ANDREWS, TEXAS

WCS' Perspectives Regarding Greater Than Class C LLW

J. Scott Kirk, CHP,
Vice President of Licensing & Regulatory Affairs
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SECY-15-0094

- WCS commends the NRC, TCEQ , and DOE for making significant strides that could provide a pathway for the disposal of commercial and federally owned or generated GTCC LLW.

- Allows for the disposal of waste based on the hazards posed to public health, via a Site-Specific Analysis.

- Provides for a disposal pathway for orphaned disused sealed sources as specified in the Energy Policy Act of 2005.

- Also provides a disposal pathway for other orphaned wastes needed to cleanup certain DOE sites.

Option 2

- WCS agrees with the NRC Staff that Option 2 is preferable.
- It is consistent with historical NRC statements expressing a desire to retain the option of allowing Agreement States to regulate the disposal of GTCC LLW.
- Texas has extensive knowledge of the WCS facilities that would lead to greater regulatory efficiencies.
- Texas could request that the NRC approve a proposal to license the disposal of GTCC LLW pursuant to 10 CFR 61.55.(a)(2)(iv).
- NRC regulatory oversight is provided through the Agreement State Integrated Materials Performance Evaluation Program.

Option 2 (Cont.)

- Approach would establish clear cut Federal and State licensing pathways for disposal of GTCC LLW.
- Avoids having to construct a new cell for the disposal of commercial GTCC LLW that would be licensed by the NRC.
- A separate rulemaking is needed to ensure that waste containing certain alpha-emitting transuranic radionuclides at concentrations exceeding 100 nCi/g are not orphaned.
- Consistent with a framework more closely aligned with ensuring disposal of waste is based on risk, as opposed to its origin and statutory definition.

Petition for Rulemaking

- WCS submitted a Petition for Rulemaking that was unanimously approved by the TCEQ Commissioners on September 10, 2014.
- Petition proposed changes to Texas regulations removing the prohibitions to dispose of waste exceeding Class C limits.
- Petition served to revise Texas regulations in a manner more consistent with State and Federal Statutes and regulations.
- The Texas Radiation Control Act currently authorizes the disposal of waste that is the responsibility of the federal government in the FWF as defined in the LLWPAA of 1985.
- Federal government is responsible for the disposal of all DOE owned or generated LLW and commercial GTCC LLW.

Disposal of Federal Facility Waste

- Commercial and DOE owned or generated GTCC LLW may only be disposed of at the Federal Waste Disposal Facility (FWF).
- DOE responsible for taking title of FWF after post closure.
- Texas Statute required written agreement with DOE for disposal of waste in the FWF.

Technical Basis Establishing Class C Limits

- NRC established the Class C limits in the initial Part 61 rulemaking based on scenarios for protecting the inadvertent intruder.

- Those assumptions differ significantly from those used at WCS:

  - On-site agricultural resident scenario that relied on water for irrigation and drinking water.

  - Limited to disposal facilities located in humid environments.

  - Required disposal of Class C LLW at a depth only 5 meters below grade, or with intruder barriers designed to last at least 500 years.

  - Waste exceeding Class C limits considered not generally suitable for near surface disposal.

Near Surface Disposal

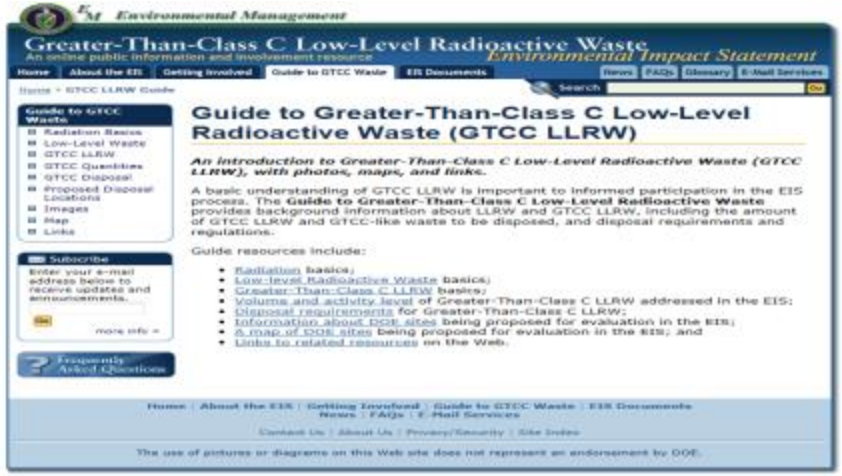
- Wastes that was not generally suitable for near surface disposal in the 1980s could be demonstrated suitable in 2015.
  - Deeper depth of disposal
  - Multiple intrusion barriers
  - Minimal rainfall
  - High rate of evapotranspiration
  - Lack of potable water, etc.
- Historical scenarios do not reflect modern disposal practices, especially in an arid environment.

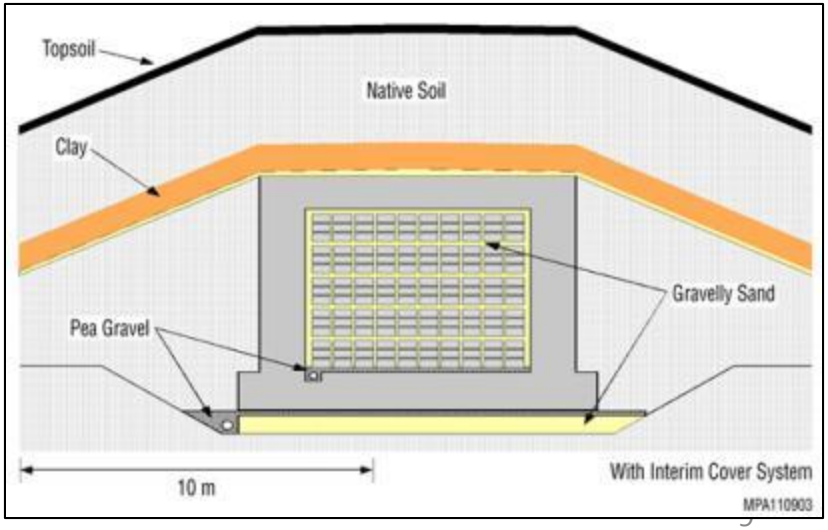
Barnwell

WCS

Environmental Impact Statement on GTCC LLW

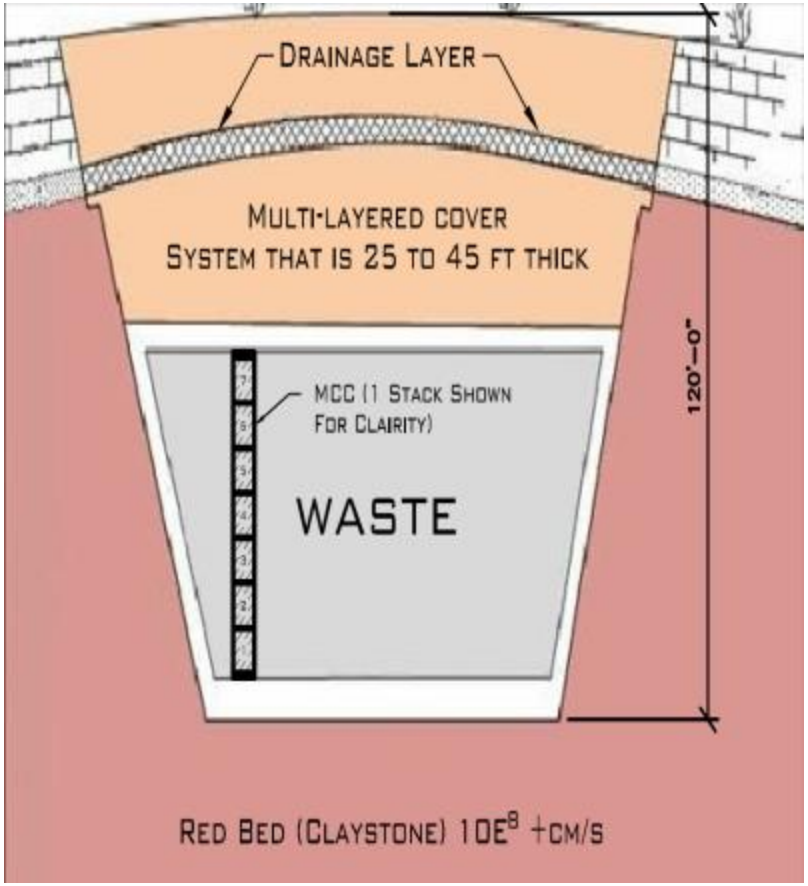
- The DOE may select a commercial entity as one of its Preferred Alternatives in its Final EIS.
- Draft EIS evaluated using an enhanced near surface disposal vault facility similar to the FWF for disposal of GTCC and GTCC-like LLW.
- Characteristics include features such as barriers, deeper depth to disposal, and enhanced waste packaging.
- DOE Final EIS expected to be issued by the end of this year.





Site Characteristics and Engineering Design

- All waste is disposed of in impermeable redbed clays (Dockum Formation) that are 600-800 thick.
- Non-potable water tables located 600 – 1000 feet below grade.
- Located in an arid climate with rainfall less than 15 inches per year
- Evapotranspiration potential over 60 inches of water per year.



Modular Concrete Canisters: Enhanced Waste Packages

- Modular Concrete Canisters (MCCs) serve as an enhanced disposal package.
- High Density MCCs are currently used to substantially reduce radiation levels for disposal of Irradiated Hardware.
- MCCs weigh up to 100,000 lbs and 10 ft in height.
- Intruder resistant, reduce radiation levels and impede mobility of radionuclides.
- Stacked up to 7 high in the FWF.
- Depth of disposal deeper than 30 meters possible.

Conclusions

- WCS commends the NRC, TCEQ and DOE for their leadership in moving forward with a disposal pathway for GTCC and TRU.
- Provides a disposal pathway for orphaned disused sealed sources as envisioned in the Energy Policy Act of 2005.
- Provides a disposal pathways for other orphaned waste needed for the decommissioning of certain DOE facilities.
- Waste that was not suitable for near surface disposal in the 1980s, may be suitable for disposal an enhanced near surface disposal facility at WCS.
- WCS encourages the Commissioners to approve SECY-15-0094, Option 2.