



Salt Waste Processing at SRS



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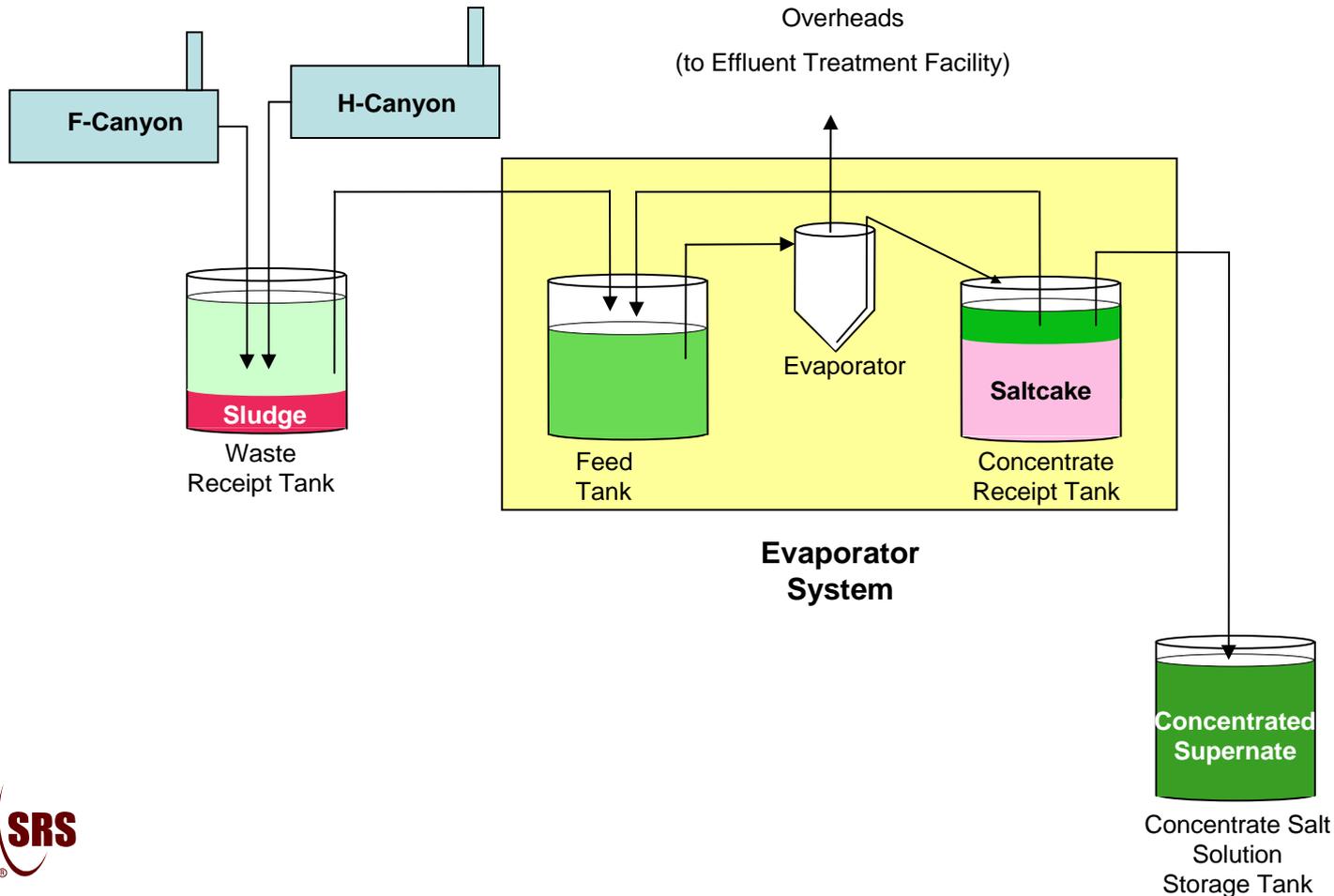


Purpose

- Describe SRS preparations for Salt Waste Processing
 - Salt Waste Processing Facility (SWPF)
 - Parsons Infrastructure and Technology
 - Salt Disposition Integration (SDI)
 - Washington Savannah River Company (WSRC)
- Dispositioning radioactive salt and supernate into final waste forms significantly reduces risk at SRS
- SWPF and SDI position SRS Liquid Waste to support EM goals of closing both non-compliant and compliant waste tanks

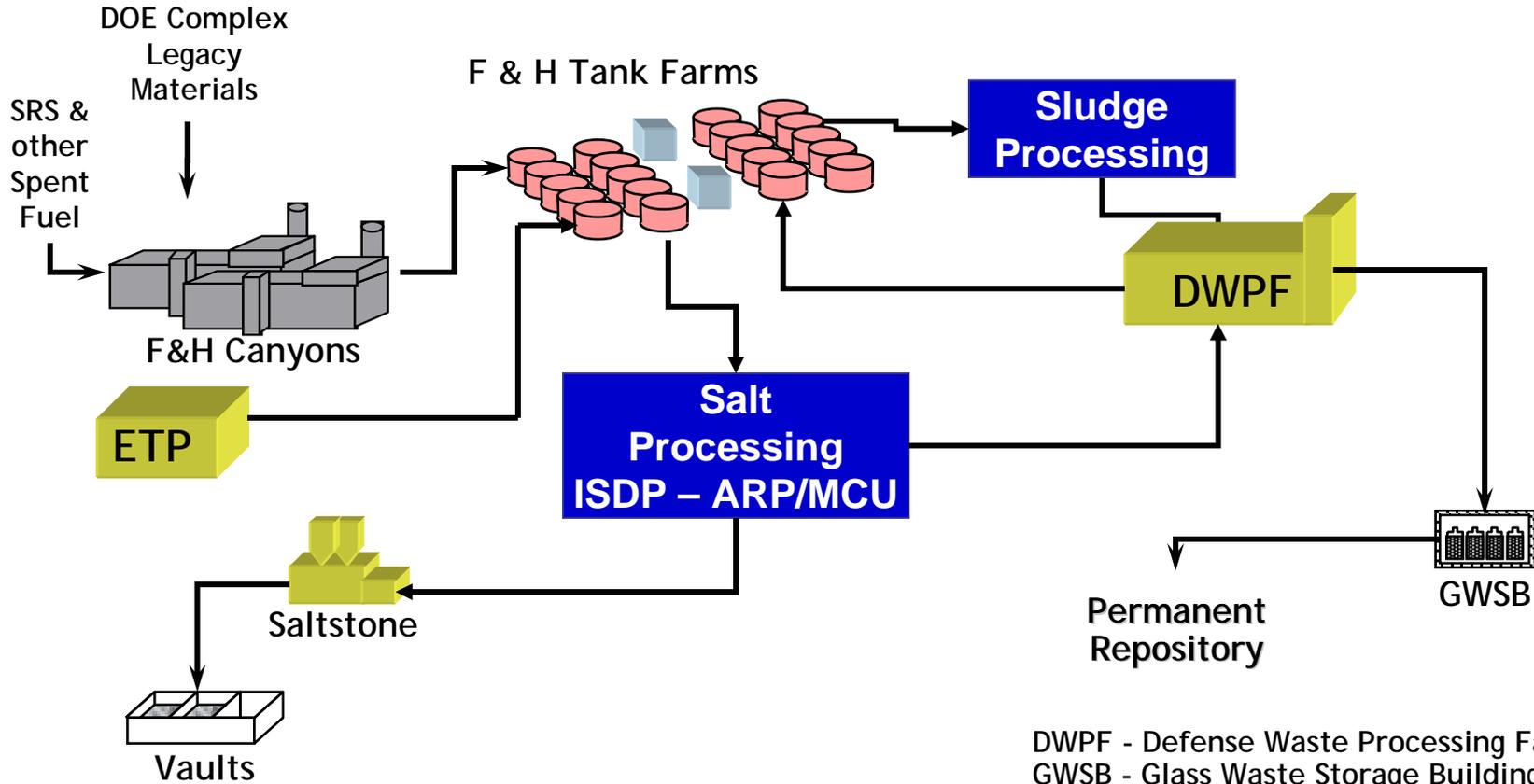


SRS Tank Farm Operations





Current SRS Liquid Waste System





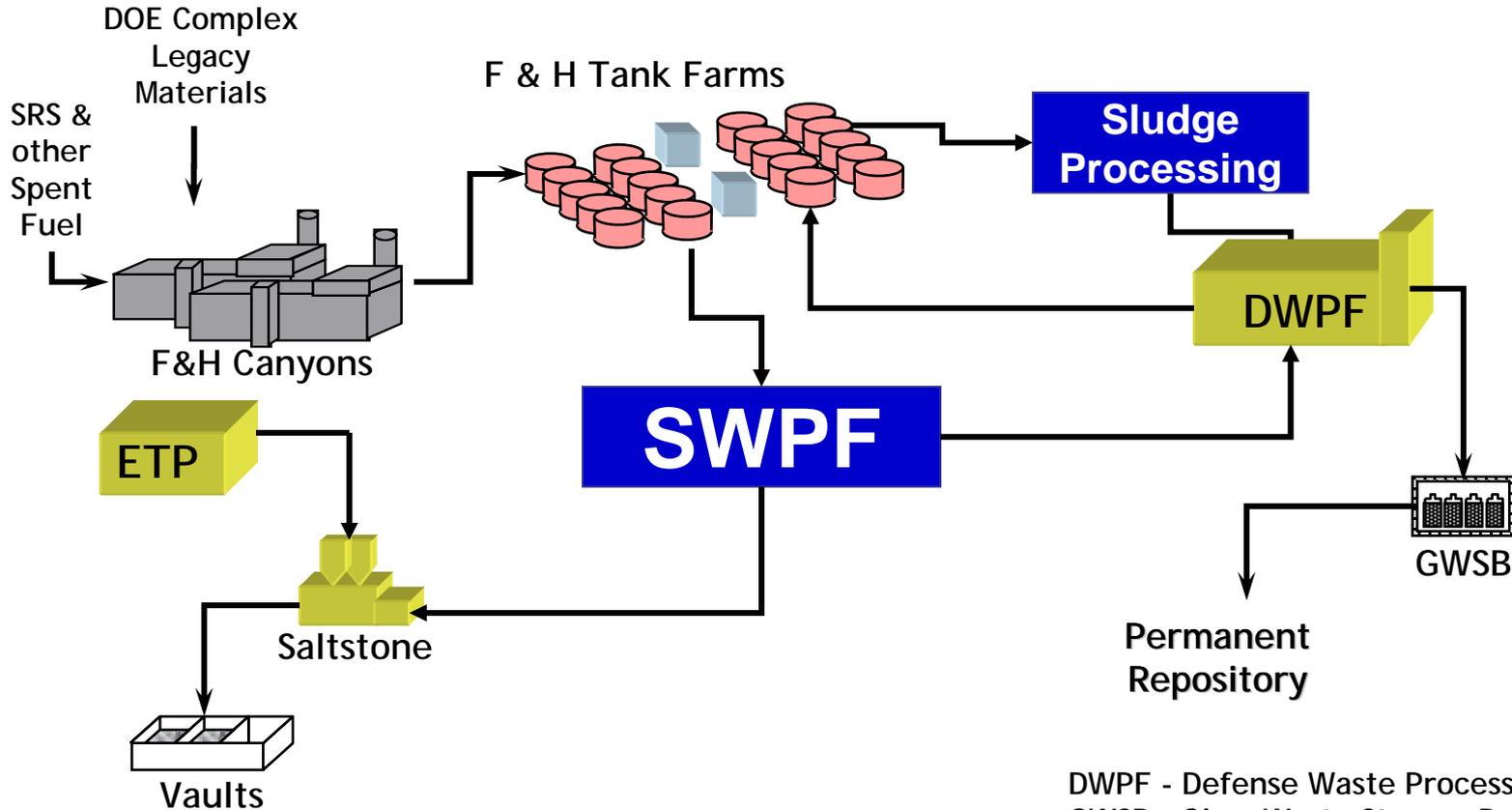
New “Thoroughbred” coming



Salt Waste Processing Facility (SWPF)



Future SRS Liquid Waste System



DWPF - Defense Waste Processing Facility
GWSB - Glass Waste Storage Building



Salt Waste Processing Facility (SWPF)





Salt Waste Processing Facility (SWPF)





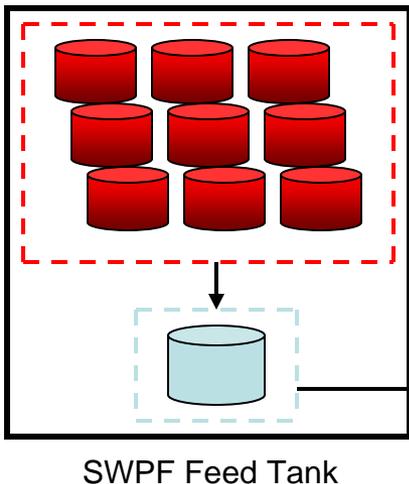
Salt Waste Processing Facility (SWPF)





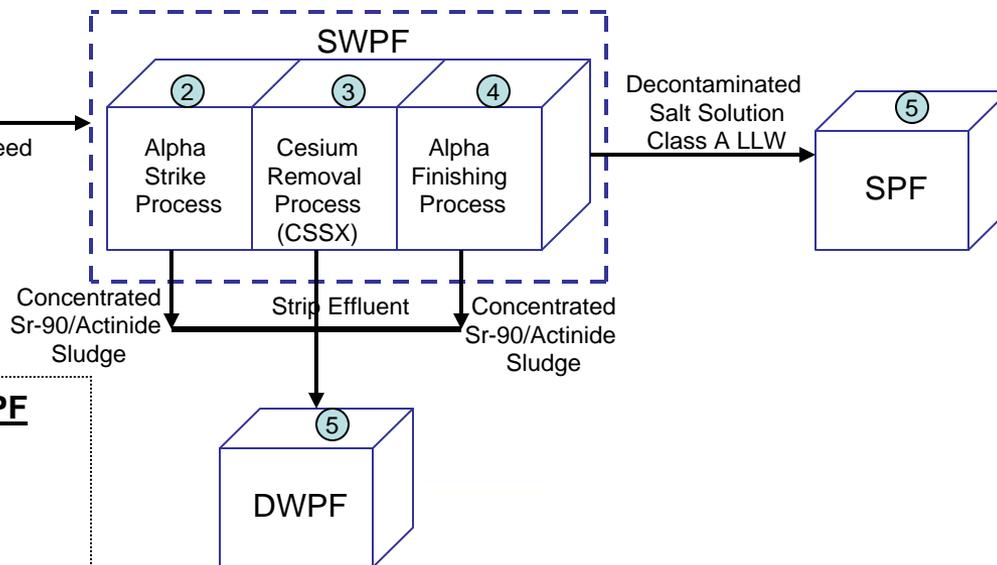
Salt Waste Processing Facility (SWPF)

F & H Tank Farms



Five Basic Steps:

- 1) Receive Salt Waste
- 2) Separate Sr, Actinides & Solids from solution
- 3) Remove Cesium from Salt Feed
- 4) Separate residual Sr & Actinides from solution
- 5) Transfer effluents to final disposition



<u>Design Criteria</u>	<u>ISDP</u>	<u>SWPF</u>
Throughput, Mgal/yr	1.0	6.0
Processing rate, gpm	4	20
Cs Decontamination Factor	12	40,000
# Contactors	18	36



Salt Waste Processing Facility (SWPF)

- Project Critical Decision 3 (construction start) approved by DOE in January 2009
- Basemat construction in progress, expected completion by October 2009
- Radioactive operation
 - ❖ Early start 2013
 - ❖ Late start 2015



Salt Disposition Integration (SDI)

Care and Feeding of the Thoroughbred is Essential





Salt Disposition Integration (SDI)



SDI – We provide the feed and process the effluents



Salt Disposition Integration (SDI) Mission and Key Elements

“Mission - Align the existing Liquid Waste Program to support startup and long term operations of the Salt Waste Processing Facility (SWPF). These changes include improvements and upgrades within Liquid Waste facilities while preparing the initial feed required for Liquid Waste Operations.”

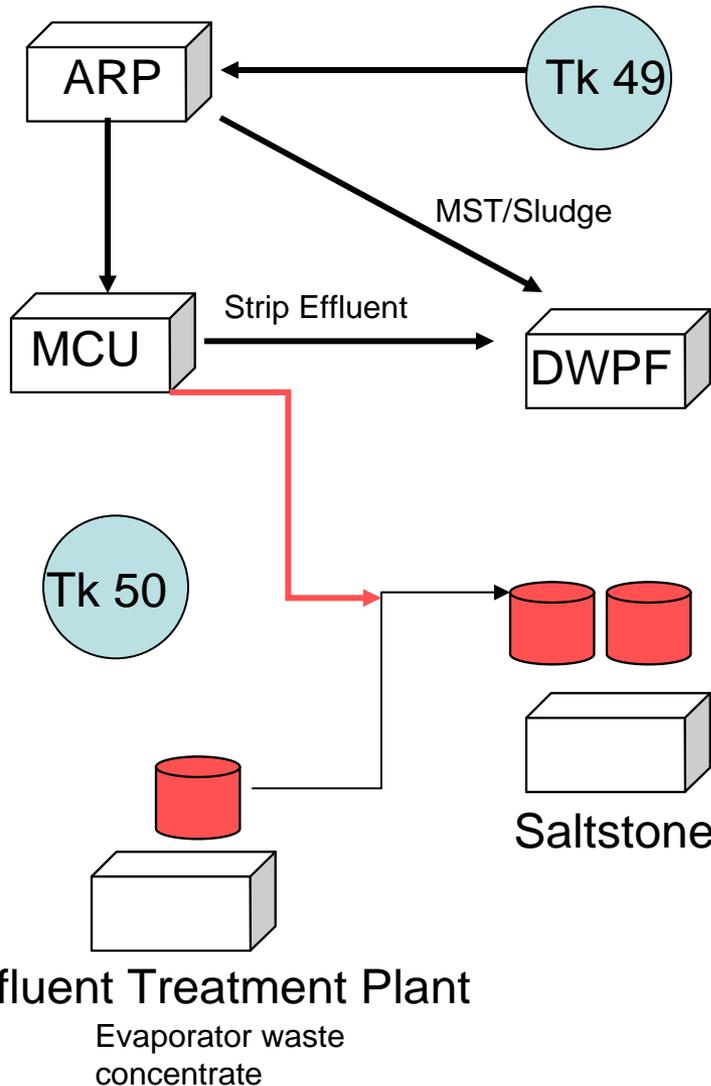
Key elements:

- Infrastructure modifications for SWPF feed preparation
 - Effluent Treatment Plant modifications
 - Saltstone modifications
 - Equip three (3) existing LW Tanks to become Blend Tanks
 - Equip existing ISDP Feed Tank to become the SWPF Feed Tank
- Infrastructure modifications to receive SWPF effluents
 - DWPF modifications to receive SWPF strip effluent
 - Transfer line tie-ins from SWPF to HTF, DWPF & Saltstone
- Prepare SWPF feed batches 1 and 2, plan batches 3 and 4



Prepare SWPF Feed

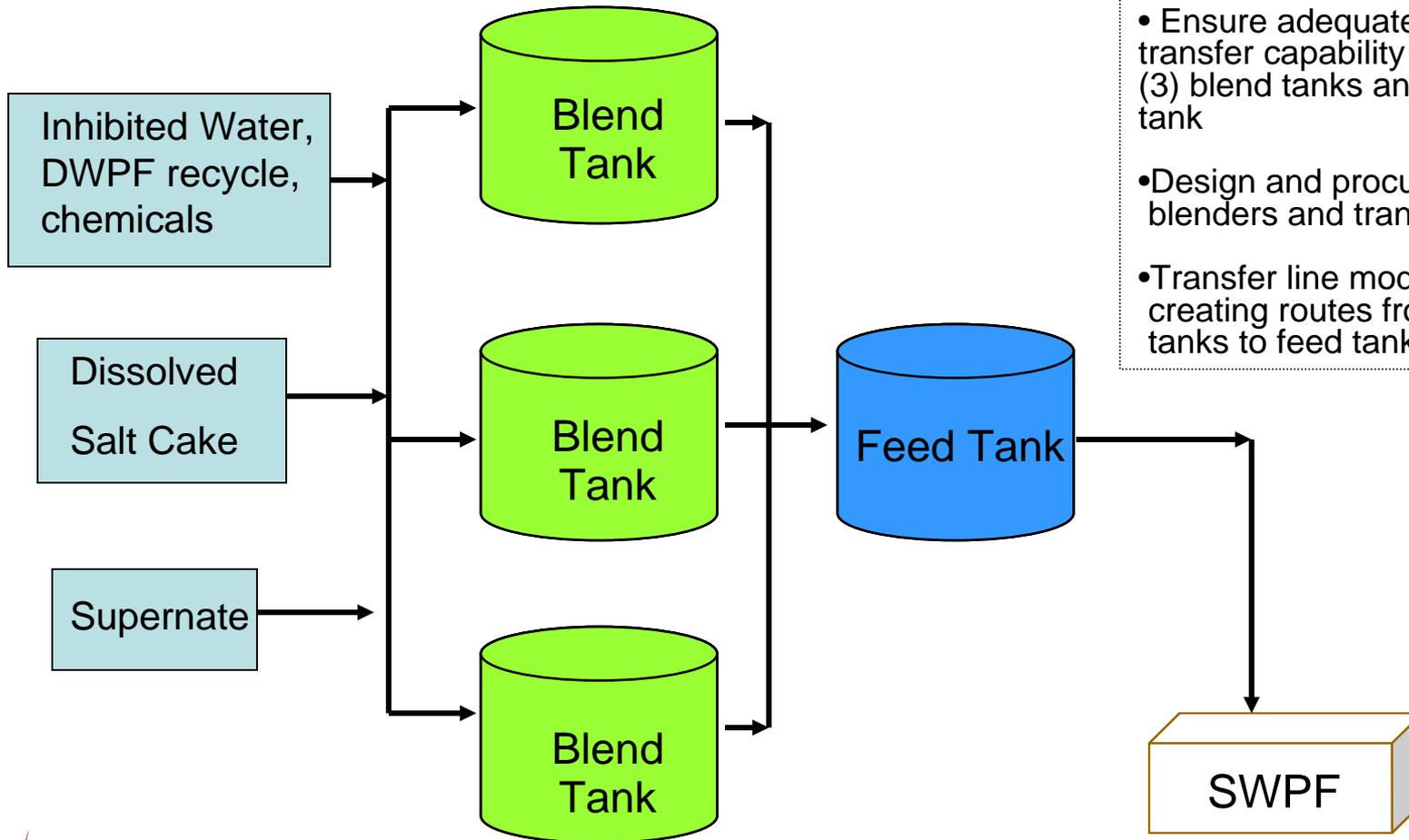
Tank 50 Service - Interim Configuration



- Direct tie MCU Decontaminated Salt Solution (DSS) into H-Z Inter-Area transfer Line (IAL)
- Transfer ETP directly to Saltstone + Install Waste Concentrate storage capacity (~40k gals)
- Support direct receipts at Saltstone + Install salt solution receipt capacity (~60k gals x 2)



Prepare SWPF Feed Blend and Feed Modifications

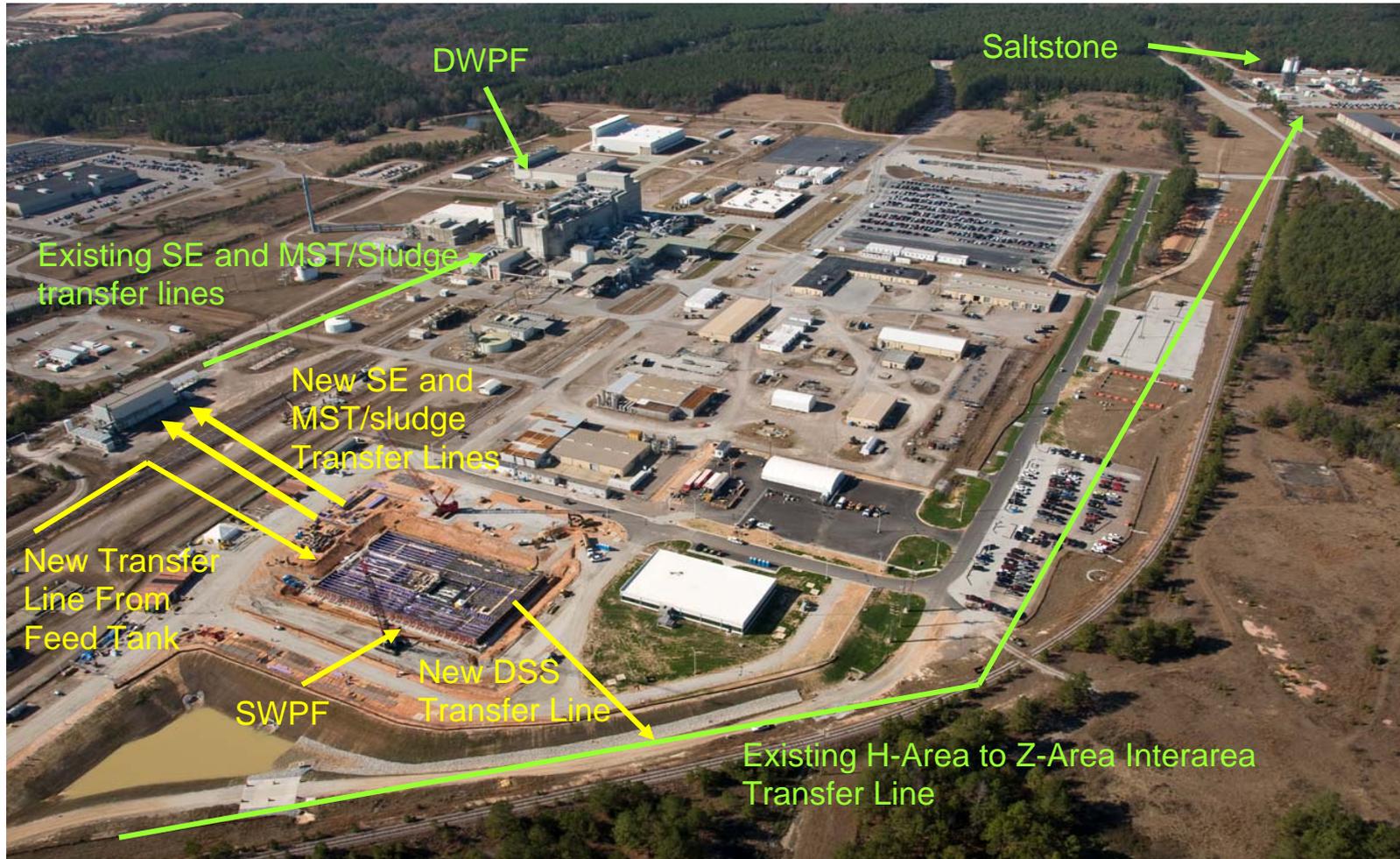


- Ensure adequate blending and transfer capability exists for three (3) blend tanks and one (1) feed tank
- Design and procure new blenders and transfer pumps
- Transfer line modifications creating routes from blend tanks to feed tank



Receive SWPF Effluents

Transfer line tie-ins from SWPF to DWPF & Saltstone





SDI Execution

- **Core team managing portfolio of projects to ensure integration**
- **Five projects provide necessary infrastructure**
 - **Effluent Treatment Plant modifications**
 - **Saltstone Processing Facility modifications**
 - **Blend and Feed modifications**
 - Transfer line tie-ins: MCU DSS to Saltstone
 - **SWPF Transfer line tie-ins**
 - HTF to SWPF
 - SWPF to DWPF and Saltstone Processing Facility
 - **DWPF modifications**
- **Prepare and qualify SWPF feed batches 1 and 2**
 - **Plan batches 3 and 4**



SDI Summary Schedule

- **SDI projects conceptual design complete – 8/2009**
- **Liquid Waste System Plan Revision 15 - 9/2009**
 - Supports feed batch planning
- **Tank 50 Returned to Service modifications complete – 6/2011**
- **Tie-ins to SWPF complete – 5/2013**



Summary

- Dispositioning radioactive salt and supernate into final waste forms significantly reduces risk at SRS
- SWPF and SDI position SRS Liquid Waste to support EM goals of closing non-compliant and compliant waste tanks



Questions and Answers

Contacts

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