



# Evaluating Liquid Waste Transfers and their Impacts to the SRS Tank Farms to Support Operations and Closure

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Waste Management Symposia 2025 • Phoenix, AZ • March 9-13

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U.S. DEPARTMENT OF  
**ENERGY**

# Savannah River Mission Completion



## Teaming Partners



Proudly led by



## Integrated subcontractors



*Responsible for eliminating radioactive liquid waste produced from Cold War era nuclear weapons production*

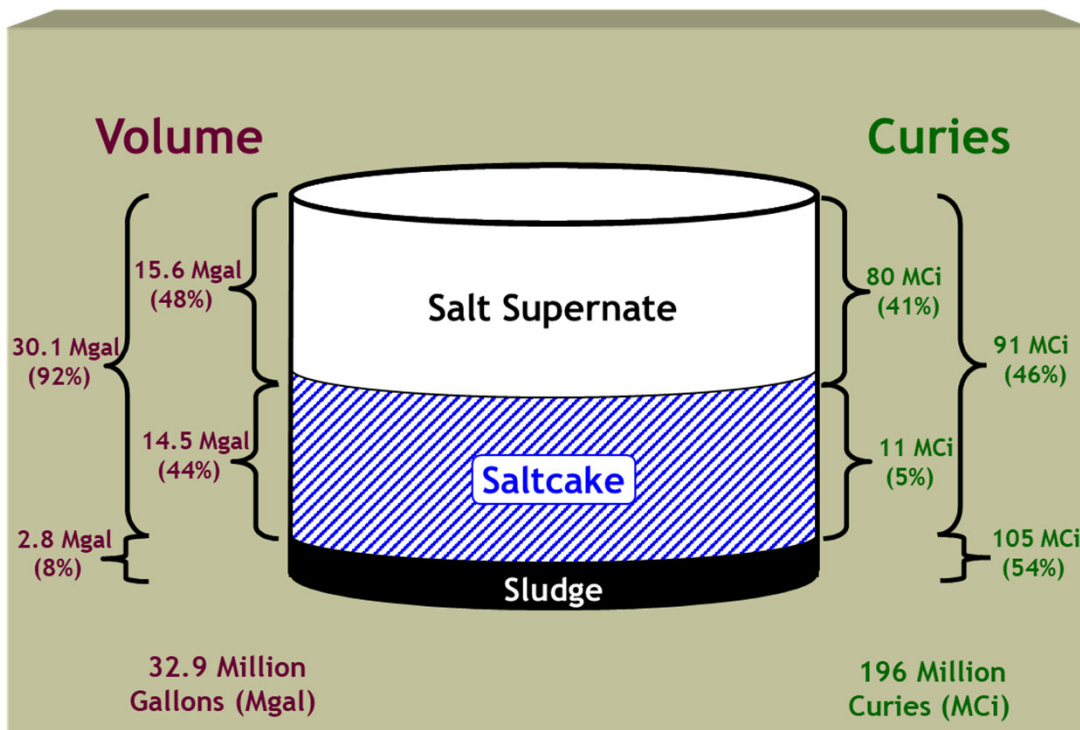
- SRMC's 10-year contract began operations on **February 27, 2022**
- Current workforce of **~3,700 employees** (including subcontractors)

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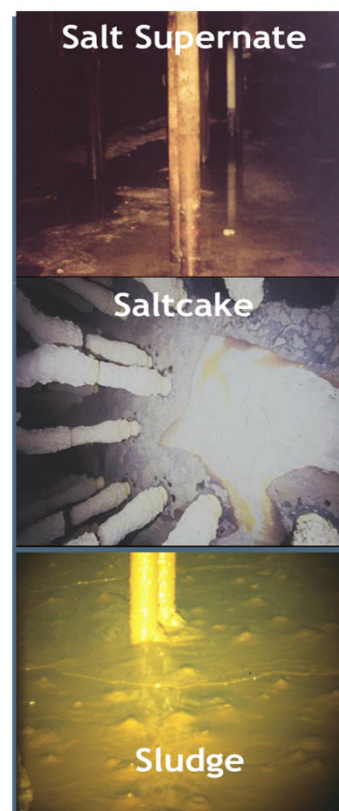
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# Inside the Tanks



Inventory values as of 2024-12-31



Similar to

**Pancake syrup**

Similar to

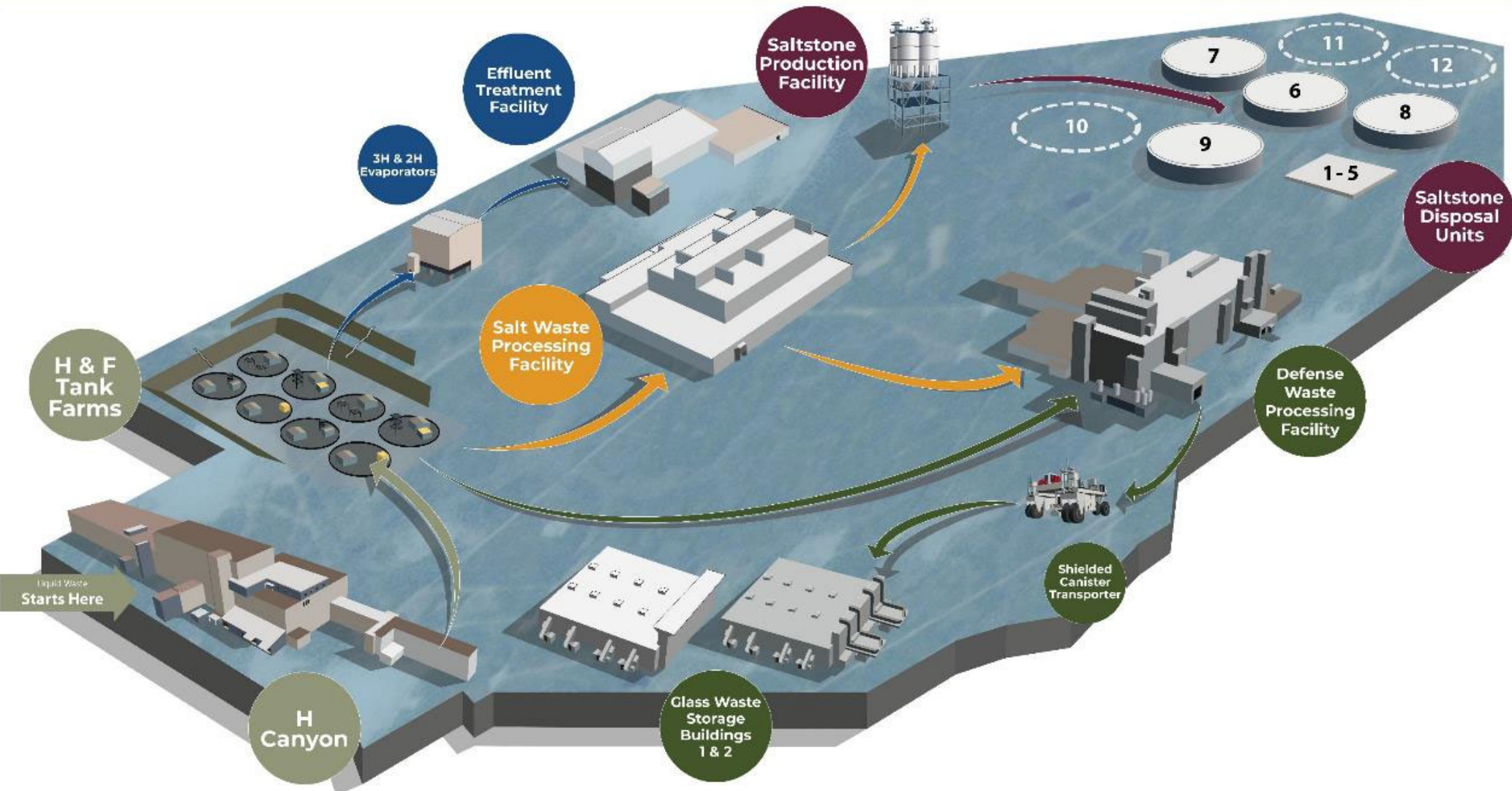
**Table salt**

Similar to

**Peanut butter**



## SRS Liquid Waste Facilities



# Background

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- **SRMC mission critical milestones**

- 34 million liters (9 million gallons) Salt Waste Processing Facility (SWPF) Processing Rate
- Accelerated Waste Tank Closures

- **Results in an increase in Tank Farm transfers**

- **Barriers**

- Equipment failures, replacements, and adjustments
- Weather
- Procedure development
- Outside facility changes

## How has the Tank Farm adapted to meet these milestones?

By improving the transfer evaluation process

# Evaluated Transfer Approval Form (ETAF) Overview

- Required prior to any waste tank to waste tank transfer
- Evaluated against Documented Safety Analysis (DSA) programs including
  - Flammability
  - Corrosion
  - Sludge Carry-Over Minimization (SCOM)
  - Waste Acceptance Criteria (WAC)
  - Transfer control
- Performed in the Waste Characterization System (WCS) Online application

## View ETAF

Reviewed By

Reviewed On

Scientific



Inputs



Outputs



Evaluations

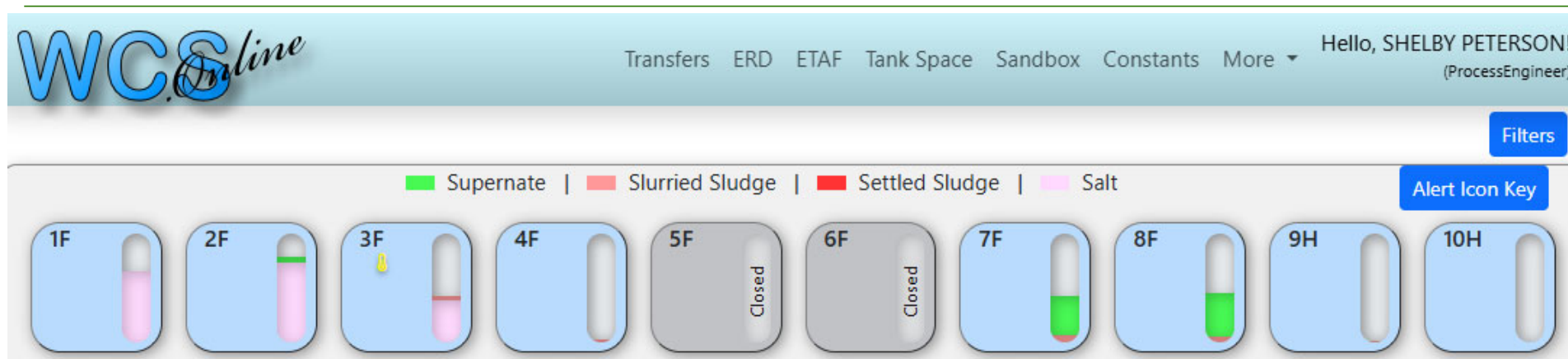


Comp Measures



Projected ERD

# WCS Online Overview



- Web-based software application
- Contains status/contents of waste tanks
- Provides evaluation of activities and data entry to efficiently determine facility impacts
- Controlled, safety software

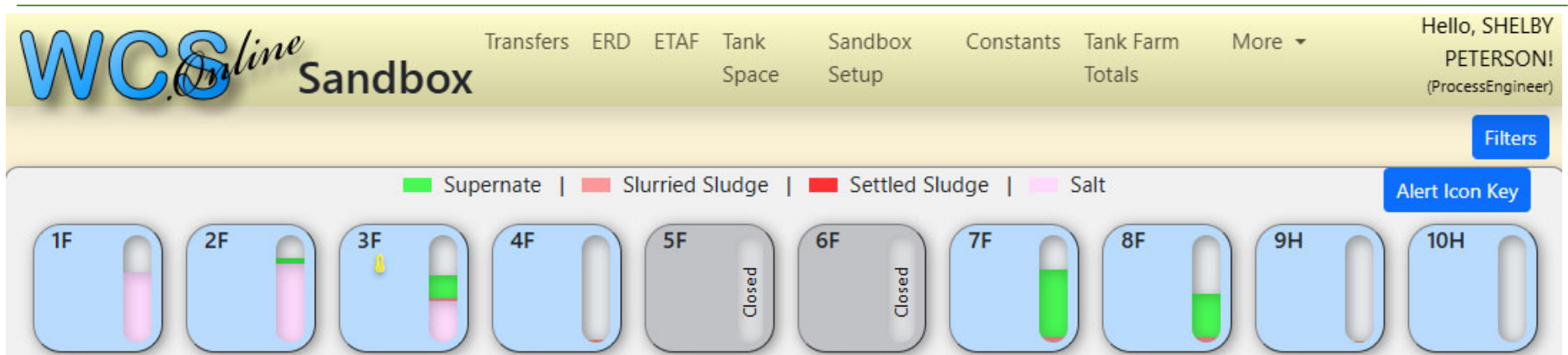
# Emergency Response Datasheet (ERD) Overview

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- Originally for use in emergency situations as a snap-shot of the Tank Farms current conditions
- Expanded to support day to day operations
- Emergency information includes
  - Dose concentrations in the event of a leak
  - Flammability emergency response priority
- Operational information includes
  - Temperature limits
  - Corrosion sample frequencies
- Data updated with WCS Online or external evaluations
- Contains conservative information
- Implemented by facility prior to activity causing impact



## Processing Improvements – Early Identification of Impacts



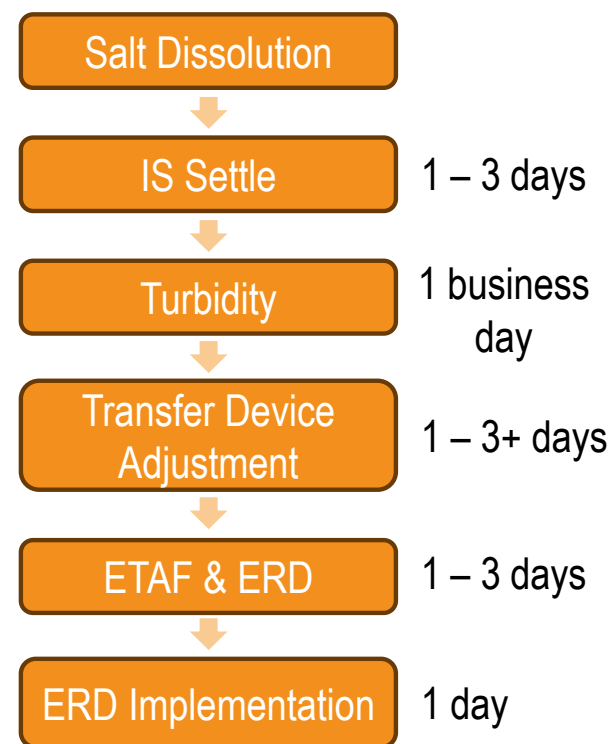
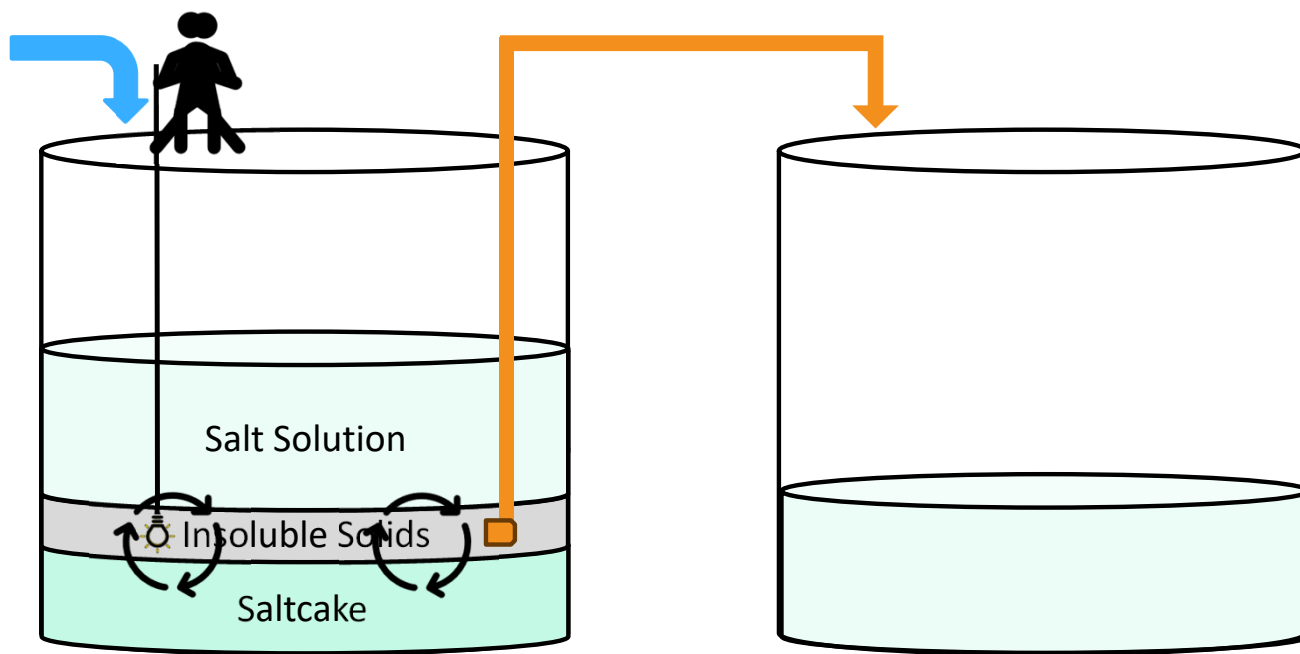
- WCS Online Sandbox
- Increased ERD Coordination
  - Communication
  - Optimization
  - Timing

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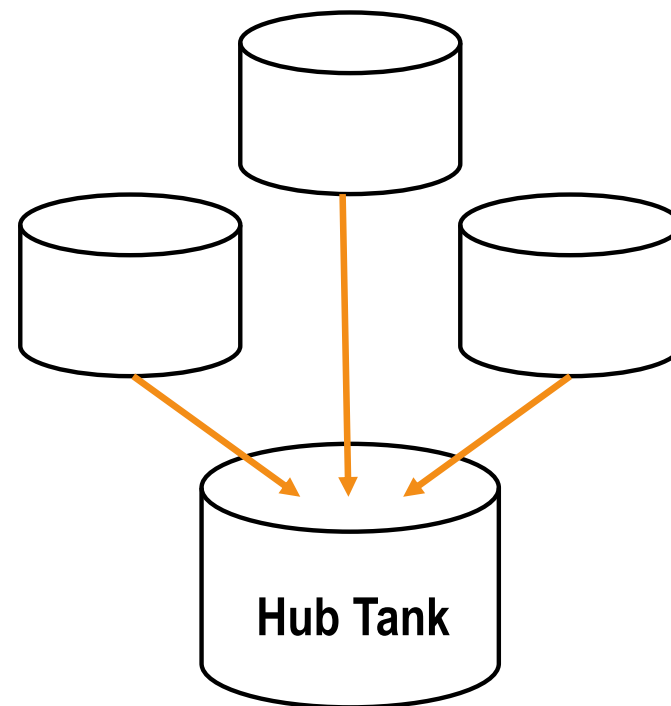


## Processing Improvements Cont. – Streamlining Transfers



## Processing Improvements Cont. – Waste Tank Maintenance

- **Hub tanks**
  - Receive salt dissolution/sludge removal material
  - Typically, last waste tanks to be closed
- **Lower layer/difficult to mobilize waste results in dilute batches**
- **Negative corrosion impacts**
- **Improvements**
  - Pre-treat waste tanks
  - Add excess, highly concentrated chemicals
  - Simultaneous transfers in



## Conclusion

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- **Increased Tank Farm processing, increases ETAFs & ERDs**
- **Improvements made to ETAF & ERD process**
  - Early identification of impacts
  - Streamlining transfers
  - Waste tank maintenance
- **Allows efficiency while remaining in DSA compliance**
- **Supports SRMC to achieve mission critical milestones**