Summary of Presentations

Theresa Kliczewski presented the status of “Greater-Than-Class C (GTCC) Low-Level Radioactive Waste (LLRW) Disposal” from DOE perspective. In this regard, she indicated that, currently, there is no clear disposal pathway for GTCC-LLRW. She added that DOE owned, or generated, LLRW or transuranic (TRU) waste with characteristics similar to GTCC-LLRW. For example, the non-defense wastes generated from clean-up activities at the “West Valley Demonstration Project” in New York are examples of GTCC and TRU wastes. She provided estimates of waste volumes of the combined GTCC-LLRW and GTCC-like waste inventory, of about 12,000 m³ containing a total activity of about 160 million curies (MCi). The waste types included: (a) activated metals, primarily from commercial nuclear power plants which approximately represents 98% of the total curies; (b) sealed sources; and (c) other radioactive sources used in hospitals, industries, universities, research laboratories, and other waste forms

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generated from environmental cleanup such as Mo-99 production. She indicated that the final EIS preferred alternatives included land disposal at generic commercial facilities, and/or disposal at the “WIPP Geologic Repository.” She reiterated that presently there is no preference among the three land disposal options (e.g.; intermediate-depth borehole, enhanced near-surface trench, and above-grade vault) at any of the generic commercial facilities. She added that the “Energy Policy Act of 2005” requires submitting a “Report” to Congress prior to “Record of Decision.” She provided an update that such report to Congress has been drafted by DOE and currently is in DOE concurrence. The next steps to watch are: (a) DOE submit report to Congress; (b) await to see congress action; and (c) issue a record of decision.

Gregory Suber outlined LLW categories which included GTCC waste and described key milestones from NRC perspective, since issuance of DOE Draft EIS in November 2011 and the FEIS in February 2016. He indicated that the NRC Commission directed staff to prepare within six months of the completion of 10 CFR Part 61 rulemaking, a regulatory basis for the proposed disposal of GTCC waste through means other than deep geologic disposal, including near-surface disposal, and provide the supporting regulatory basis to OCM for information. He added the Commission approved staff’s recommendation to address transuranic waste under 10 CFR section 61.2. He described the next steps to be undertaken by NRC staff which include: complete ongoing Part 61 rulemaking; prepare regulatory basis and conduct public workshops; and address possible Part 61 rule for GTCC and Transuranic (TRU).

Michael Ford described WCS initiatives and perspective in the context of the proposed development of a framework allowing disposal of GTCC and GTCC-Like LLW in the FWF to offer DOE a solution to the current regulatory impasse. He indicated that WCS was selected as one of the “Preferred Alternatives” in the GTCC Final Environmental Impact Statement. He reported that on June 20, 2014, WCS submitted a “Petition for Rulemaking” to establish a framework for disposal of GTCC, GTCC-Like, and TRU LLW. WCS requested supports and elucidation of potential changes to regulations that are consistent with the State of Texas, and with the Federal Statutes. He added that on June 27, 2014, TCEQ requested the NRC to review WCS Petition. On August 22, 2014, TCEQ issued a “Notice of Petition for Rulemaking.” Subsequently, on January 30, 2015, TCEQ submitted a letter to NRC for clarification of roles, authority & jurisdiction for GTCC type waste streams disposal. On December 22, 2015, the NRC issued an SRM-SECY-15-0094, describing potential path forward regarding GTCC issues.

Charles Maguire emphasized the importance of TCEQ/Texas letter to the NRC, regarding GTCC jurisdiction issues. He indicated that after clarification of jurisdiction, TCEQ will promptly take all necessary steps to move forward. He emphasized the important role of site-specific safety analysis for disposal of GTCC at the WCS site and was curious whether the NRC will grant the State of Texas authority to dispose GTCC waste at its LLW facility. He added that Texas has more stringent regulations than the NRC and adopted the risk-informed and performance-based approach as well as involvement of stake-holders in the decision-making. He closed with commending the NRC staff for detailed technical analysis in support of 10 CFR Part 61 regulatory development and for coordination and harmonization with the State of Texas as practicable.

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John Greeves summarized historical development and roles and responsibilities of GTCC. He indicated the LLWPA of 1985 assigned to DOE responsibility for disposal of GTCC and required DOE to submit comprehensive recommendation report (1987). He noted that the NRC was assigned to license the facility and the role of Agreement States was not addressed. He added that 10 CFR Part 61 has no GTCC technical criteria and current LLRW definition excludes TRU waste greater than 100 nCi/g. In response to the question of what happened next, he iterated the following steps: (a) prepare regulatory basis of GTCC disposal upon completion of ongoing 10 CFR Part 61 regulatory development. Conduct public workshop to discuss regulatory basis and analyze whether NRC should retain authority and subsequently the NRC informs the State of Texas (Agreement State) regarding its role and jurisdiction in licensing disposal of GTCC waste.

Thomas Kalinowski presented consultant's views regarding GTCC waste characteristics in comparison with Class C waste. He focused on GTCC waste characteristics generated from NPPs. He indicated that GTCC waste from NPP comprises mostly of activated metals of long-term core items in BWRs and fuel assembly in PWRs. Other items may include reactor vessel internals from decommissioning, cartridge filters, reactor coolant filters, and waste generated from resins and other blendable waste. He described the average main radionuclides concentrations in Class C activated metals (e.g.; Tables 1 & 2 under 10 CFR 61.55 for Nb-94; Ni-59, Ni-63, and C-14) and compared with GTCC waste contemplating insignificant differences in terms of risk and safety. He elaborated that the isotopes driving the waste classification are mostly shorter half-life radionuclides concluding that disposal of commercial GTCC in near-surface LLW facility is quite feasible.

Questions and Answer & Conclusions

A great deal of discussion and comments were made regarding the status of NRC's rulemaking for regulatory improvements of 10 CFR Part 61. In this regard, a question was raised of why to wait 6-months after issuance of 10 CFR Part 61 final regulations to take actions addressing GTCC issues. In response, it was indicated that the NRC needs to define what categories of GTCC waste that are suitable or unsuitable for disposal at a near-surface LLRW disposal facility. It was indicated that in the NRC's SRM the Commission asked staff to explain if all or portion of GTCC waste can be disposed at LLW facility. Other questions were raised regarding disposal of GTCC at the WIPP repository, and what issues preventing regulatory decision to allow GTCC disposal at such facility. A question was raised regarding coordination among Federal and State agencies to address what portions of GTCC can be disposed of at near surface LLW facility and which portion can be disposed of at the WIPP repository, and how a coordinated decision can be made. A question was raised about the DOE report to be submitted to Congress and when it would be available to the public and how soon to be delivered to the Congress. Further questions were raised regarding qualification of waste canisters for transport and disposal of GTCC waste. In this case NRC and DOT roles for qualification of canisters were deemed to be important. Further questions regarding the waste classification tables in the current Tables of 10 CFR Part 61, and if can be modified to provide a better definition of GTCC limits based on updated ICRP dose conversion factors.

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In summary, Session 76 was well attended, well organized, comprehensive, and covered several aspects regarding planning and strategies for disposition of GTCC and TRU wastes and identification of specific aspects for follow-up actions. It was emphasized that Federal agencies have a key role to coordinate with the State authorities to move forward with disposal of GTCC and TRU waste. The panel members' presentations and the discussion showed good illustrations of regulatory perspective as well as perspectives of State authorities, LLW operator, as well as key consultants views and recommendations. The discussion at the end of the Session was quite useful particularly the remarks made on the ongoing regulatory development to enhance 10 CFR Part 61 site-specific analysis, the State of Texas initiatives and its role, and follow-up actions needed by Federal authorities to address overlapping regulatory issues in disposition of GTCC and TRU wastes. In brief, the Session provided an opportunity for addressing potential future actions and recommendations from different perspectives to demonstrate compliance with regulatory requirements and enhance efficiency in execution of GTCC and TRU disposal.