Salt Disposition Integration

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Presented to the Citizens Advisory Board
January 26, 2016
To satisfy 2016 Citizens Advisory Board Work Plan by:

• Providing a description of the Salt Disposition Integration (SDI) scope of work
• Providing an update on SDI status
Acronyms

- DWPF: Defense Waste Processing Facility
- DOE: [U.S.] Department of Energy
- FPD: Federal Project Director
- LLW: Low-level Waste
- LW: Liquid Waste
- MCU: Modular Caustic Unit
- RSS: Raw Salt Solution
- SCDHEC: South Carolina Department of Health and Environmental Control
- SDI: Salt Disposition Integration
- SRR: Savannah River Remediation
- SRS: Savannah River Site
- SWPF: Salt Waste Processing Facility
Project Background and Mission

Background

• Before the Salt Waste Processing Facility (SWPF) starts operations, it needs to be connected to the Savannah River Site (SRS) liquid waste (LW) system

• The SDI project provides upgrades to and connections with the LW system in anticipation of the future SWPF operation

Mission

• Install LW transfer lines to connect SWPF with the SRS Tank Farm
• Upgrade specific LW facilities to handle SWPF waste processing and volume
LW/SWPF Integration Schedule Forecast

Parsons Summary
OTB Rev.2

Print Date: 01-Dec-15 15:55
Data Date: 16-Nov-15

Project: DWPF...
Layout: L_SD1_L_SWPF SDI Parsons Key Milestones
TASK filter: L_SD1_SWPF SDI Parsons L2 Sum.

SRR Support to SWPF

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LW/SWPF Integration

- **Blend and Feed Modifications**
  - Provide raw salt solution (RSS) feed for SWPF
    - Equip one existing tank (Tank 21) with blending capability
    - Equip one existing tank (Tank 49) as the SWPF Feed Tank
    - Provides transfer piping for RSS transfers to SWPF

- **East and West Transfer Lines**
  - Tie-ins of new underground SWPF piping to existing Liquid Waste piping
    - East Transfer Line Tie-in to provide path from SWPF to Tank 50
    - West Transfer Line tie-ins provide path between SWPF, H-Tank Farm (HTF), and the Defense Waste Processing Facility (DWPF)

- **Laboratory Waste Handling**
  - Improve method to remove higher curie waste and material from DWPF shielded cells

- **DWPF Modifications**
  - Allow receipt of high activity effluent streams from SWPF
Aerial View of LW/SWPF Integration Scope

- Blend & Feed Modifications
- ETF Modifications (Complete)
- EWPF Modifications
- East Transfer Line Modifications
- West Transfer Line Modifications
- SWPF
- SSRTs (Complete)
Waste Transfer Lines

FY 16 Current Status
Waste Transfer Lines

FY 18/19 Proposed

SWPF Integrated Operations

Office of Environmental Management
Tank 49 Transfer Piping Scope

B5 Riser
- Replace Pump
- Install New Transfer Line
- Install Services
  - Power
  - IW
  - BW

Tank 49

B3 Riser
- New Filter Pump

Roadway Transfer Line

Rock Bank Transfer Line

Tank 49 Valve Box

SWPF Tie-in Location
### Blend and Feed Modifications
Completed the excavation of the pier supports
Completed the fabrication of new 3” core and 6” jacketed transfer line under roadway

### Laboratory Waste Handling
Awarded contract for final design
Issued Preliminary Hazards Analysis

### DWPF Modifications
Initiated development work for:
- Steam Mods at 511-S
- Safety Class Electrical Thermowell Jumper for 511-S Precipitate Tank temperature
- Wide Mouth Bubbler for the 511-S Precipitate Tank
- software design for integration of SWPF and Liquid Waste Facilities
• East Transfer Line
  Performed survey of area to identify layout and interface points
  Initiated site use permit for the excavation area.
  Developing construction plan
  Initiated development of flush and drain concepts

• West Transfer Line
  Developing Modular Caustic Unit (MCU) piping configuration changes to reduce impacts on SWPF start up and outages
  Developing shoring specification
  Developing communication hardware and fiber cable installations
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  Developing communication hardware and fiber cable installations
Summary

• The SDI project provides upgrades to and connections with the LW system in anticipation of the future SWPF operation.

• LW facility upgrades are needed to handle the increased volume of salt waste processing once SWPF start operations.

• Work is progressing to assure that the LW system will be ready to function with SWPF once it comes on line.