

Savannah River Site Liquid Waste Update

Larry Ling, Chief of Staff

October 15, 2024

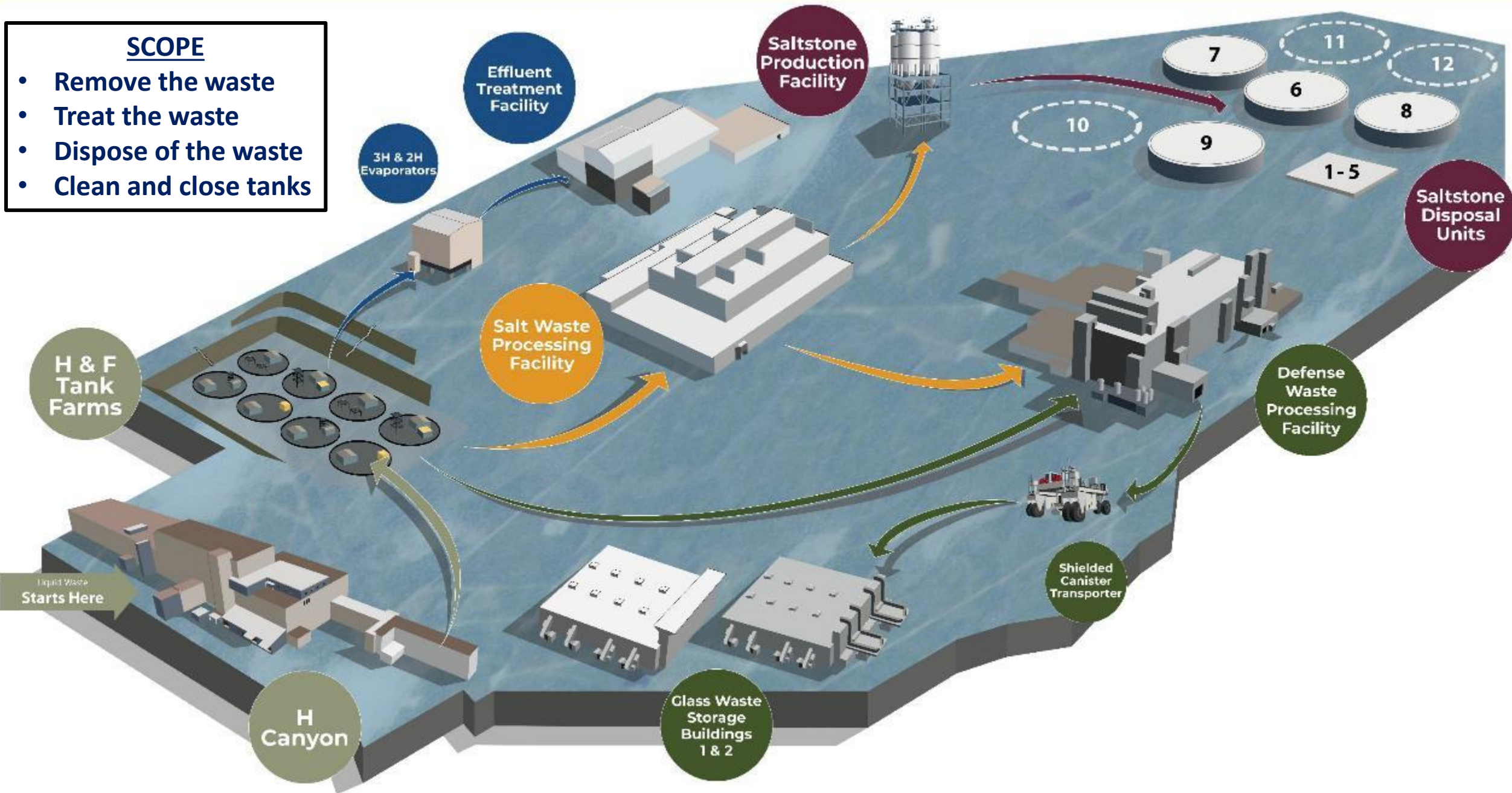


- **Liquid Waste Program Progress**
- **Regulatory Progress and Achievements**
- **Climb to 9 Optimizations & Spring Outage Preparation**
- **Sustaining our Workforce**

SRS Liquid Waste Facilities

SCOPE

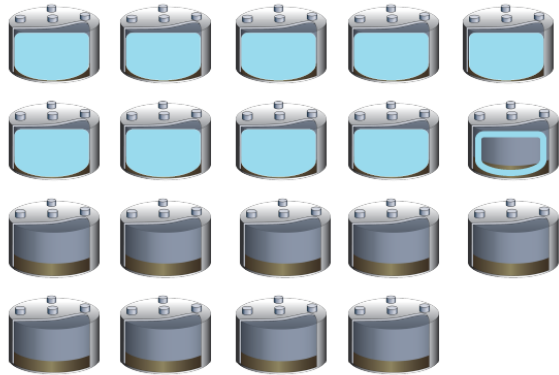
- Remove the waste
- Treat the waste
- Dispose of the waste
- Clean and close tanks



SRS Liquid Waste Mission Progress to Date*



**Sludge batches processed:
9 of 19 projected**



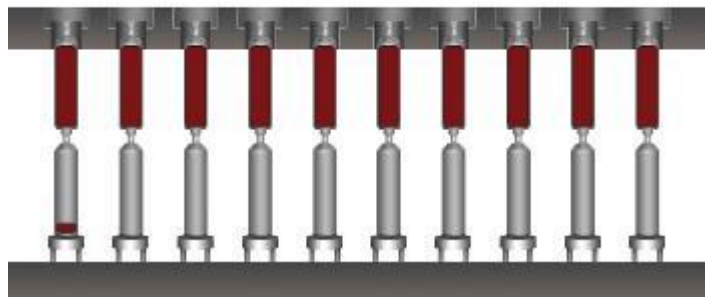
**Salt batches processed:
11 of 90 projected**



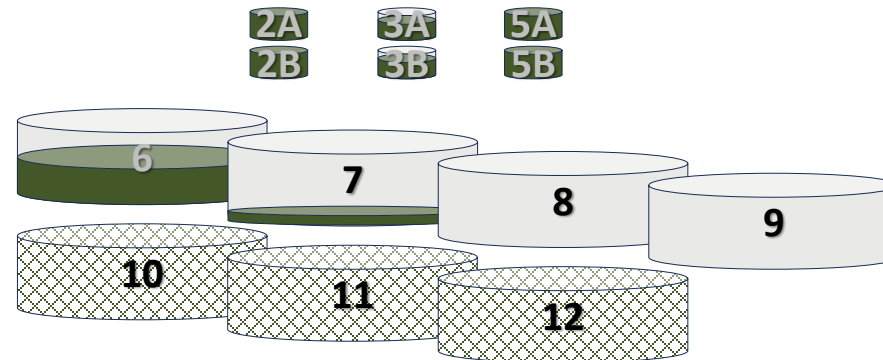
**Preliminary Cease Waste
Removal Complete:
9 of 51 tanks**



**Canisters: 4,444 total
of 8,113 projected**



Saltstone Disposal Units



Tanks closed: 8 of 51



Last Updated: Sept. 30, 2024

GOALS (in priority order)

1. Reduce risk to the environment by removing waste and closing tanks with a goal of completion of the liquid waste program by 2037.
2. Reduce operational and environmental risk by aggressively removing curies from the waste tanks.
3. Reduce operational and environmental risk by optimizing operations to minimize liquid waste program total life cycle.
4. Complete waste removal and subsequent grouting of all waste tanks and ancillary structures with a risk-based priority order: first to tanks in the water table, followed by F Tank Farm tanks, followed by remainder of waste tanks, followed by ancillary structures, recognizing the potential for future emergent conditions or opportunities.



Regulatory Framework of Federal Facilities Agreement, Environmental Permits, and Performance Monitoring

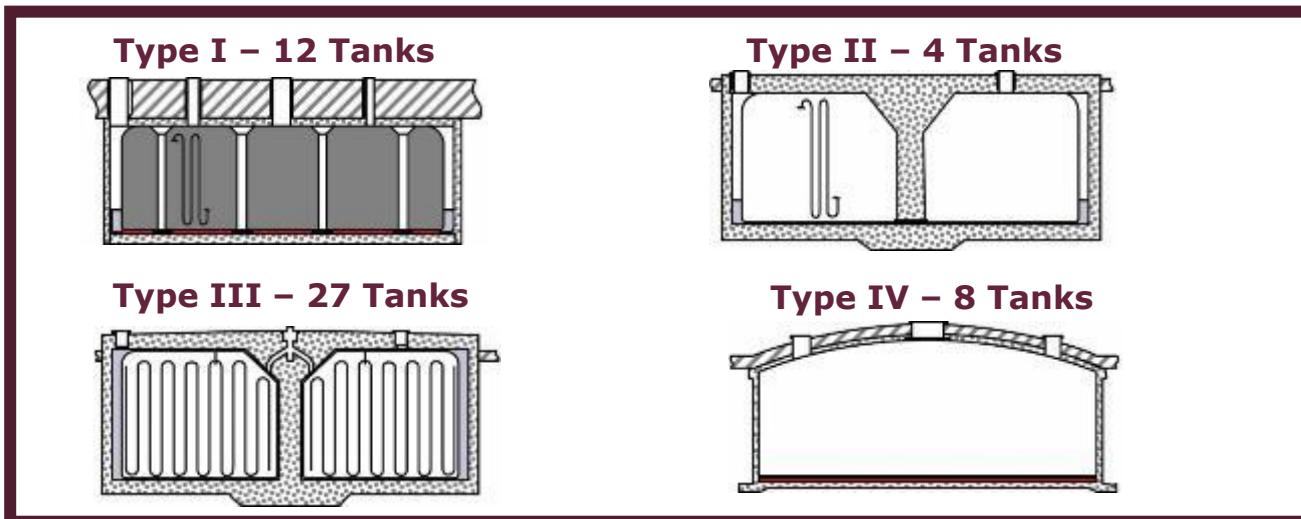
Federal Facility Agreement Updated Milestones



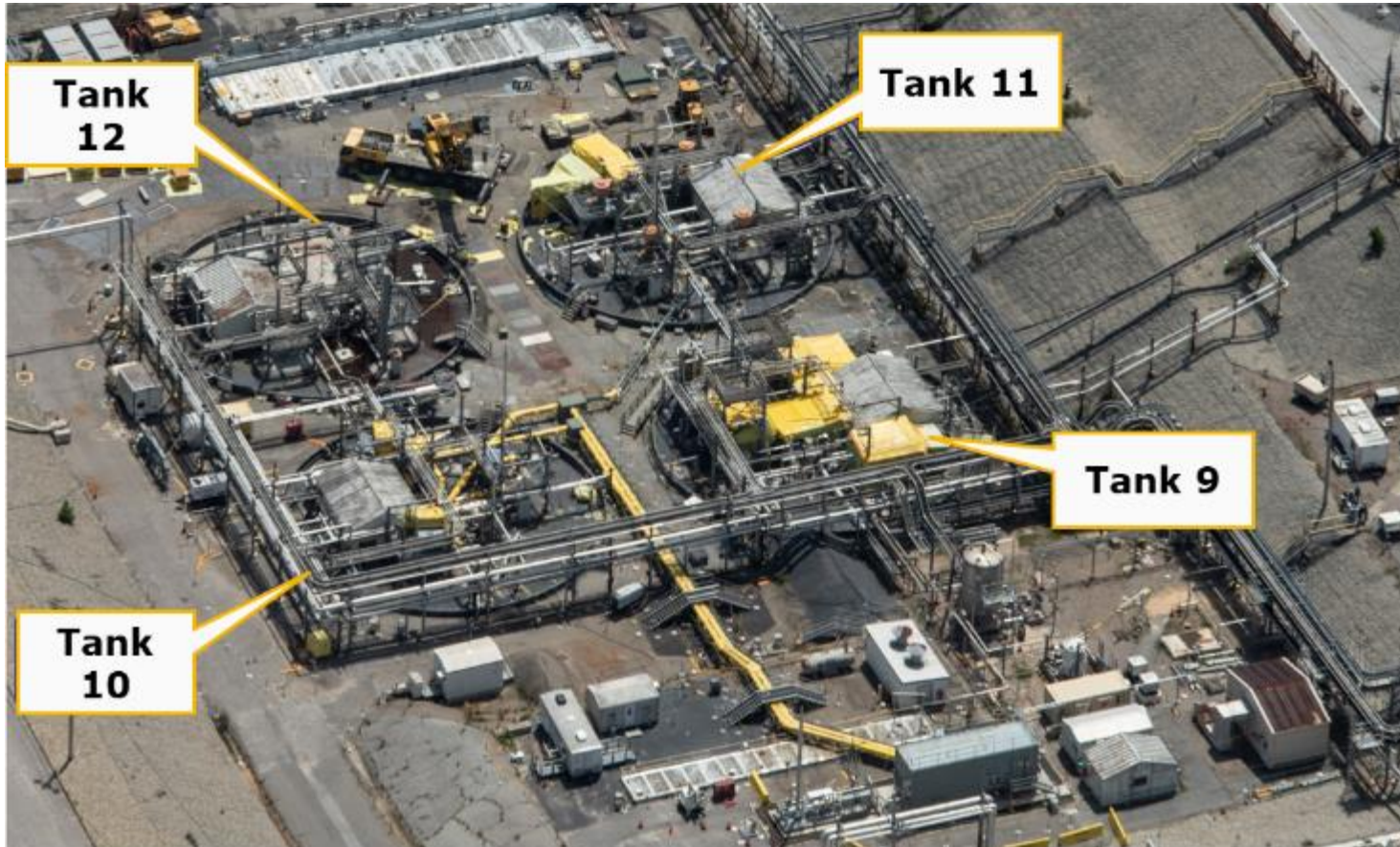
- Agreement signed December 2022
- Results in alignment between regulators, DOE, and contractor
- Subsequently defines the scope through October 2031
- Supported by Enhanced System Modeling (DBD), which also provides input for our System Plan

Schedule for Remaining Type I, II, and IV Tanks

Milestone Date	Preliminary Cease Waste Removal (# of Tanks)	Actual Preliminary Cease Waste Removal Completed	Operational Closure (# of Tanks)
12/31/2023	0	0	0
12/31/2024	1	1	0
12/31/2025	3	0	0
12/31/2026	2	0	0
12/31/2027	2	0	0
12/31/2028	0	0	3
12/31/2029	2	0	0
12/31/2030	1	0	2
12/31/2031	0	0	3
12/31/2032	0	0	1
12/31/2033	0	0	2
12/31/2034	1	0	0
12/31/2035	1	0	0
12/31/2036	1	0	1
12/31/2037	2	0	4
Total	16	1	16



Tank 10 Within H Tank Farm



Tank 10
Before Cleaning



Tank Inspections Using Drones

- **Tank inspections and mapping are required to satisfy regulatory requirements**
- **Drones provide inspections/mapping that are:**
 - Faster
 - More accurate
 - Reduce exposure to personnel
- **Drones tested for high radiation tolerance**
- **Drone use will be implemented in phases, depending on need and technical maturity**
 - Phase 1
 - *Tank 9 annulus inspection*
 - *Soon: interior tank mapping*
 - Phase 2: Drones for waste tank characterization sampling
 - *Drones equipped with tools to retrieve samples of residual waste in primary waste tanks*



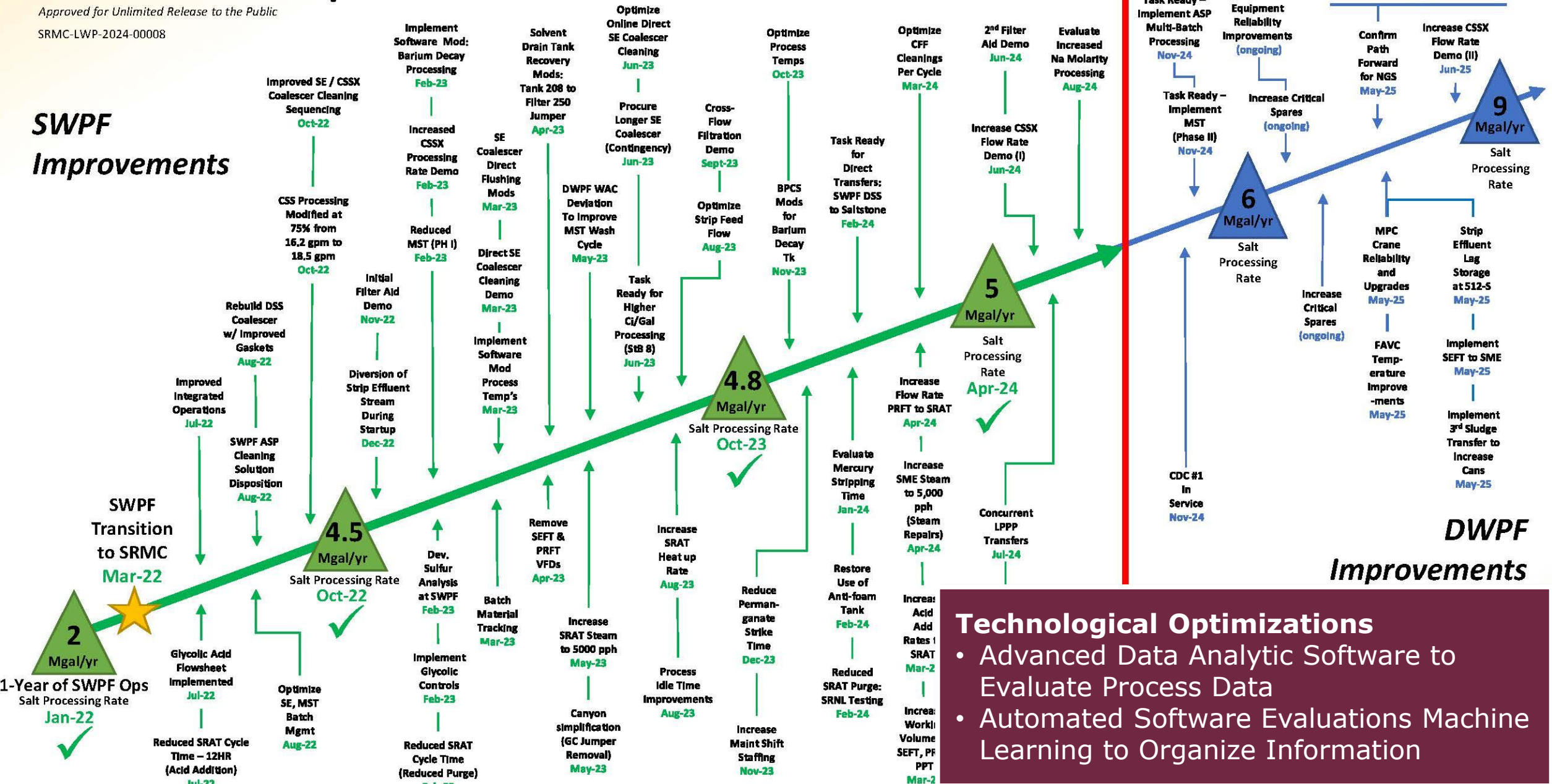
"Climb to 9" Graphic

Approved for Unlimited Release to the Public

SRMC-LWP-2024-00008

SWPF Improvements

Complete ← To Go



DWPF Improvements

Technological Optimizations

- Advanced Data Analytic Software to Evaluate Process Data
- Automated Software Evaluations Machine Learning to Organize Information

as of 9/30/24, 3:15 PM

Spring Outage 2025



SiteSteam
April 18
-
May 4

Spring 2025 Outage		Spring 2025 Outage				Spring 2025 Outage							
#	C	Activity Name	Start	Finish	April 2025			May 2025				June 2025	
					14	21	28	05	12	19	26	02	
Spring 2025 Outage					14-Apr-25	07-Jun-25							
Salt Waste Processing Facility - SWPF													
		Cross Flow Filter Modifications & Replacements	14-Apr-25	15-May-25	4-6 wks pending mock up in October								
		Nitric Acid Tank Alternate Flow Path Installation	14-Apr-25	05-May-25									
		Vibration Monitoring Installation for Contactors and Pumps	14-Apr-25	31-May-25									
End Stream Delivery - ESD													
		Saltstone Grout Mixer Replacement	14-Apr-25	24-Apr-25									
		Saltstone Process Room Ventilation Upgrades	14-Apr-25	07-Jun-25									
Defense Waste Processing Facility - DWPF													
		Shielded Canister Transport Tire Replacement	14-Apr-25	06-May-25									
		Strip Effluent Feed Tank to Slurry Mix Evaporator Alternate Transfer Path Installation	14-Apr-25	09-May-25									
		512-S Lag Storage for Strip Effluent	17-Apr-25	01-May-25									
		Main Process Cell Crane Upgrades	14-Apr-25	07-Jun-25									
H Tank Farm - HTF													
		High Point Jumper Work Upgrades	14-Apr-25	17-May-25									
		Implementation of (Quantum I/O) 82H Delta V Upgrades	14-Apr-25	12-May-25									
		East Hill Utility Upgrade (Steam Tie-Ins)	14-Apr-25	24-May-25									
		Control Room Consolidation - 28H to 3H	14-Apr-25	12-May-25									
		Normal Steam Repairs FTF/HTF & PSV Replacements	14-Apr-25	05-Jun-25									

Sustaining our Workforce



- Integrating ~300 new employees per year into the workforce culture
- Preparing the next generation of leaders



- **Historically Black Colleges and Universities work continues**

- 4 capstone projects accepted for Fall semester
- Met with Clinton College earlier this month
 - *Have now reached all SC HBCUs*
- \$30,000 in donations to HBCUs this year

- **Summer Internships**

- 58 students – Most in SRS liquid waste program history
- Technical Student Program
 - *Keeping 26 summer interns to do part-time work during the year with a promise of a job in May 2025*

- **STEM support at Elementary Schools**

- 2 years of STEM donations to Barnwell Elementary and A. Dorothy Hains Elementary Schools
 - *Total of \$55,000 donated*



Power As One

