Saltstone Overview

Presented to Citizens Advisory Board Waste Management Committee
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Outline

- Position in the Liquid Waste Flowsheet
- Facility History
- Current Process Overview
- Recent Operations
- Future Mission Requirements
- Summary
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>ARP</td>
<td>Actinide Removal Process</td>
</tr>
<tr>
<td>DDA</td>
<td>Deliquification, Dissolution and Adjustment</td>
</tr>
<tr>
<td>DSS</td>
<td>Decontaminated Salt Solution</td>
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<tr>
<td>ETF</td>
<td>Effluent Treatment Facility</td>
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<tr>
<td>HTF</td>
<td>H Tank Farm</td>
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<tr>
<td>MCU</td>
<td>Modular Caustic Side Solvent Extraction Unit</td>
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<tr>
<td>SCIX</td>
<td>Small Column Ion Exchange</td>
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<tr>
<td>SWPF</td>
<td>Salt Waste Processing Facility</td>
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</tbody>
</table>
Liquid Waste Flowsheet

Waste Removal, Tank and Associated Facilities Closure

- General Process Flow
- Canisters
- LLW
- Sludge HLW
- Salt HLW
- Waste Influent

Waste Treatment

- ETF
- DDA Operations
- ARP/MCU

Tank Farms

Saltstone Feed Facility

Tank Grouting

Salt Batch Preparations

Blend Tank Modifications

Salt Batch Preparations Disposition with Microfiltration

Savannah River Remediation
We do the right thing.
Facility History

Key Events
- Radioactive startup authorized in 1990.
- Modified in 2006 to support DDA and ARP/MCU campaigns.
  - Design Basis of 0.2 curie/gallon salt feed material

Production Summary
- 1990 to June 2009 ~8 M gallons
- July 2009 to present >1.2 M gallons
Current Process Overview

Weigh Hopper

Premix Feed Bin

Salt Feed Tank

From HTF

Drainwater

VAULT #4

G H I J K L

A B C D E F

Salt Feed Tank

Grout Pump

Current Process Overview
Recent Operations

- Saltstone production has supported all mission requirements.
- Saltstone capacity greatly exceeds current requirements.
- Saltstone has experienced several extended outages (planned and unplanned) in the past year.
- Operational Improvement Plan has been developed to position the facility to support higher future throughput from SWPF and Supplemental Salt Processes.
• Performed comprehensive analysis of People, Plant, and Process Requirements to increase Availability, Reliability, and Attainment.

• Short Term
  - Redesign Grout Hopper
  - Implement 24 x 7 Operations

• Mid Term
  - Address Equipment Obsolescence
  - Improve Spare Equipment Availability

• Long Term
  - Enhance Process
    • Redundant Trains / Alternate Process Flowsheet
    • Safety Basis Control Optimization
• Saltstone operations fulfills all mission requirements:
  - Workforce Safety
  - Process Safety
  - Environmental Stewardship
  - Life Cycle Objectives