WCS Overview

- Provides treatment, storage and disposal of hazardous and low-level radioactive waste
- Radioactive waste operations since 1998
- Entire site is ~15,000 acres (23 square miles)
- Permitted operations are all in Texas on about 300 acres
- WCS is license holder and operator of the Compact Waste Facility (CWF)
- State of Texas owns the CWF and takes title to the radioactive waste when disposed in the CWF
Looking North – Wide View

Aerial Photo Taken April 2012
Looking West – Close Up

Aerial Photo Taken January 2012
License & Operations Status
Radioactive Waste Disposal License

- LLRW and Mixed LLRW Disposal
  - Final LLW license received — September 2009
  - CWF - First LLW disposed — April 2012
  - FWF – Ready for operations – September 2012

- Includes Federal and Compact Landfills
  - TCEQ has taken ownership of Texas Compact Landfill and WCS leases it back for operations
  - DOE signed Agreement to take ownership of the Federal Landfill after post-closure
Texas Compact Commission
Texas LLRWD Compact Commission

• Texas Vermont Compact signed in 1993 and approved by U.S. Congress in 1998

• Texas LLRW Disposal Compact Commissioners appointed by Texas and Vermont governors in early 2009
  • New appointments in 2011 by both Vermont and Texas

• Compact Commission held their first meeting in Feb. 2009

• WCS will operate the Texas Compact disposal facility – first site licensed and opened under LLWPA
Importation Limitations

- Importation is limited to 50,000 ft³ per year and 120,000 curies (220,000 curies the first year)
  - 30% of capacity lifetime limit
- Disposal capacity reports are required by December 2012
  - WCS estimates the Compact has over 1 million ft³ and 2 million curies of excess capacity
- Surcharge of 20% for imported LLW (30% total fee)
- Out-of-Compact generators must pay more than In-Compact
- Commission has already approved applications for out-of-compact generators and brokers
Site Characteristics and Design of LLW Landfill
• Over 640 borings to determine geologic characteristics and confirm WCS is not over an aquifer

• Approximately 520 monitoring wells that are measured monthly, many of which are dry

• Over 260 monitoring wells are laboratory sampled on a quarterly basis, if there is enough water

• WCS installed 160+ borings by December 31, 2007, and that grew to over 640 borings today
Map of Borings/Wells
• WCS is not above or adjacent to any underground drinking water supply
• Texas State Water Development Board map confirms site characteristics
• Hydraulic conductivity of clay is $1 \times 10^{-9}$ cm/sec and the 225-foot zone is $1 \times 10^{-8}$ cm/sec
• Horizontal groundwater travel is 4 feet (1.3 meters) per 1,000 years
• Groundwater is ~16,000 years old
Peak dose less than 10 mrem/yr at 36,000 years. Regulatory limit is 25 mrem/yr.
Landfill Designs
WCS Landfill Design

- Multi-layered cover system that is 25 – 45 feet thick
- Depth to waste is at least 25 feet below surface
- Natural red bed clay is less permeable to water than concrete
WCS Compact Landfill – Native Clay
WCS Design – Near Completion
• Receipt of first drum of LLW at Compact Waste Facility – April 2012
• Drum was placed in a Modular Concrete Canister (MCC)
• MCC’s are on top of the liner system, including the one foot reinforced concrete liner
WCS Operations
8-120B Cask offloads included liners with dose rates up to 330 R/hr
Grappler Attachment Unloading Cask
Remote Grout Placement
Placement of Full MCC into CWF
Irradiated Hardware Transfer System
Questions?

www.texassolution.com
Report to Compact Commission
CWF Disposal Activity

- Disposed of 4,365 cubic feet and 20,634 curies as of 8/31/2012
  - Imported LLW was 4,354 cubic feet and 20,623 curies
- Curies are the most limiting factor for waste receipts
- Compact Commission approved 215,134 curies for large generators and has reserved 5,000 curies for small generators
  - Large demand for more curies from large generators
  - Demand has been met for small generators
Class A LLW Disposal

• No Class A LLW has been disposed of as of 8/31/2012
• Most Class A LLW generated is Dry Active Waste (DAW)
  • Consists of clothing, rags, bags and other items that are typically compactable
• WCS is currently not economically viable as an option for in-compact nuclear utility generators based on their current market prices for similar services
  • WCS is evaluating options and services that will allow the CWF to be an option in the next few years