November 15, 2016

CITIZENS ADVISORY BOARD
LIQUID WASTE (LW)
READINESS FOR SALT WASTE
PROCESS FACILITY (SWPF)

Keith Harp, Program Manager
SWPF Integration
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Agenda

- System Overview
- Integration Flowsheet
- Video
- Accomplishments
- Tank 21
- Tank 49
- DWPF Modifications
- West Transfer Line Modifications
- TiO2
System Overview

SRR Liquid Waste Program

Legacy Liquid Waste

Tanks Cleaned and Closed

Sludge waste

Salt waste

Salt Processing

ARP

MCU

Glass Waste Storage

Most radionuclides to glass

Saltstone Disposal Facility

<<1% radionuclides to saltstone

Inert chemicals

We do the right thing.
SWPF Integration Flowsheet

We do the right thing.
LW / SWPF Integration Piping Video

- EMBED VIDEO  SRR-SWPF-2016-00003, Rev 1
**East Transfer Lines**

- Completed installation of the Decontaminated Salt Solution (DSS) line extension from the Salt Waste Processing Facility (SWPF) tie in point toward the Tank 50 to Saltstone Inter Area Line (IAL) and backfilled the excavation.
- **West Transfer Lines**
  - Design and specification to procure shoring services is approved for the excavation at the 511-S Low Point Pump Pit (LPPP) for future tie in of SWPF piping
  - Vendor proposals have been submitted
  - Completed final interference excavations at 511-S and as-built the electrical duct bank
  - Installed fiber optic cable to provide for Distributed Control System (DCS) communications between facilities
  - Contract awarded to Parsons for RadCon staffing services
    - 20 Full Time Equivalents (FTEs) selected and training has begun
LW / SWPF Integration Scope Accomplishments

- **Blend and Feed Modifications**
  - Completed installation and backfill of Tank 49 Phase I and II piping sections
  - Completed Phase III piping fabrication
    - Excavation activities of Phase III piping has initiated
  - Completed valve box blank installation
  - Completed jumper fabrication
  - Completed shielding modifications at Tank 21


- **Defense Waste Processing Facility (DWPF) Modifications**
  - Completed removal of abandoned piping and supports from the west side of 511-1S to provide space for new instrument cabinets for Precipitate Tank Safety Class (SC) Interlocks
  - Completed fabrication of jumpers required for Modular Caustic Side Solvent Unit (MCU) Continued Operations
  - Completed Leak Detection Box design

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**Before**

![Before Image](image1)

**After**

![After Image](image2)
Tank 21 Blend Tank Readiness

- Without shielding
- Shielding installed

Scope Complete
We do the right thing.

Tank 49 Feed Tank Readiness

- Tank 49
- B3 Riser
- Tank 49 Valve Box
- B5 Riser
  - Replace Pump
  - Install Services
  - Tank Top transfer line Phase IV
- Roadway Transfer Line Phase II
- Rock Bank Transfer Line Phase I
- Under Culvert Transfer Line Phase III
- SWPF Final Tie-In Location
Current Status

- MCU Continued Operations
  - Tank 49 B3 pump modifications
    - Design in progress
- Tank 49 Valve Box modifications
  - Fabricate Tank 49 Valve Box access plugs
- Fabrication, installation and backfill of the new SWPF feed line
  - Phase III Piping installation underway
  - Phase IV Piping
    - Design in progress
511-S Low Point Pump Pit (LPPP)
Current Status

- **Design**
  - Inter Area Software
  - Sump Pump Jumpers

- **Task ready to install leak detection box plugs and conductivity probes**

- **Fabrication of the Thermowell electrical jumper**

- **Fabrication of Thermowell assembly**

- **Installation of SC interlock non-intrusive scope**

- **Fabricate and install missile shield at 511-S to protect SC interlocks**

- **Procure material for SWPF jumpers**

- **Perform required Consolidated Hazards Analysis (CHA) and Documented Safety Analysis (DSA) activities (submit Change Request Form)**
  - Submit the MCU Continued Operations DSA/Technical Safety Requirements (TSR)
  - Continue to perform calculations for SWPF Integrated Operations
511-S Shoring Installation

(Approximate dimensions - 75’ x 48’

H Tank Farm

DWPF

SWPF
Current Status

- Fabrication of piping spool pieces
- Award contract for shoring fabrication and installation
- Removal of excavation interferences
- Installation of sheet piling
- Excavation of soil down to level to install walers and struts
- Installation of walers and struts
- Excavation of soil down to 4’ above transfer line
- Task ready for flushing
- Pull fiber cable and Install DCS hardware
Original 511-S Excavation (mid-1980s)

West Transfer Lines

Hot Tie-in
Titanium Testing

- VSL developed 50 glass samples for testing
  - All testing is complete
- Durability model has been revised & approved
- Viscosity model has been revised & approved
- Evaluation of the Liquidus data is underway

- Results thus far are favorable but not confirmed until Liquidus model is revised