Transuranic Waste Program Update

Presentation to the Governor’s Nuclear Advisory Council
June 14, 2012

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Department of Energy – Savannah River Operations Office
Completing SRS Legacy Waste Disposition

Accelerated TRU Project Goals

- Complete remediation and certification of 4954 m³ of legacy waste
- Provide strategy for remaining 200 m³
- Maximize waste shipped to WIPP or disposed as LLW/MLLW
- Have less than 200 m³ of remaining TRU at the end of the project (includes newly generated and any non remediates legacy)
Overall SRS Acceleration Strategy

• Capitalize on existing facilities and skilled work force
  • H-Canyon
  • F-Canyon
  • E-Area Cell 11
  • E Area Infrastructure

• Phase safety basis revisions to support early starts

• Package large equipment in Standard Large Boxes to reduce size reduction efforts

• Implement new TRUPACT-III for shipments to WIPP
Project Stats

- $400 M ARRA funded project that currently employs 400 people
  - 40% Staff Augmentation/Contracts

- Accelerates legacy waste disposition by 10 to 12 years
Progress To Date – Cubic Meters

- **Awaiting Remediation**
  - 480 m³ (10%)

- **In Certification Process**
  - 1274 m³ (26%)

- **Awaiting Shipment or Shipped**
  - 3200 m³ (64%)
Remediation Highlights on 4954 m³

Remediation activities tracking slightly ahead of schedule

- Safety performance has remained strong past two years
- Process improvements implemented
- Site expertise addressing remaining challenges (higher PEC waste, miscellaneous robust containers, higher dose rates)
Remediation Highlights on 4954 m³

E-Area legacy waste mining activities nearing completion

- Pad 1 Cleared
- 95% complete on emptying culverts
- Pre screening activities nearing completion
  - Fast RTR, Fast NDA, venting, head space gas sampling, dewatering
Pad 1 Cleared Highlights

Legacy Mound and Los Alamos National Lab waste with 180,000 PEC

- Approximately 6,500 inner containers (paint/food cans, plastic bags) placed in ~950 30/55 gal drums or plywood boxes.
- 11,000 grams (24 lbs) Pu238

May 1971

June 2005  Soil Covering

June 2009  Begin Culvert Retrieval

May 2011  Pad 1 Cleared

35 Years

July 2009  Begin Culvert Mining
Remediation Highlights for 4954 m³

**H-Canyon**

Scope includes very large boxes, higher PEC containers
- 90% Complete
- In final phase with highest PEC

<table>
<thead>
<tr>
<th>Container</th>
<th>Qty</th>
<th>Complete</th>
<th>To Go</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Steel Boxes</td>
<td>35</td>
<td>31</td>
<td>4</td>
</tr>
<tr>
<td>Large Misc Boxes</td>
<td>32</td>
<td>32</td>
<td>0</td>
</tr>
<tr>
<td>Concrete Culverts/Boxes</td>
<td>19</td>
<td>19</td>
<td>0</td>
</tr>
<tr>
<td>Casks</td>
<td>10</td>
<td>10</td>
<td>0</td>
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</tbody>
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Remediation Highlights for 4954 m³

E-Area Cell 11
Scope includes very low PEC medium and small boxes and miscellaneous containers
- Complete

F-Canyon Box
Scope includes higher PEC medium and small boxes and miscellaneous containers
- 90% complete

<table>
<thead>
<tr>
<th>Container</th>
<th>Qty</th>
<th>Complete</th>
<th>To Go</th>
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</thead>
<tbody>
<tr>
<td>Medium Steel Boxes</td>
<td>41</td>
<td>33</td>
<td>8</td>
</tr>
<tr>
<td>Small Steel Boxes</td>
<td>11</td>
<td>11</td>
<td>0</td>
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<tr>
<td>Polyboxes</td>
<td>24</td>
<td>24</td>
<td>0</td>
</tr>
<tr>
<td>Legacy SLBs, SWBs, misc.</td>
<td>400</td>
<td>340</td>
<td>60</td>
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</tbody>
</table>
Remediation Highlights for 4954 m³

F-Canyon Drumline
Scope includes all drums with prohibited items or liquid
- 95% Complete

<table>
<thead>
<tr>
<th>Container Type</th>
<th>Qty</th>
<th>Complete</th>
<th>To Go</th>
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<tbody>
<tr>
<td>Pad 1 Drums</td>
<td>983</td>
<td>951</td>
<td>32</td>
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<tr>
<td>SRS Legacy Drums</td>
<td>247</td>
<td>162</td>
<td>85</td>
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</table>
Remediation strategy developed and work plans in place

• Remaining 200 m³ consists of highest activity waste with unique radiological challenges and packaging. Examples include:
  • High Level Cave SRNL waste
  • Canyon equipment
  • Sources

• Uses existing remediation facilities and experienced Radiological Control programs to manage contamination and dose challenges

• Requires only minor safety basis document revisions
TRU Shipping Highlights

Steady progress in off site shipments

![Graph showing SRS Legacy TRU Original Volume Shipped](chart)

**SRS Legacy TRU Original Volume Shipped**
(Includes WIPP and MLLW shipments)

*Data Date: 5-23-2011*

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Quarterly Volume Shipped</th>
<th>Total Volume Shipped</th>
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<tbody>
<tr>
<td>3Q2009</td>
<td>130</td>
<td>130</td>
</tr>
<tr>
<td>4Q2009</td>
<td>168</td>
<td>298</td>
</tr>
<tr>
<td>1Q2010</td>
<td>180</td>
<td>477</td>
</tr>
<tr>
<td>2Q2010</td>
<td>170</td>
<td>647</td>
</tr>
<tr>
<td>3Q2010</td>
<td>60</td>
<td>707</td>
</tr>
<tr>
<td>4Q2010</td>
<td>153</td>
<td>860</td>
</tr>
<tr>
<td>1Q2011</td>
<td>110</td>
<td>970</td>
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<tr>
<td>2Q2011</td>
<td>288</td>
<td>1,258</td>
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<tr>
<td>3Q2011</td>
<td>330</td>
<td>1,588</td>
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<tr>
<td>4Q2011</td>
<td>371</td>
<td>1,959</td>
</tr>
<tr>
<td>1Q2012</td>
<td>265</td>
<td>2,225</td>
</tr>
<tr>
<td>2Q2012</td>
<td>238</td>
<td>2,462</td>
</tr>
<tr>
<td>3Q2012*</td>
<td>208</td>
<td>2,670</td>
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> 50% of Legacy Waste PEC Shipped

**SRS Legacy TRU PEC Shipped**
(Includes WIPP and MLLW shipments)

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<tbody>
<tr>
<td>Quarterly PEC Shipped</td>
<td>13,370</td>
<td>3,264</td>
<td>6,028</td>
<td>13,129</td>
<td>22,138</td>
<td>3,870</td>
<td>15,287</td>
<td>22,527</td>
<td>17,853</td>
<td>16,554</td>
<td>30,047</td>
<td>15,960</td>
<td>16,052</td>
</tr>
<tr>
<td>Total PEC Shipped</td>
<td>13,370</td>
<td>16,634</td>
<td>22,662</td>
<td>35,791</td>
<td>57,929</td>
<td>61,799</td>
<td>77,086</td>
<td>99,613</td>
<td>117,466</td>
<td>134,020</td>
<td>164,067</td>
<td>180,026</td>
<td>196,079</td>
</tr>
</tbody>
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*Data Date: 5-23-2012*
• SRS on track to remediate 4954 m3 of legacy waste by 9/30/2012

• Plans actively working for remaining 200 m3 to be remediated in FY13

• Steady shipments continue to reduce waste volume and PEC from the Site