Closure of H Tank Farm

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DOE-Savannah River

Savannah River Site Citizens Advisory Board
March 23, 2015
Purpose

- Address Waste Management Committee 2015 Work Plan topic
- Provide update of H-Area Tank Farm Closure
  - Status of Regulatory Drivers
  - Closure Schedule and Public Comment Opportunities
    - Tank 16
    - Tank 12
  - Questions?
SRR Liquid Waste Program
(with current status)

Legacy Liquid Waste

45 tanks
37 Mgal
268 MCi

Tanks Cleaned and Closed

<1% radionuclides remain in tanks

51 Tanks
- 6 grouted & operationally closed
- 2 heel removal complete
- 6 bulk waste removal efforts complete
- 64% empty (old style)
- 21% empty (new style)

Salt waste 7.6 Mgal treated

Operational Goals
- Radionuclides to glass
- Chemicals to Saltstone
- Tanks cleaned and operationally closed

Radionuclides

Salt Processing

Saltstone Disposal Facility

<<1% radionuclides to saltstone

11 Mgal grout dispositioned containing 433 kCi

Poured 3,917 cans of projected 8,582
58 million curies immobilized in glass

Glass Waste Storage

DWPF

ARP

MCU

Saltstone Facility (under construction)

SwPF

2014-12-31
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<tr>
<th>Acronym</th>
<th>Description</th>
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<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation and Liability Act</td>
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<td>DOE</td>
<td>Department of Energy</td>
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<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>LWTRSAPP</td>
<td>Liquid Waste Tank Residual Sampling and Analysis Program Plan</td>
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<td>LWTRS-QAPP</td>
<td>Liquid Waste Tank Residual Sampling Quality Assurance Program Plan</td>
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<tr>
<td>NEPA</td>
<td>National Environmental Policy Act</td>
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<td>Nuclear Regulatory Commission</td>
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<td>RCRA</td>
<td>Resource Conservation and Recovery Act</td>
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H–Tank Farm
Waste Storage Tank Types

Type I
- 9'0" Earth Cover
- Primary Tank Jet
- 5' High Steel Pan
- 24'-6"
- 75'-0"
- Cooled Waste Storage Tank, Type I (Original 750,000 gallons)

Type II
- 85'-0"
- Cooled Waste Storage Tank, Type II (Original 1,030,000 gallons)

Type III
- 85'-0"
- Cooled Waste Storage Tank, Type III (Stress Relieved Primary Liner, Original 1,300,000 gallons)

Type IV
- 3'-8" Earthen Cover
- 34'-3"
- Construction Opening (9'-0" diameter)
- No Coils
- Single Liner (no annulus)
- Leak Detection 85'-0"
- Sidewall Sump
- Waste Storage Tank, Type IV (Stress Relieved Liner, Original 1,300,000 gallons)
Tank 16H Primary Tank Waste Removal by Phase

Final Primary Residuals Volume is 330 gallons of Solids

Estimated Solids Volume

Combined Liquid and Solids Volume

* See Table S.1-1 for details on liquid removed
* This volume may have been underreported due to uncertainty in the volume estimation
* The apparent volume increase may be due to uncertainty in the volume estimation and/or oxalate precipitation
Panoramic View of Tank 16H Primary Tank After Waste Removal
Final Annulus Residuals Volume is 1,910 gallons of Solids

- Sandblasting efforts added several tons of sand
Tank 16 Closure Schedule

- Tank 16 Closure Module public review March 10, 2015 – April 9, 2015
  - Based on residual waste sample analysis
  - Submit comments to: Bridget Clarke, SCDHEC/Water, 2600 Bull Street, Columbia SC 29201-1708 or email clarkebm@dhec.sc.gov
  - Public meeting at 6:00 pm on March 25, 2015 at Aiken Design Center
  - Documents posted on DOE web site at http://sro.srs.gov/fhtankfarm.html

- Final agency approvals (SCDHEC, EPA, and DOE) expected about June 2015

- Grouting of Tank 16 planned to be between June – September 2015

- Federal Facility Agreement Closure date is October 27, 2015
Panoramic View of Tank 12H Primary Tank After Waste Removal
100-Meter Member of Public Groundwater Pathway Dose with Tank 12 and 16 Individual Contributions

DOE M 435.1-1 Performance Objective

Peak Dose (pCi/L-yr)

Years After Closure

HTF All Sources - T16 Only - T12 Only
Breakdown of radiation exposure sources associated with the 620 mrem/yr average annual dose to person living in United States.
Tank 12 Closure Schedule

- Tank 12 Closure Module - 2 Step Process
  - Closure Module
    - Public review anticipated for 3rd quarter FY 2015
    - Based on forecasted inventory and Tank 16 Special Analysis
  - Closure Module Addendum
    - Public review anticipated for 1st quarter FY 2016
    - Based on residual waste sample analysis and Tank 12 Special Analysis
  - All documents will be posted on DOE website at http://sro.srs.gov/fhtankfarm.html

- Final agencies approvals (SCDHEC, EPA, and DOE) expected 2nd quarter FY 2016
- Grouting of Tank 12 by end of 3rd quarter FY 2016
- Agencies are discussing Federal Facility Agreement closure date
HTF Closure Summary

- DOE completed HTF Closure decisions in December 2014
- Activities underway to complete grouting of Tank 16 by September 30, 2015
  - Public Comment period ends April 9, 2015
  - Public Meeting Wednesday, March 25, 2015 at Aiken Design Center
- Activities underway to complete grouting of Tank 12 by the end of 3rd quarter FY 2016
  - Two public comment periods
    - Closure Module anticipated for 3rd quarter FY 2015
    - Closure Module Addendum anticipated for 1st quarter FY 2016
- Questions?

DOE will post documents at http://sro.srs.gov/fhtankfarm.html