



Liquid Waste Integration with the Salt Waste Processing Facility

SRR-SWPF-2017-00050

Presented to Citizens Advisory Board
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July 25, 2017

Objectives

- Operate the Modular Caustic Side Solvent Extraction Unit (MCU) until the Department of Energy (DOE) provides Authorization to Operate (ATO) the Salt Waste Processing Facility (SWPF)
- Support the SWPF start-up date provided by DOE
- Support SWPF start-up at a rate of 6 million gallons per year (MGPY), increasing up to 9 MGPY in fiscal year 2020 as funding permits, when Next Generation Solvent (NGS) is proposed to be available at SWPF



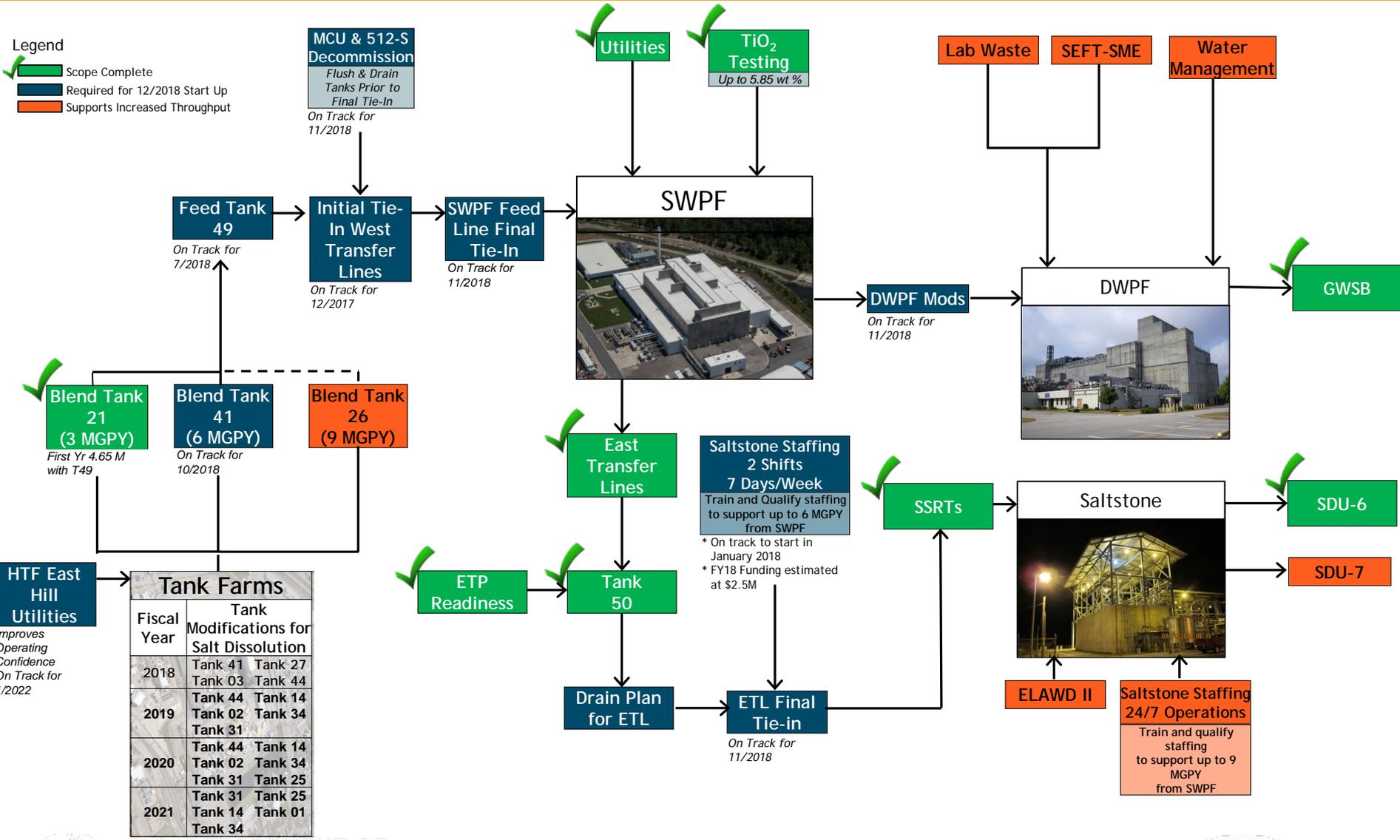
Introduction

- In the beginning (2009) SRR was contracted to integrate the existing Liquid Waste (LW) facilities with the Salt Waste Processing Facility (SWPF)
 - ✔ Salt Solution Receipt Tanks at the Saltstone Processing Facility - **Complete**
 - ✔ Waste Collection Hold Tank at the Effluent Treatment Facility - **Complete**
 - ✔ Tank 21 Blend Tank Readiness - **Complete**
 - ✔ New Feed Line – Phases I, II, and III- **Complete**
 - ✔ East Transfer Line Modifications – **Complete**
 - ⇒ West Transfer Line Modifications – In progress
 - ⇒ Defense Waste Processing Facility (DWPF) Modifications
 - ⇒ *Modular Caustic Side Solvent Extraction Unit (MCU) Continued Operations – In progress*
 - ⇒ *SWPF Integrated Operations – In progress*

SWPF Integration Modifications

Up to 9 MGPY

- Legend**
- █ Scope Complete
 - █ Required for 12/2018 Start Up
 - █ Supports Increased Throughput



Completed Scope



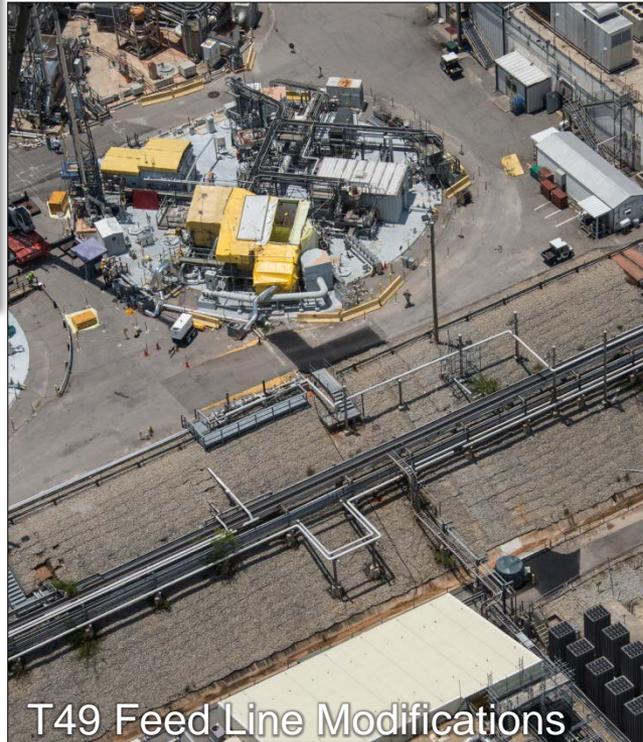
T21 Blend Tank

- Added shielding
- Validated pumps will support



East Transfer Line

- Installed spool piece from SWPF to final tie-in point
- Final spool piece fab complete



T49 Feed Line Modifications

- Installed over 300 linear feet of new feed line



Waste Collection Hold Tank

- Added 30 Kgal vessel to integrate transfers with SWPF



Salt Solution Receipt Tanks

- Added two 60 Kgal vessels to support SWPF throughput

MCU Continued Operations – Tank 49

- Jumper fabrication - **Complete**
- Valve Box Modifications - **Complete**
- B3 Pump
 - Tested satisfactorily - **Complete**
 - Provided savings of \$2M **✓**



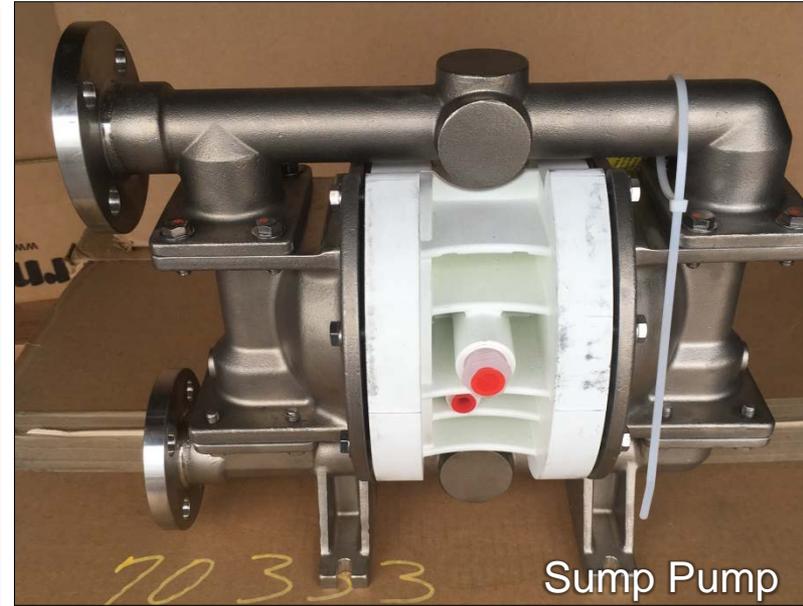
West Transfer Lines 511-S Transfer Controls – Low Point Pump Pit



Typical Leak Detection Box (LDB)

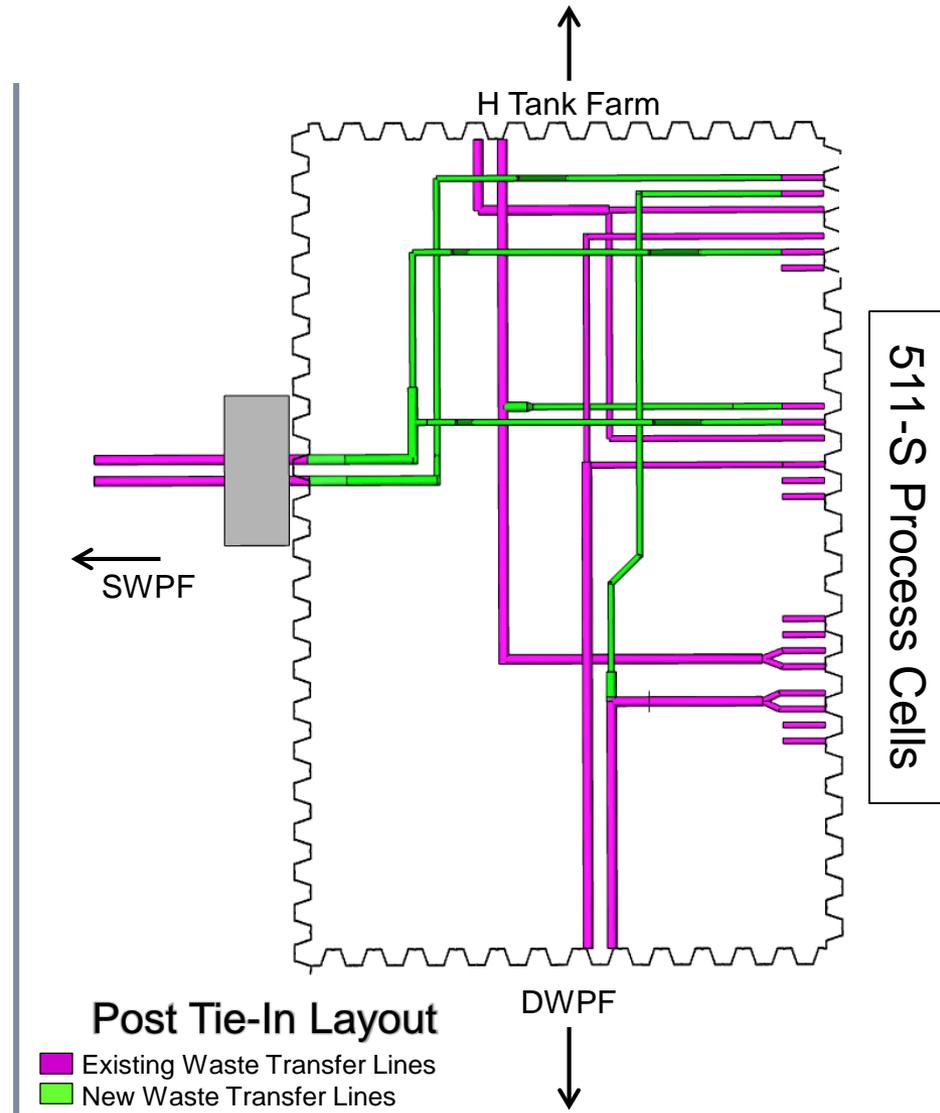
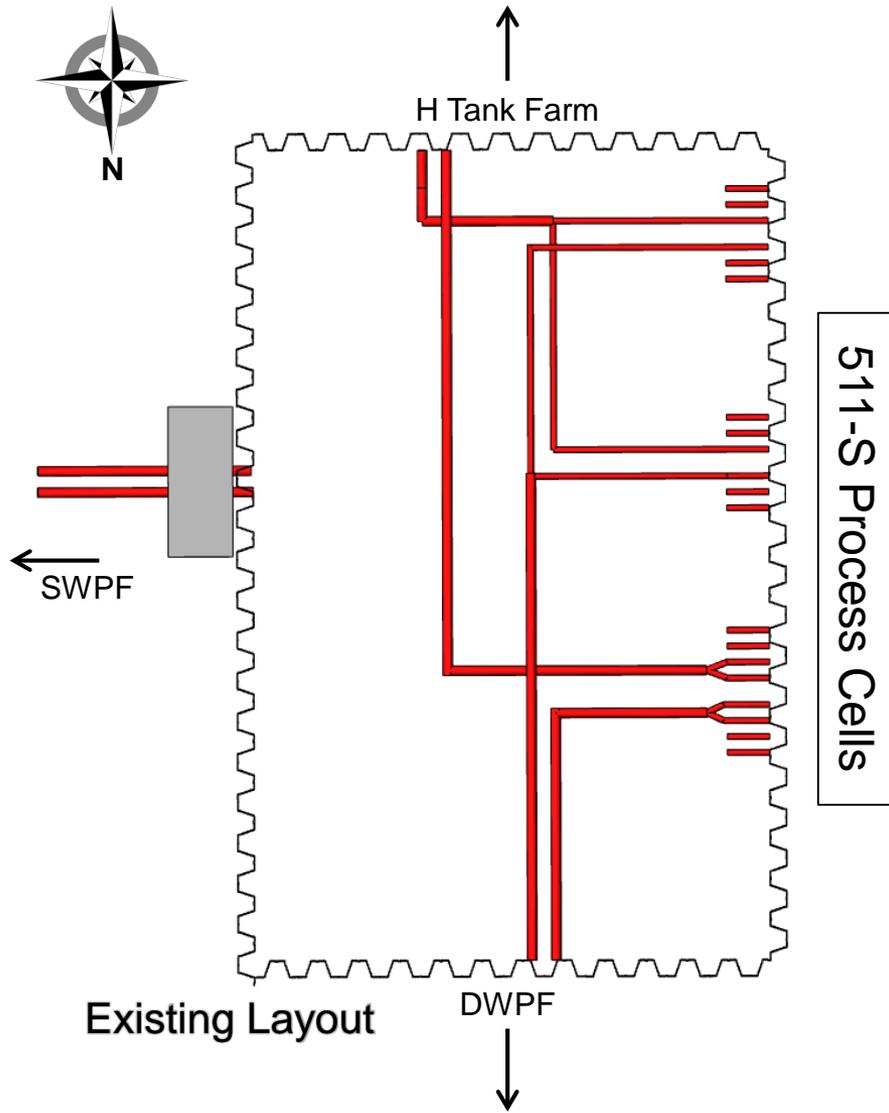


LDB Drain Plugs



Sump Pump

511-S Transfer Piping Diagram - Low Point Pump Pit



Safety Basis Interface Controls

- **Administrative Controls** pertaining to:
 - Waste Acceptance Criteria
 - Communication protocols
 - Termination of transfers
 - Facility isolation
 - Monitoring of transfers
 - Response to Natural Phenomena (i.e., high wind, tornado, seismic event, etc.)

511-S Sheet Piling/Excavation

■ Shoring/Sheet Piling



■ Excavation



Partnering

- **Radiological Control Inspectors**
 - Trained and qualified SWPF inspectors
- **Fan motors**
 - Troubleshooting and repair support
- **Transferring Unused Equipment/Materials**
 - Electrical equipment for permanent power connections at SWPF
 - Unused pipe/electrical fittings from Parsons to SRR
 - Rigging equipment
- **Laboratory training at C-Lab**
 - Six (6) SWPF technicians currently trained
- **Emergency Preparedness (EP)**
 - Integrated EP drill set for October 2017
 - Ring down phones installed in SWPF and LW control rooms



Acronyms

ATO	Authorization to Operate
CFS	Cold Feed System
DOE	Department of Energy
DWPF	Defense Waste Processing Facility
EP	Emergency Preparedness
LDB	Leak Detection Box
LPPP	Low Point Pump Pit (511-S)
LW	Liquid Waste
MCU	Modular Caustic Side Solvent Extraction Unit
MGPY	Million Gallons Per Year
NGS	Next Generation Solvent
SRR	Savannah River Remediation
SSRT	Salt Solution Receipt Tanks
SWPF	Salt Waste Processing Facility

