Tank Closure Progress

Sherri Ross
Senior Program Manager for Waste Removal and Tank Closure
DOE-Savannah River

Savannah River Site Citizens Advisory Board
March 25, 2014
• Provide update of Tank Closure Progress
  • Tanks 5 and 6 in F Tank Farm
  • Risk Reduction
  • Status of Tanks 12 and 16 in H Tank Farm
    • Regulatory Drivers
    • Field Activities
    • Path Forward
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
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<tbody>
<tr>
<td>BWR</td>
<td>Bulk Waste Removal</td>
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<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation and Liability Act</td>
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<tr>
<td>DOE</td>
<td>Department of Energy</td>
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<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
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<td>FFA</td>
<td>Federal Facility Agreement</td>
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<td>HTF</td>
<td>H Tank Farm</td>
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<tr>
<td>NEPA</td>
<td>National Environmental Policy Act</td>
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<tr>
<td>NRC</td>
<td>Nuclear Regulatory Commission</td>
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<tr>
<td>RAI</td>
<td>Request for Additional Information</td>
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<td>RCRA</td>
<td>Resource Conservation and Recovery Act</td>
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<tr>
<td>SCDHEC</td>
<td>South Carolina Department of Health and Environmental Control</td>
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<tr>
<td>SRNL</td>
<td>Savannah River National Laboratory</td>
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<tr>
<td>TER</td>
<td>Technical Evaluation Report</td>
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Tanks 5 and 6 Status

Tank 5 and 6 GROUTING PROGRESS
December 18, 2013, 125 calendar days

Tank 5
- 100% full
- Grout Delivery Numbers:
  - 4,800 Cubic Yards per Tank
  - 8 yd³ per Truck
  - 6 Trucks per Hour (max)
  - Pour 8 Hrs each 10 Hr Day (max)
  - ~400 yd³ per Day (max)
  - 5 Days per Week
- Grout Risk Tracking:
  - Weather Delays — minor rain delay
  - Grout Delivery Issues — vendor fly ash shortage
  - Readiness Rework — none to date
  - Annulus / Collar Fill Issues — cooling coil hose replacement
  - Equipment Issues — none to date
  - Resource Limitations — recovery from lapse in appropriations
  - In-process Inspections Delays — none to date

Tank 6
- 100% full
- Tanks Closed Inspection
- Equipment and Coils

WEEKLY NOTES
- No safety events to date
- ~1.8 million gallons of grout
- ~9,000 cubic yards of grout
- ~1,150 trucks
- 4 months of grouting activity

Tank 5
- Primary bulk fill is complete
- Annulus fill is complete
- Equipment fill is complete
- 36 of 36 cooling coils complete
- 15 of 15 risers complete

Tank 6
- Primary bulk fill is complete
- Annulus fill is complete
- Equipment fill is complete
- 36 of 36 cooling coils complete
- 15 of 15 risers complete

Grout Lifts

GROUT DELIVERY NUMBERS

4,800 Cubic Yards per Tank
8 yd³ per Truck
6 Trucks per Hour (max)
Pour 8 Hrs each 10 Hr Day (max)
~400 yd³ per Day (max)
5 Days per Week

Grout Risk Tracking:
- Weather Delays — minor rain delay
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Tanks 5 and 6 Grouting

Primary Tank Grouting

Tank Annulus Duct Grouting
Tank 5 Bulk Grouting

Grouting Command Center

Tank 5 Primary near 80% Full

2013-09-11 15:34:32
Reduce operational risk and the risk of leaks to the environment by removing waste from tanks, and closing the tanks. (DOE/SCDHEC/EPA Common Goal and Value #1)

- Curie work off from \( \sim 550 \) million curies in 1995 to 295 million curies in June 2013
- Of the 24 old style tanks
  - 6 are grouted (Tanks 17, 18, 19, 20, 5, and 6)
  - 1 cleaned and under characterization for closure – Tank 16
  - 1 cleaned and under evaluation – Tank 12
  - 4 completed bulk waste removal efforts – Tanks 4, 7, 8, 11
  - 1 undergoing bulk waste removal – Tank 13
  - 7 stable, containing immobile solids – Tanks 1, 2, 3, 9, 10, 14, 15
  - 4 supporting waste treatment – Tanks 21, 22, 23, 24

25% (6/24) of Old Style Tanks are Grouted

See Handout of Progress against all Goals and Values
DOE and NRC Consultation

NRC RAI and DOE Response posted at: http://sro.srs.gov/fhtankfarm.html

Draft HTF 3116
Basis Document Issued
(2/6/2013)

July 31, 2013

NRC Review/Issue RAI

May 2013

NRC Public Meeting

November 1, 2013

DOE RAI Response

1Q CY 2014

NRC Review/Issue TER

NRC TER Issued

2Q CY 2014

DOE Finalize Basis Doc.

Waste Determination Issued

RAI - Request for Additional Information
TER - Technical Evaluation Report

www.energy.gov/EM
Tank Closure Progression

- Safe Storage
- Bulk Waste Removal
- Mechanical Heel Removal
- Chemical Cleaning
- Cooling Coil Flushing
- Annulus Cleaning
- Isolation & Final Sampling
- Grout Tank
- Tank 16

- Tanks 1, 2, 3, 9, 14, 21, 22, 23, 24
- Tanks 10, 13, & 15
- BWR (sludge) development
- BWR (sludge) in progress
- Tanks 4, 7, 8 & 11
- Tanks 12
- Bulk Oxalic Acid cleaning completed

- 6 tanks closed
- 4 more active

Tank 5 and 6 Grout Initiation

Isolation design and sample analysis in progress

Tanks 5, 6, 17, 18, 19 & 20
• Three bulk oxalic acid strikes completed
• No primary tank leakage
• Solids reduced from ~4,400 to ~<1,400 gallons
• Benefit may not be worth ‘cost’
Tank 16 - Annulus

- DOE, SCDHEC and EPA agreed to enter sampling and analysis phase - April 2013
- Primary and annulus sampling complete
- Sample analysis underway at SRNL
Path Forward FY2014

- Complete closure of Tanks 5 and 6 including documentation to SCDHEC and EPA
- Tank 12 - DOE, SCDHEC, and EPA will discuss preliminary cease waste removal agreement
- Tank 16 – sample analysis and volume determination underway
- DOE will continue consultation with NRC to support a Secretarial Waste Determination for H Tank Farm ~ summer 2014
- Incorporate Lessons Learned into a future Tank Closure Strategy
- DOE, SCDHEC, and EPA discussions related to waste removal and tank closure regulatory commitments