Solid Waste Program

Kerri Crawford
Manager Solid Waste Programs

Savannah River Site Citizens Advisory Board
November 27, 2018
Performance-Based Objectives

• Manage DOE waste in a manner that is
  • Protective of worker health and safety
  • Protective of public health and safety
  • Protective of the environment
  • Compliant with all applicable laws and regulations
Radioactive Waste Management

Radioactive Waste per DOE Order 435.1

Radioactive Waste

- From reprocessing SNF?
  - NO
  - YES
    - High Level Waste

- >100 nCi/g α emitting TRU with half-life >20 yrs?
  - NO
  - YES
    - TRU Waste

- Byproduct or NORM?
  - NO
  - YES
    - Low Level Waste
    - Tailings or otherwise not LLW

SNF – spent nuclear fuel
TRU – transuranic
NORM – naturally occurring radioactive material
LLW – low level waste
Solid Waste Management Facility
Low Level Radioactive Waste

SRS Generated Low-Level Radioactive Waste

- Meets E-Area Waste Acceptance Criteria
  - Vaults
  - Trenches
- Does Not Meet E-Area Waste Acceptance Criteria or Not Cost Effective for On-site Disposal
  - Commercial Disposal (e.g., Energy Solutions, Waste Control Specialists)
  - Off-site Federal Disposal (Nevada National Security Site)
Low Level Radioactive Waste

- Generate approx. 5,000 cubic meters per year
- No legacy LLW in storage
- Only off-site receipts are from Naval Reactor Facilities (approx. 1,000 cubic meters per year)
Hazardous and Mixed Low Level Wastes

SRS Generated Hazardous and Mixed Low Level Wastes

Hazardous Only (RCRA, Non-Rad)
Temporary Storage
Commercial Treatment and Disposal
Commercial Disposal (e.g., Energy Solutions, Waste Control Specialists)

Mixed Low Level Waste (RCRA, Rad)
Temporary Storage
Commercial Treatment
Federal Disposal (Nevada National Security Site)
Hazardous and Mixed Low Level Wastes

- No legacy waste in storage
- Generate approx. 30 cubic meters per year
- RCRA permit allows up to one year of storage
Mixed and Low Level Wastes

• No LLW or Mixed LLW in storage at the end of FY18

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Unit of Measure</th>
<th>Actual FY17</th>
<th>Target FY18</th>
<th>Actual FY18</th>
<th>Cum To Date</th>
<th>End State</th>
<th>% Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed &amp; LLW – Legacy (Prior to April 2008)</td>
<td>Cubic Meters</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>103,171</td>
<td>103,171</td>
<td>100%</td>
</tr>
<tr>
<td>Mixed &amp; LLW – Newly Generated</td>
<td>Cubic Meters</td>
<td>Met</td>
<td>&lt; 400*</td>
<td>Met</td>
<td>&lt; 400</td>
<td>&lt; 400</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>

* Storage of Mixed LLW & LLW planned for offsite disposal not to exceed 400 Cubic Meters at anytime
TRU Waste

- SRS Generated TRU Waste
- Packaged to WIPP Requirements
- Perform WIPP Characterization
- Meets WIPP Waste Acceptance Criteria
- Ship to WIPP for Disposal

Ship to WIPP for Disposal
TRU Waste

• Generate approx. 30 cubic meters per year
• FY18: Approx. 720 cubic meters in storage
• Meeting new WIPP waste acceptance criteria
• Shipments resumed in FY17
TRU Waste – Shipments to WIPP

- SRS waste streams included in National TRU Program prioritization
- Current Focus: SLB2 shipments (7)
- FY18 Shipments: 1
- FY17 Shipments: 9

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Unit of Measure</th>
<th>Actual FY17</th>
<th>Target FY18</th>
<th>Actual FY18</th>
<th>Cum To Date</th>
<th>End State</th>
<th>% Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRU – Legacy Shipped (in storage Feb 2014)</td>
<td>Cubic Meters</td>
<td>55</td>
<td>0</td>
<td>9</td>
<td>10,686</td>
<td>11,323</td>
<td>94%</td>
</tr>
<tr>
<td>TRU – Newly Generated Shipped</td>
<td>Cubic Meters</td>
<td>0</td>
<td>0*</td>
<td>0</td>
<td>84</td>
<td>TBD</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>

* Newly Generated TRU waste will not be shipped until after WIPP Characterization activities resume
Questions ?