Disposition of DOE High Activity Waste

Session 61 – WM 2011 Symposia

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Disposal
- LLRW/MLLW (TCEQ License # R04100 & Permit # HW-50397)
- RCRA/TSCA Regulated Waste (TCEQ Permit # HW-50358; EPA Authorization)
- Texas Exempt Waste (TCEQ Permit # HW-50358)
- Byproduct Material (TCEQ License #R05807)

Storage
- Radioactive Waste, incl. GTCC LLW, Transuranic Waste, Sealed Sources, and Byproduct Material (TCEQ License # R04971)
- RCRA/TSCA Waste (TCEQ Permit # HW-50358)

Treatment/Processing
- Mixed LLRW (MLLW) (TCEQ License # R04971)
- RCRA/TSCA Waste (TCEQ Permit # HW-50358)

- Exemption to treat and store Special Nuclear Material (SNM) limited concentration vs. total grams – U.S. NRC in November 2001
Looking North – Wide View
The 20,000 ft², negative-pressure, Mixed Waste Treatment Facility (MWTF) with remote-controlled mixing and external monitoring and recording in an 85 yd³ pan.
Large Possession Limits Allow High Concentration &
High Dose Rate Waste for Treatment

- 35,000 curies (Ci) of Category I* (e.g., Am, Cm, Pu, Ra)
  - 2,000 Ci may be liquid
- 20,000 Ci of Category II* (e.g., Pb-210, Sr-90)
- 200,000 Ci of Category III* (e.g., Co-60, Cs-137, I-129)
- 2,000,000 Ci of Category IV* (e.g., Cs-135, Tc-99)
- 150,000 Ci of Sealed Sources (SNM concentration limits apply)

* Categories defined in the Texas Administrative Code (TAC) Title 30, Part 336.1231
Volumetric Storage Limits

Not to exceed 1,802,865 ft\(^3\) with the following building/area limitations:

1. 8,000 ft\(^3\) in the Stabilization Building
2. 36,750 ft\(^3\) in the Container Storage Building (CSB)
3. 262,440 ft\(^3\) in three Bin/Bulk Storage Units (BSUs); each BSU is divided into three bin/bulk storage areas (BSAs 1-9), of which one (BSA-1) is covered
4. 1,500,000 ft\(^3\) on the Low Specific Activity (LSA) pad
Currently stores some Greater than Class C LLW

Provides for Shielded Storage
Radioactive Waste Disposal Licenses

- Byproduct License issued May 2008
  - Currently allows for 30,000 yd$^3$ disposal
  - Began Operations October 2009

- LLRW and Mixed LLRW Disposal
  - License order granted January 2009
  - All conditions met for final license September 2009
  - DOE signed Agreement to take ownership of the Federal Landfill January 2010
  - No package dose-rate limit in license
Licensed LLW Disposal Capacity

• TX Compact Waste Disposal Facility:
  – 2,310,000 cubic feet and 3,890,000 curies

• Federal Waste Disposal Facility:
  – 26,000,000 cubic feet and 5,600,000 curies total
  – 8,100,000 cubic feet and 5,500,000 curies of containerized Class A, Class B, and Class C

• License Term - 15-years with provision for 10-year renewals
Experience with High Dose Rate Packages

- Commercial resin liners received for storage
  - Contact dose up to 320 R/hr
• Construction started Feb. 6, 2011
• Compact Facility to be complete Summer 2011
  – CWF ready for operations – Fall 2011
• FWF construction complete – Late 2011
  – FWF ready for operations – Early 2012
Update on Disposal Construction