



U.S. DEPARTMENT OF
ENERGY



Savannah River Site Integrated Liquid Waste Program

February 2021

SRS Liquid Waste Facilities

170 acres
3 miles in length

Saltstone Production/
Disposal Facilities

DWPF

SWPF

H-Tank Farm

- 29 tanks
- 2 evaporators (2H & 3H)
- Volume reduction and pre-treatment occurs in H Area

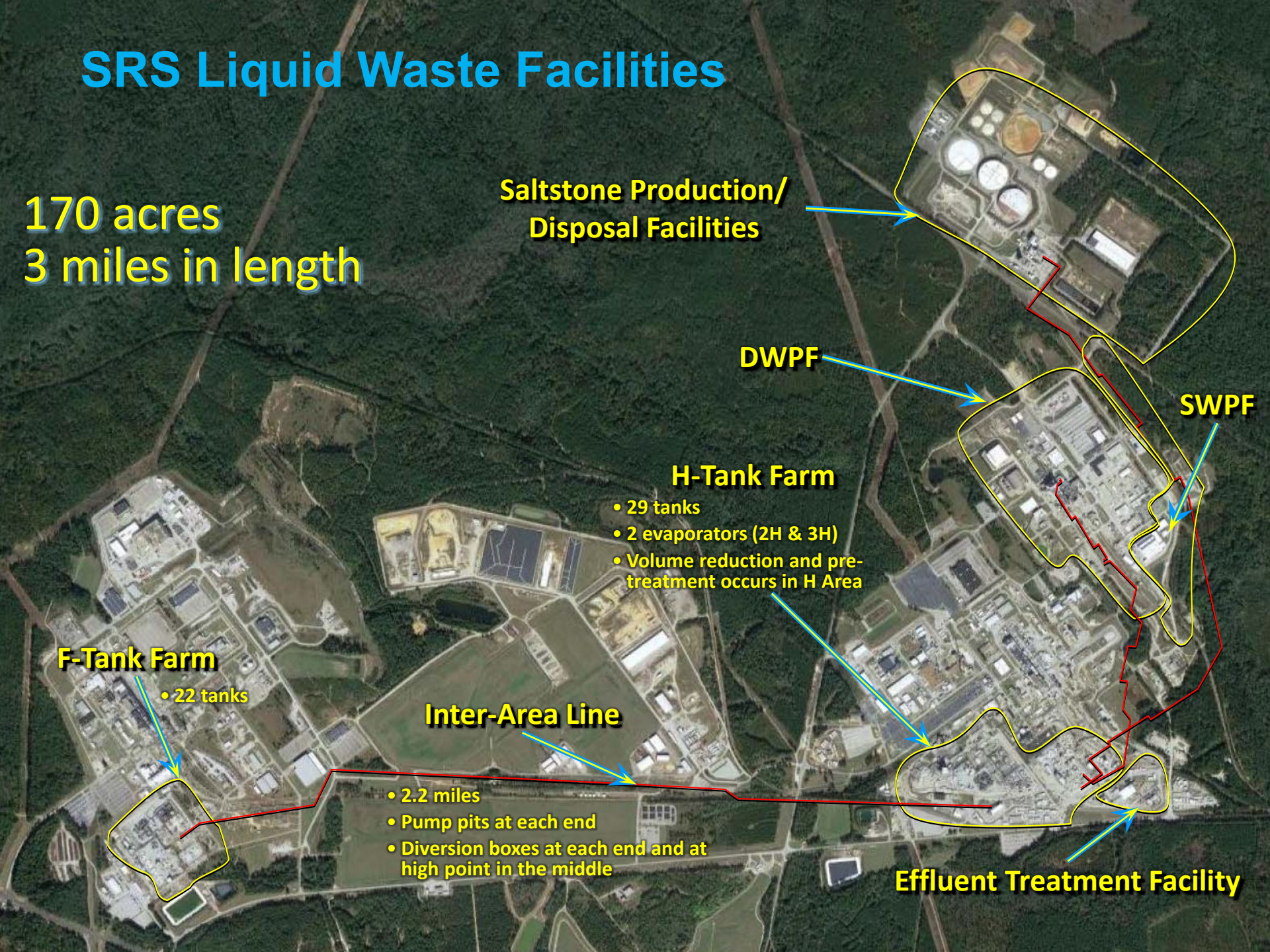
F-Tank Farm

- 22 tanks

Inter-Area Line

- 2.2 miles
- Pump pits at each end
- Diversion boxes at each end and at high point in the middle

Effluent Treatment Facility



SRS Liquid Waste Program

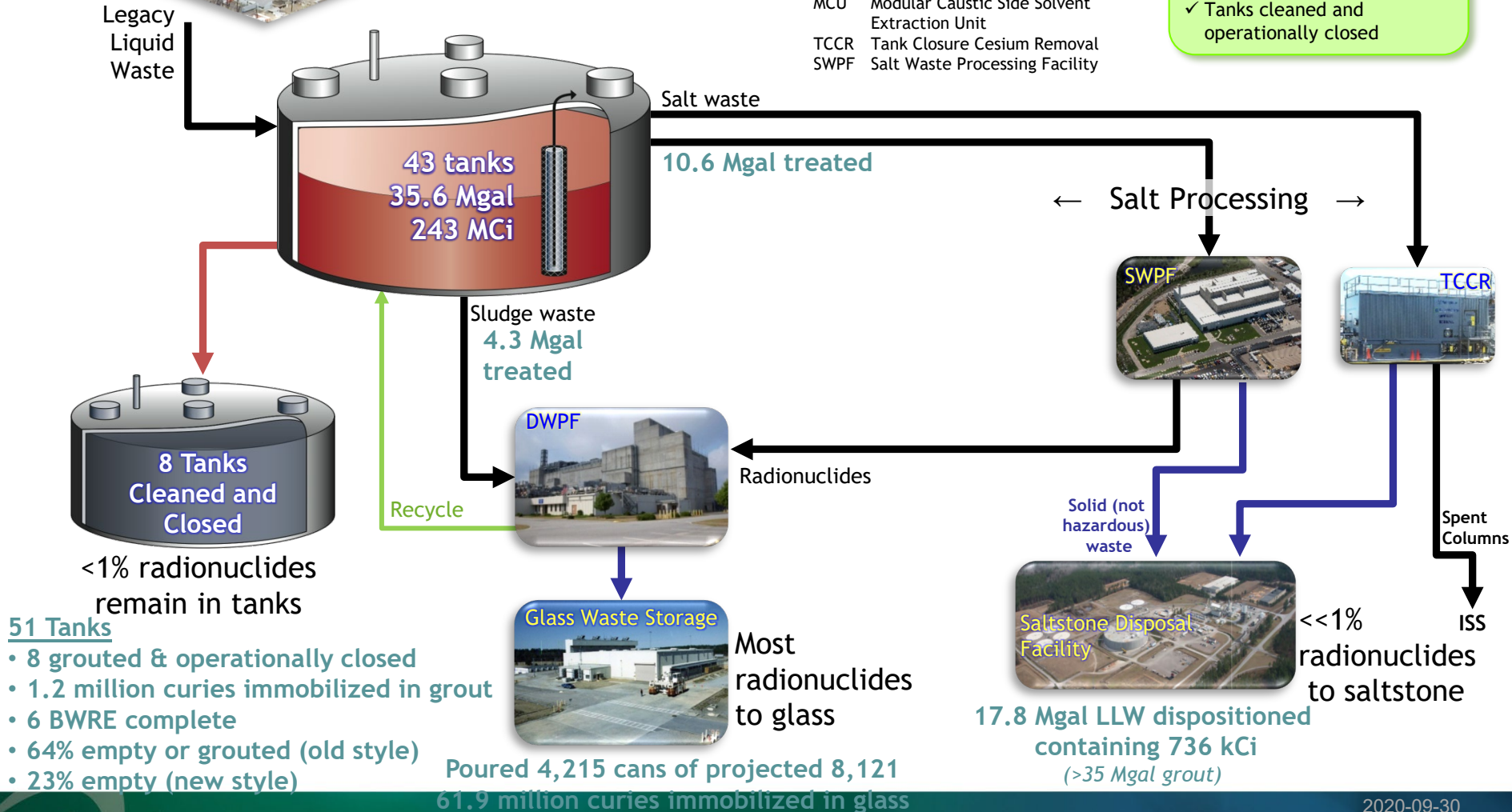


Legend:

ARP	Actinide Removal Process
BWRE	Bulk Waste Removal Efforts
DWPF	Defense Waste Processing Facility
ISS	Interim Safe Storage
MCU	Modular Caustic Side Solvent Extraction Unit
TCCR	Tank Closure Cesium Removal
SWPF	Salt Waste Processing Facility

Operational Goals

- ✓ Radionuclides to glass
- ✓ Chemicals to Saltstone
- ✓ Tanks cleaned and operationally closed

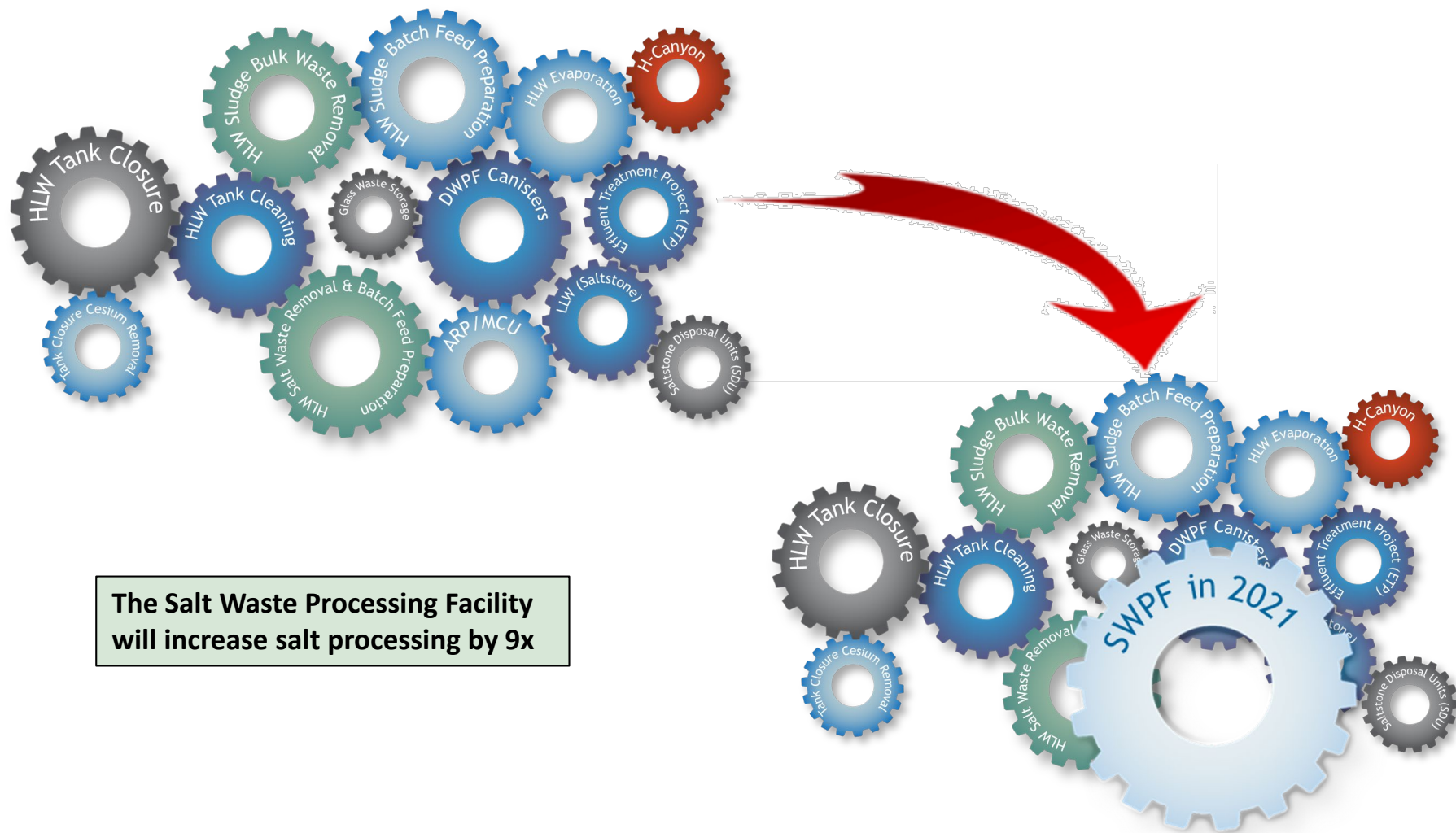


2020-09-30

Liquid Waste System Planning & Integration

- **SRS prepares a “System Plan” that lays out the path to mission completion.**
 - Waste receipts, storage, transfers
 - *H-Canyon receipts*
 - *Transfers, evaporation*
 - *Volume limitations*
 - Waste removal and batching
 - *Salt waste ~90% by volume (1 million gallons of salt cake ~3 million gallons of salt solution)*
 - *Sludge waste >50% of curies*
 - Waste Processing Facility capacities are built-in to the models
 - End states identified
 - Technical hurdles to be resolved
 - Tank closures
 - *Ancillary facility closures*
 - Regulatory constraints / requirements
 - Funding requirements – integrated with annual budget requests
 - Risk and opportunity management

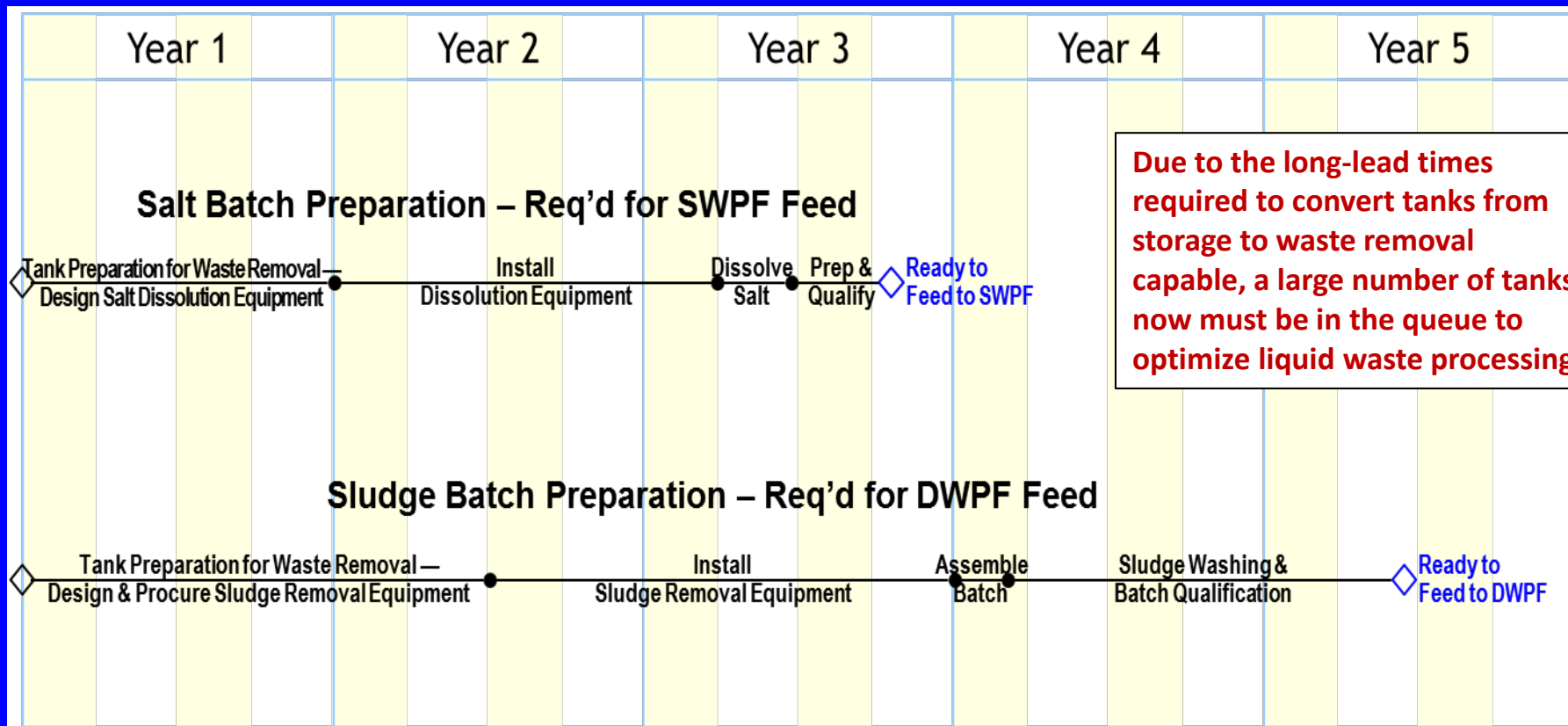
Increase in salt processing requires significant increase in waste removal from salt and sludge tanks, treatment in the Defense Waste Processing Facility and the Saltstone Production Facility, and disposal space in the Saltstone Disposal Units



**The Salt Waste Processing Facility
will increase salt processing by 9x**

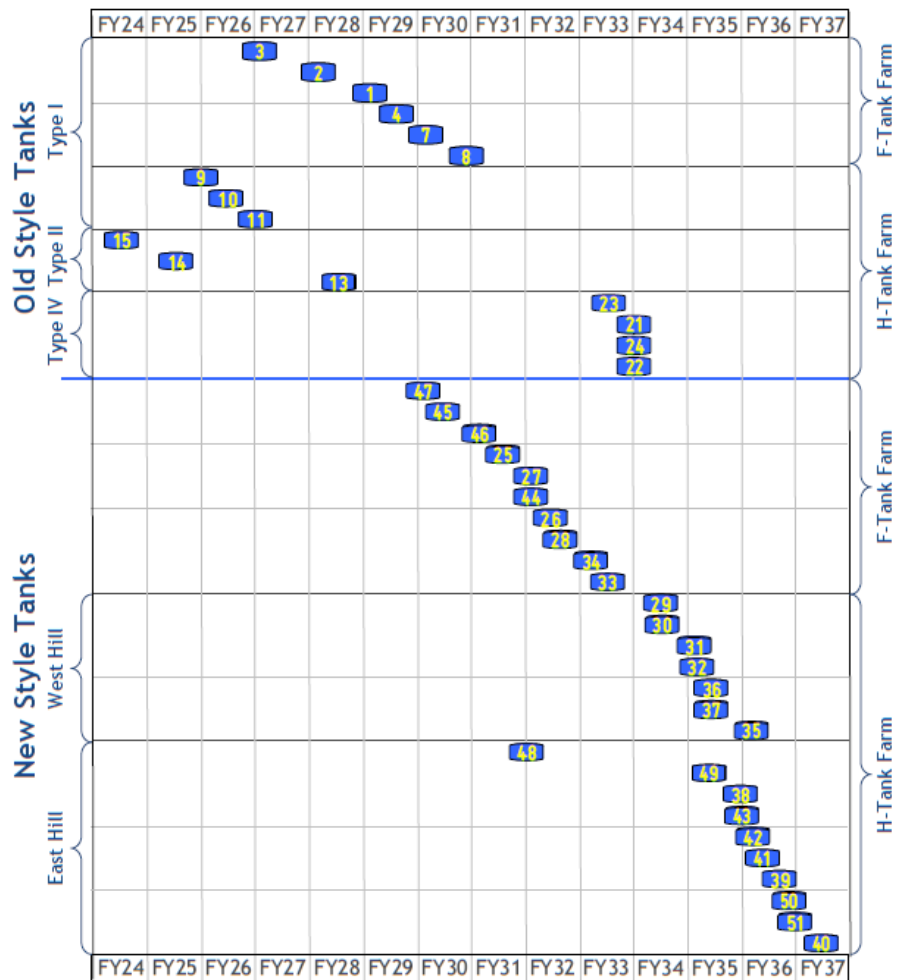
SWPF and DWPF Feed Preparation

Typical



SRS-EM Vision for the Future

Liquid Waste (Tank Removal from Service)



Remaining Tank Inventory

