

**NRCREP - Attn: Ryan Whited NRC's Low Level Radioactive Waste Program**

**From:** "Michael Brow" <MBROW@tceq.state.tx.us>  
**To:** <NRCREP@nrc.gov>  
**Date:** 09/05/2006 12:18 PM  
**Subject:** Attn: Ryan Whited NRC's Low Level Radioactive Waste Program  
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Hello -

Attached please find the Texas Commission on Environmental Quality's comments regarding the "Nuclear Regulatory Commission's Low Level Radioactive Waste Program." If you have problems with the attachment format or this electronic transmission, or if you have questions or concerns about the comments, please contact me by return e-mail or by phone at (512) 239-6840.

TCEQ appreciates the opportunity to comment on this issue.

Mike

Michael Brow  
 Intergovernmental Relations  
 TCEQ

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*Adv=J.Kennedy (JEK1)*  
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**Subject:** Attn: Ryan Whited NRC's Low Level Radioactive Waste Program  
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**From:** "Michael Brow" <[MBROW@tceq.state.tx.us](mailto:MBROW@tceq.state.tx.us)>

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Kathleen Hartnett White, *Chairman*  
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Glenn Shankle, *Executive Director*



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

September 5, 2006

Chief, Rules and Directives Branch  
Mail Stop T6-D59  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Re: Request for Comments on the Nuclear Regulatory Commission's Low Level Radioactive Waste Program

Dear Sirs:

This letter transmits the comments and recommendations of the Texas Commission on Environmental Quality (TCEQ) on the federal Low-Level Radioactive Waste Program as published in the July 7, 2006 *Federal Register*, with a comment period ending September 5, 2006. As the agency with jurisdiction over low-level radioactive waste disposal under Texas Agreement State status, the TCEQ has the perspective of working to implement the federal requirements for waste disposal while satisfying Texas specific requirements and the regulatory framework established by the Texas Legislature.

Texas is currently fully engaged in the potential licensing of a low-level radioactive waste (LLW) disposal facility. No other state or radioactive waste compact is actively pursuing a site for the disposal of LLW in the United States. Although some stakeholders may feel that statutory and regulatory changes need to be made to the federal framework for the management of LLW, any changes proposed at this critical juncture could have a profound impact on the Texas process. Since the Texas perspective is so unique, it is important that the NRC considers consequences that changes or new approaches proposed at this time may have on this process.

The TCEQ appreciates the opportunity to comment. If there are any questions or a need for clarification on any of the comments submitted, please contact Ms. Susan Jablonski at (512) 239-6731, or by electronic mail at [sjablons@tceq.state.tx.us](mailto:sjablons@tceq.state.tx.us).

Sincerely,

Handwritten signature of Glenn Shankle in black ink.

Glenn Shankle  
Executive Director

Enclosure

# **Texas Commission on Environmental Quality Response to Questions on Low-Level Radioactive Waste Disposal and Management**

## ***Regarding the Current LLW Disposal Regulatory System***

### ***1. What are your key safety and cost drivers and/or concerns relative to LLW disposal?***

Texas has been actively engaged in meeting its obligations under the federal Low-Level Radioactive Waste Policy Act since its passage in 1980. Texas is currently in the process of evaluating applications for several radioactive waste disposal facilities including a facility for the disposal of low-level radioactive waste (LLW) generated within the member states of Texas and Vermont to meet the Texas Low-Level Radioactive Waste Disposal Compact (Texas Compact) requirements, a federal waste facility for the disposal of mixed low-level radioactive waste owned or generated by the federal government, a deep-well injection facility for disposal of NORM waste generated by the treatment of drinking water, and an 11(e)2 waste disposal facility. The key safety drivers are related to conducting a thorough characterization of the proposed sites to ensure the protection of public health and safety and the environment. With emphasis on the fact that the State of Texas might ultimately own disposal sites, it is important to fully consider the protective measures necessary to ensure long-term safety and performance. Characterization of the site and technical review of the pending applications drive the cost of the proposed facilities in the pre-construction phase. The Texas Legislature has provided adequate funding to recover the costs of application review for these disposal sites.

### ***2. What vulnerabilities or impediments, if any, are there in the current regulatory approach toward LLW disposal in the U.S., in terms of their effect on:***

- a. Regulatory system reliability, predictability, and adaptability;***
- b. Regulatory burden (including cost); and,***
- c. Safety, security and protection of the environment?***

Possible impediments in the current regulatory approach are primarily due to constraints outside of the regulatory system, i.e., public policy constraints. There is a well-defined and developed regulatory system in Texas to address LLW disposal sites. Although there are some complexities, the current framework provides for the safe management and disposal of waste. It is true that the existing regulatory framework has not facilitated development of multiple regional disposal sites as was originally envisioned; however, access to management and disposal capacity has been maintained under the current system. The State of Texas has spent many years pursuing successful siting of a LLW disposal facility. Texas has used flexibility within the current framework to develop approaches which have been acceptable to policy makers and the public. A policy shift was initiated in Texas in 2003 as a solution in the form of privatization of a proposed LLW disposal facility. This approach recognizes potential profits from the proposed facility from the acceptance of federal waste streams. The present situation could potentially result in a licensee who is a private entity operating a Texas Compact disposal facility in order to enter a far more lucrative market for the disposal of federal waste.

### *Potential Alternative Futures*

- 3. Assuming the existing legislative and regulatory framework remains unchanged, what would you expect the future to look like with regard to the types and volumes of LLW streams and the availability of disposal options for Class A, B, C, and greater-than-class-C (GTCC) LLW five years from now? Twenty years from now? What would more optimistic and pessimistic disposal scenarios look like compared to your "expected future"?*

Projections for types and volumes of LLW streams have been developed as part of the technical consideration of the LLW disposal application pending before the TCEQ. Over the next 35 years, the projected volume for the Texas Compact will consist of 50 waste streams totaling approximately 2.8 million cubic feet. The projected volume for federal waste that may be accepted at a Texas facility consists of 67 waste streams, primarily from the U.S. Department of Energy (DOE), totaling approximately 49 million cubic feet. It is anticipated that approximately 90% of all waste streams will be Class A LLW, with the remaining 10% comprised of Class B and Class C LLW. It is difficult to make projections of Greater Than Class C LLW (GTCC). Since sealed sources that may no longer be in use are not necessarily identified as waste, the estimated total volume of GTCC can vary greatly. There is over 1,000 cubic feet of GTCC classified as waste currently in storage in Texas that is pending a disposal solution to be made available by the DOE. Texas encourages prompt action by the DOE to take possession of GTCC waste, including waste other than sealed sources, so that it can be better secured at a DOE facility under federal regulatory control. There continues to be specific focus on GTCC sealed sources, but consideration of other waste forms classified as GTCC needs to also be included in the GTCC dialogue.

If Texas licenses a Texas Compact LLW disposal facility in the next few years, then Texas and Vermont waste generators will have a long-term disposal solution for Class A, Class B, and Class C LLW in the 20-year time frame. If the current Applicant does not receive a license to operate a LLW disposal facility for the Texas Compact, Texas may have to consider a different site or siting approach to meet its obligations under federal law.

**4. How might potential future disposal scenarios affect LLW storage and disposal in the U.S. in terms of:**

- a. Regulatory system reliability, predictability, and adaptability;**
- b. Regulatory burden (including cost); and,**
- c. Safety, security and protection of the environment?**

Existing trends in the industry can reasonably be expected to continue into the future. Given that management and disposal costs for LLW will likely remain high, the continuation of trends toward waste consolidation, waste reduction, flexibility in waste classification and increased management options for specifically-problematic waste streams would seem reasonable. These trends are positive in terms of efficiency and safety. The possible licensing of LLW disposal sites in Texas would also impact all of the parameters above. In addition, there are various initiatives regarding disposal of "low activity waste" in the excess disposal capacity provided by RCRA Subtitle C landfills, as well as disposal in municipal solid waste landfills that may provide additional alternatives throughout the United States. The NRC's use of Title 10, Code of Federal Regulation (CFR) §20.2002 regarding alternative disposal seems to have gained momentum. Texas believes that the NRC should be cautious, consistent and transparent as these alternatives are considered. "Low activity waste" should be specifically defined in federal regulation rather than relying on an expanded role for the Section 20.2002 alternative disposal provision. Several states have allowed for alternative disposal options in RCRA Subtitle C landfills and municipal solid waste landfills for waste containing radioactive material meeting defined exemptions and conditions. It should be noted that states do not have the same requirements, regulatory systems or tolerance-level for allowing alternative disposal options for waste containing radioactive material. This makes recognition and definition of low activity waste in federal regulation even more important into the future.

***Can the Future Be Altered?***

**5. What actions could be taken by NRC and other federal and state authorities, as well as by private industry and national scientific and technical organizations, to optimize management of LLW and improve the future outlook? Which of the following investments are most likely to yield benefits:**

- a. Changes in regulations;**
- b. Changes in regulatory guidance;**
- c. Changes in industry practices; and,**
- d. Other (name).**

Texas is concerned about any proposed changes in regulations that may impact the LLW disposal site application process that is currently underway. The existing regulatory framework and guidance is adequate for the management of LLW into the near future. The NRC could instead focus on identifying unique and emerging waste streams and facilitating management solutions under the current framework. Consideration should be given to specific waste stream characteristics, waste forms, waste packaging, and specific disposal site conditions. In the context of LLW, decisions should be risk-informed and performance-based, consistent with the performance criteria in 10 CFR §§61.41 to 61.44 and 10 CFR §61.58, as appropriate.

The NRC should coordinate throughout the process with the state regulators who will actually be implementing these decisions under their licensing authority for disposal, recognizing that all United States commercial disposal sites are regulated by state programs.

Increasing emphasis on possible long-term storage of LLW may prove to be more acceptable in today's environment. Also, any action to improve the consistency between NRC and U.S. Environmental Protection Agency (EPA) regulations, especially with regard to disposal of "low activity" and mixed wastes would significantly improve the future outlook for management of mixed waste and LLW. As indicated in previous comments provided to EPA by Texas, we believe that a change to regulation is needed in order to bring transparency, consistency and acceptance to dealing with alternatives for the management of low activity and mixed wastes. Without clearly specified definitions and standards, the problem of inconsistencies in regulating risks from wastes containing radioactivity will be perpetuated. Currently, radioactive waste is defined by origin in federal standards, rather than on relative risk. A non-regulatory alternative would continue the approach of defining radioactive wastes by the activity that generated the waste. The current RCRA and NRC disposal regulations neither define nor do they address requirements of low activity mixed waste or other categories of low activity waste. Without statutory definitions and a regulatory framework, there will be regulatory, policy, enforcement, and implementation issues concerning management of these wastes in RCRA facilities. There will be no consistency from generator to generator or from state to state.

- 6. Are there actions (regulatory and/or industry initiated) that can/should be taken in regard to specific issues such as:**
- a. Storage, disposal, tracking and security of GTCC waste (particularly sources);**
  - b. Availability and cost of disposal of Class B and C LLW;**
  - c. Disposal options for depleted uranium;**
  - d. Extended storage of LLW;**
  - e. Disposal options for low-activity waste (LAW)/very low level waste (VLLW);**
  - f. On-site disposal of LLW; and,**
  - g. Other (name).**

For the long-term, the NRC and individual states need to move the regulatory approach for the management of radioactive material away from one based on waste generation origin to an approach based on the relative radiological hazard associated with the waste stream. The differences and inconsistencies continue to create problems and confusion and negatively impact public perception on the safety of radioactive material. A national source tracking system has been proposed but will be slow to implement. Increasing the availability of Class B and C LLW disposal options would improve management practices and tend to discourage monopolistic pricing among the very few LLW disposal facilities accepting these types of waste.



Nevertheless, as seen with the competitive process approach envisioned for Texas for a LLW site, there is an extremely limited interest by private entities to venture into radioactive waste disposal. With respect to "low activity" and "very low activity waste," federal regulation is needed in order to bring transparency, consistency and acceptance to dealing with alternatives for the management of these wastes. Without clearly specified definitions and standards, the problem of inconsistencies in regulating risks from wastes containing radioactivity will be perpetuated. The current RCRA and NRC disposal regulations neither define nor do they address requirements of "low activity mixed waste" or other categories of "low activity" waste. Without statutory definitions and a regulatory framework, there will be regulatory, policy, enforcement, and implementation issues concerning management of these wastes in RCRA facilities. There will be no consistency from generator to generator or from state to state. Recent NRC actions regarding regulation of NORM are helpful but should be broadened into a more comprehensive and cohesive regulatory structure to more holistically look at radiological hazard across differently-defined radioactive wastes on the basis of origin.

***7. What unintended consequences might result from the postulated changes identified in response to questions 5 and 6?***

Texas is concerned about any proposed changes in regulations, or even potentially in related guidance, that may impact the LLW disposal site application process that is currently underway. Texas is at a critical point in the processing of a LLW application with set regulations and guidance that has been identified and relied upon to move through the process. Changing those in mid-stream could call into question the approaches and rationale used in the Texas process prior to a final determination on licensing being made. The long-term storage of LLW may temporarily alleviate the shortage in disposal capacity but clearly do not provide permanent solutions. Lack of institutional controls over these types of facilities could be problematic as well.

**Interagency Communication and Cooperation**

***8. Based on your observations of what works well and not-so-well, domestically and/or internationally, with regard to the management of radioactive and/or hazardous waste, what actions can the NRC and other Federal regulatory agencies take to improve their communication with affected and interested stakeholders?***

Individual states are implementing the current regulatory system for the management and disposal of radioactive waste and mixed waste, yet state expertise is many times not called upon for the necessary level of input by the NRC. There are many lessons learned that need to be revisited before "new" approaches are suggested. There should be a thoughtful consideration of unraveling the parts of the current approach that are working (and do not need to be altered or otherwise impacted), versus the parts that are not working. There is a need for harmonizing rules for mixed waste. The performance requirements and concepts presented in 10 CFR Part 61 are not consistent with the more prescriptive requirements found in RCRA. Recent initiatives by EPA to address disposal of "low activity waste" are a step in the right direction but leave a lot to be desired in terms of moving the dialogue forward to solutions.

***9. What specific actions can NRC take to improve coordination with other Federal agencies so as to obtain a more consistent treatment of radioactive wastes that possess similar or equivalent levels of biological hazard?***

The NRC should consider involving stakeholders, including state regulators who are active in implementation of LLW regulation, more in its discussions on radioactive waste management options. NRC should consider forming an interagency work group with the EPA and other stakeholders to address regulation of mixed waste, "low activity waste" and other waste such as NORM. A consistent body of regulations for these waste materials is needed.