Status of Hanford Low-Level and Mixed Waste Disposal

Waste Management ‘08

Dale E. McKenney
## Mixed Waste Disposal Trenches (MWDT)

<table>
<thead>
<tr>
<th>Total Capacity</th>
<th>Used Capacity</th>
<th>Remaining Capacity</th>
<th>Forecasted Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>22,000 m³</td>
<td>5,941 m³</td>
<td>16,059 m³</td>
<td>32,286 m³</td>
</tr>
</tbody>
</table>
**Environmental Restoration Disposal Facility (ERDF)**

*An expansion of 1,200,000 m³ is underway. Additional cells could be constructed in the future.*

<table>
<thead>
<tr>
<th>Total Capacity*</th>
<th>Used Capacity</th>
<th>Remaining Capacity</th>
<th>Forecasted Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,500,000 m³</td>
<td>3,100,000 m³</td>
<td>400,000 m³</td>
<td>111,846 m³</td>
</tr>
</tbody>
</table>

* * An expansion of 1,200,000 m³ is underway. Additional cells could be constructed in the future.*
Future Disposal Capacity: Integrated Disposal Facility (IDF)

<table>
<thead>
<tr>
<th>Total Capacity</th>
<th>Initial Capacity (2015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>450,000 m³</td>
<td>82,000 m³</td>
</tr>
</tbody>
</table>
Commercial Treatment and Disposal

MLLW Processing at Perma-Fix East (Oak Ridge),

Perma-Fix Northwest at Richland

EnergySolutions at Clive, Utah
Difficult Hanford MLLW Streams

- Unique Waste (1 m³)
- Beryllium dust, furans and dioxins
- Mercury Waste (23 m³)
  - Elemental Mercury and High Mercury Subcategories (> 260 ppm)
- Reactive Metals (25 m³)
  - Primarily sodium metal stored in drums and sodium metal contaminated debris
- PCB Mixed Waste (300 m³)
- Various physical waste types contaminated with RCRA constituents and TSCA PCBs
- Remote-Handled and Large Container Waste (> 5,000 m³)
  - Primarily debris including large equipment with greater than 200 mrem/hr dose rate and/or greater than 10 m³ in package size
“New Section. Sec. 1. INTENT. The purpose of this act is to prohibit sites at which mixed radioactive and hazardous wastes have contaminated or threaten to contaminate the environment, such as at the Hanford Nuclear Reservation, from adding more waste that is not generated from the cleanup of the site until such waste on-site has been cleaned up and is stored, treated, or disposed of in compliance with all state and federal environmental laws.”
Cleanup Priority Act (Initiative 297)

- Initiated as petition (>200,000 valid signatures), and placed on the November 2004 general-election ballot. Passed with 70% of vote (>1.8 million votes).
- The United States filed an action in federal District Court against State of Washington to invalidate the Cleanup Priorities Act, contending Act was unconstitutional and violated United States’ sovereign immunity.
- At same time, United States filed motion to prevent Act from going into effect, which was granted.
- District Court granted motions for summary judgment filed by United States, Fluor Hanford and Tri-City Industrial Development Council on their claims that CPA is unconstitutional and barred by sovereign immunity.
- Washington State appealed decision to Ninth Circuit Court of Appeals. Ruling expected by spring 2008.
Tank Closure and Waste Management
Environmental Impact Statement

- Draft EIS (for public review) August 2008
- Final EIS July 2009
- Record of Decision (ROD) August 2009
What does the new EIS mean to Waste Management?

• Potential receipt of off-site MLLW and LLW
• On-site disposal alternatives for MLLW and LLW
  - Includes evaluation of IDF versus current MWDT
  - Includes evaluation of new disposal sites in 200W and 200E areas
• Evaluate when to close current 200W area burial-ground operations
Hanford Waste Acceptance

- Hanford has Waste Acceptance process in place. Includes disposal information, specific acceptance criteria, funding, quality assurance and transportation requirements.


- We maintain electronic mail list for users who would like to be notified of significant changes to solid waste acceptance program. To have your name added to mailing list, send e-mail to Waste_Acceptance_Criteria@rl.gov.
Summary

• Existing and planned capabilities can address most of Hanford’s waste
• Upcoming legal and NEPA decisions will answer questions on off-site receipts
• Potential offsite receipts will be evaluated for acceptance on a case-by-case basis, relative to our Waste Acceptance Criteria and Performance Assessment