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Governor's Nuclear Advisory Council

Dr. Thomas D. Burns, Jr.
President & Program Manager

December 15, 2025

Notable Achievements

- **Processed over 10 million gallons of salt waste & dispositioned over 33 million curies since start of contract**
- **Completed cleaning and declared Preliminary Cease Waste Removal (PCWR) on 4 tanks in 2025; 7 total since start of contract**
- **Continue to establish new processing records at the Salt Waste Processing Facility (SWPF) and Saltstone Production Facility (SPF)**
- **Successfully completed Liquid Waste (LW) outage, resulting in facility upgrades that increase availability and reliability of the system**
- **Completed “Climb to 9” initiative that focused on increased waste throughput – New focus on increasing system availability**
- **Completed Fast Critical Assembly (FCA) campaign with receipt of 18 batches from H-Canyon, honoring an international agreement to safely dispose of this reactor fuel from Japan. Completed 5 years ahead of schedule**
- **Saltstone Disposal Units 10-12 are 51% complete**

Liquid Waste Outage - Objectives

- **Facility Improvements**

- *Process efficiency gains*
- *Buffers to dampen interface impacts*

- **Equipment Reliability**

- *Robust/reliable equipment to minimize future downtime*

- **Corrective & Preventive Maintenance**

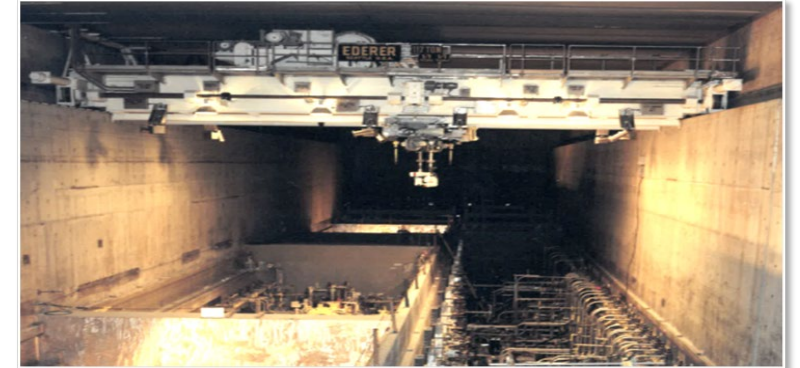
- *Utility systems*
 - Steam, electrical, air, water
- *Process equipment*
 - Pumps, agitators/mixers, piping, valves



Liquid Waste Outage - Scope

• Facility Improvements

- *Extended Cross Flow Filters (CFF)*
- *512-S Lag Storage for SWPF Strip Solution*
- *Strip Effluent (SE) to Slurry Mix Evaporator (SME) modifications in DWPF*



• Equipment Reliability

- *DWPF Main Process Crane (MPC) Upgrades*
- *Centrifugal Contactor Replacements*
- *Centrifugal Contactor Vibration Monitoring*



Extended Cross Flow Filter (CFF)

- **Limiting factor for SWPF production**
 - *1st stage of process - filters out actinides*
 - *<20 gallons per minute total pre-outage*
- **Replaced all three 10' CFF with 16' CFF**
 - *Doubled the filter surface area*
- **Post-outage performance**
 - *Up to 20 gallons per minute per CFF at minimum pressure*

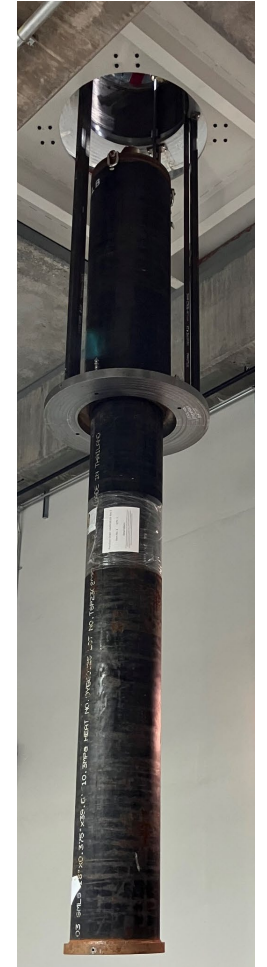
Mock-Up Photos



Existing 10' Filter



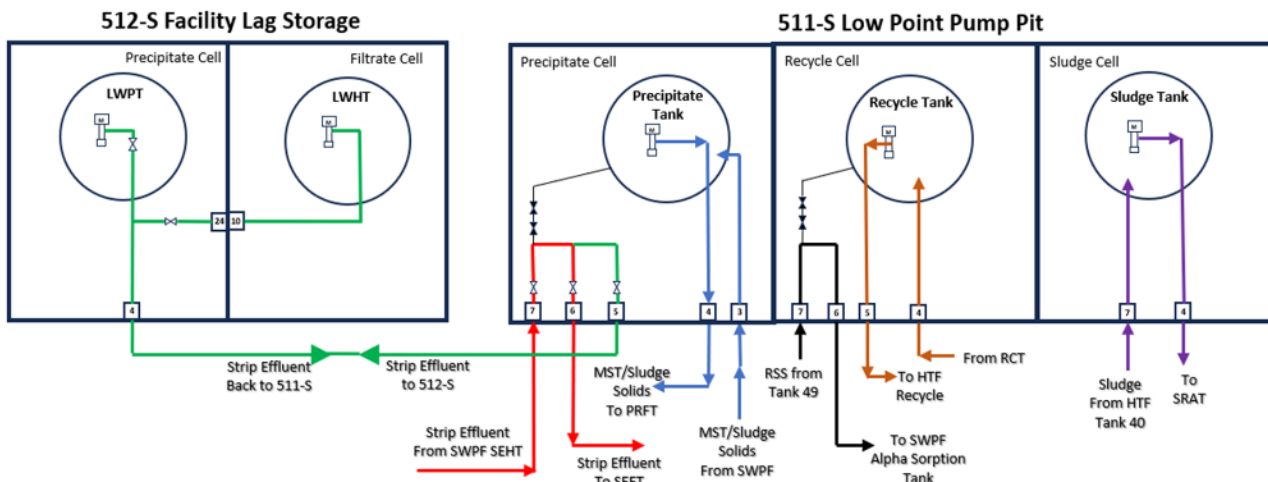
Sleeved Filter Upon Removal



New 16' Filter

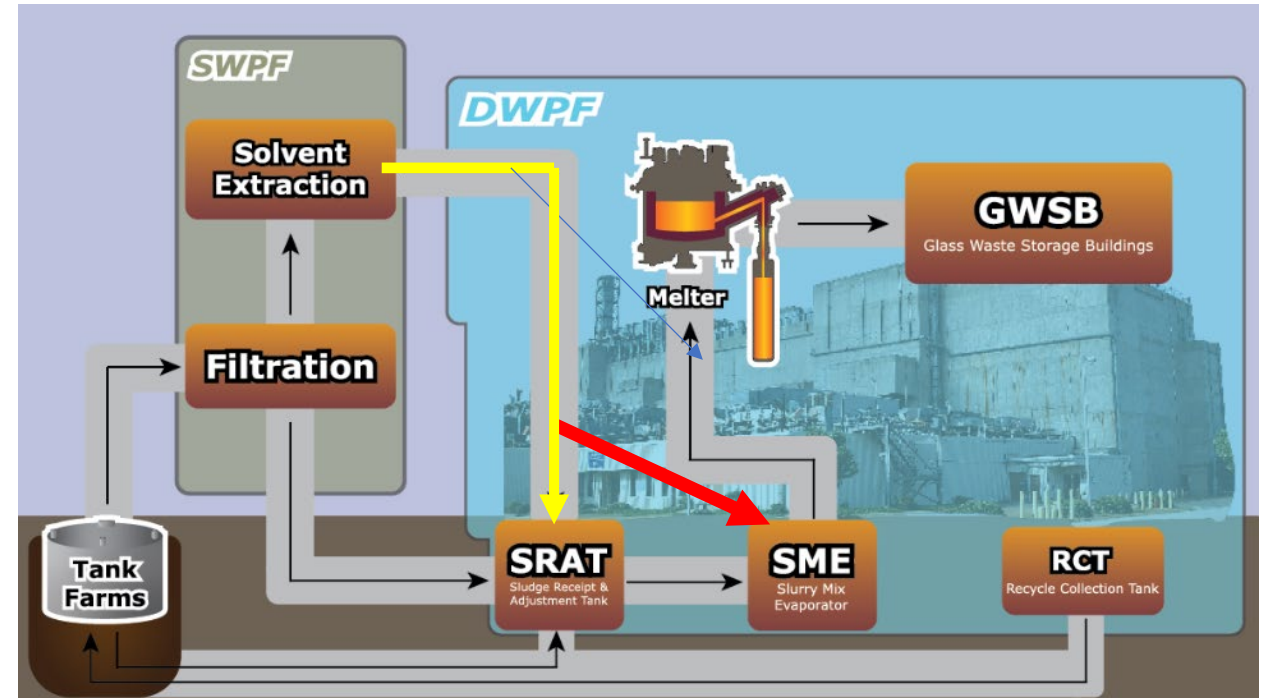
512-S Lag Storage for SWPF Strip Effluent

- Placed two idle tanks at Building 512-S into service as interim storage for SWPF strip effluent (SE) being transferred to DWPF
- Provides ~10 days of buffer to accommodate short-term outages at DWPF without pausing SWPF operations



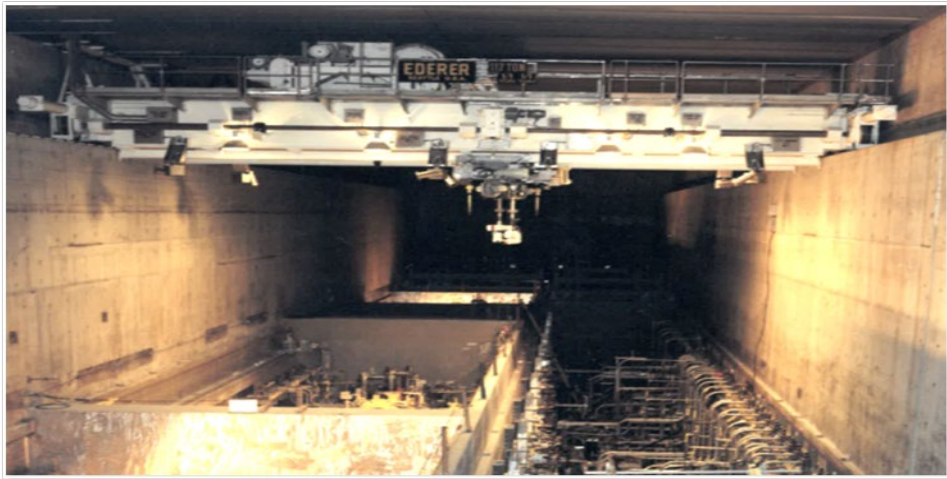
SE to SME Project Modification

- Strip effluent (SE), the cesium stream from SWPF, is processed in the Sludge Receipt and Adjustment Tank (SRAT)
- SE to SME improves operational flexibility in DWPF by providing a redundant disposition path for SE
- Allows for “Sprint Capability” to catch up when DWPF downtimes/outage creates a backlog of SE from SWPF

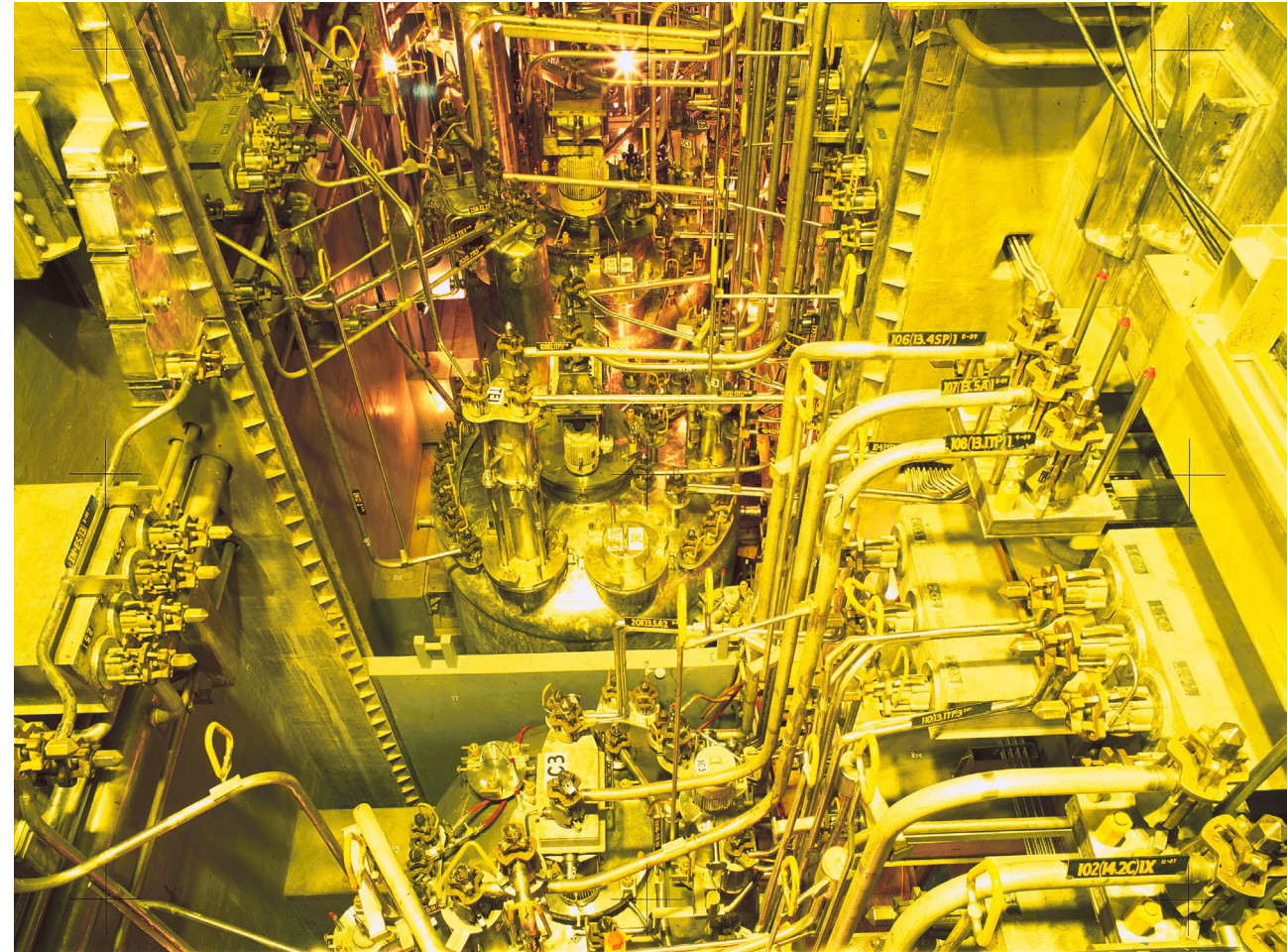


DWPF Main Process Crane (MPC) Upgrade

- MPC required to observe & service remote process cells
 - *High radiation/temperature & acidic environment*
- “Heart of DWPF” – remote wireless operation



DWPF Main Process Crane (MPC)

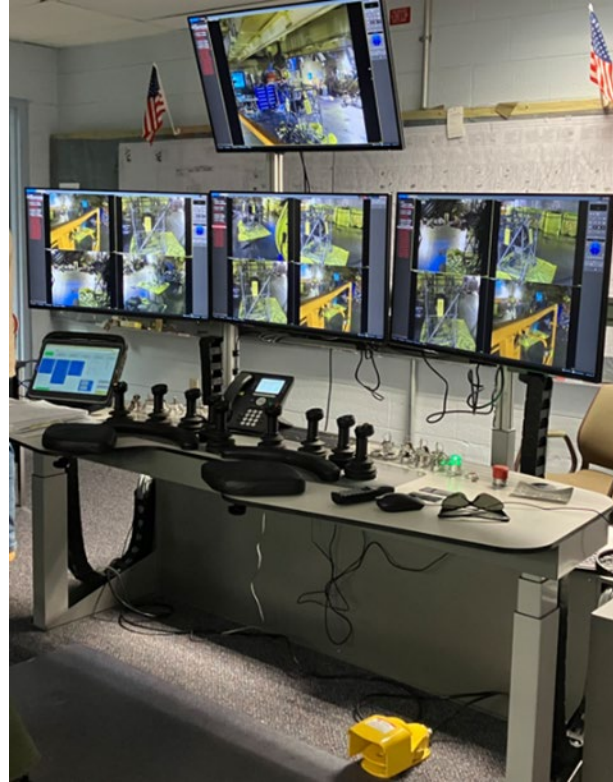


DWPF Remote Processing Cells

DWPF Main Process Crane (MPC) Upgrade



Old Crane Operating Console



New Crane Operating Console

- Replaced existing ten analog cameras with digital
 - *Added two new cameras*
- New antennas and wireless communication system
- New crane operating & maintenance consoles
- New crane simulator for training

DWPF Main Process Crane (MPC) Simulator



- **Accurate depiction of DWPF canyon including cell covers, vessels, jumpers**
- **Impact wrench and connector operation**
- **Equipment installation and removal**
- **Significant improvement in Crane Operator knowledge and proficiency**

Centrifugal Contactor Replacements

- **Challenges**

- *Periodic mechanical failures*
- *Fouling of flow weirs with solids degrades process performance*

- **Procured 16 new units**

- *Now have 20 total spares for more proactive system optimization*

- **Installed spare contactors during outage**

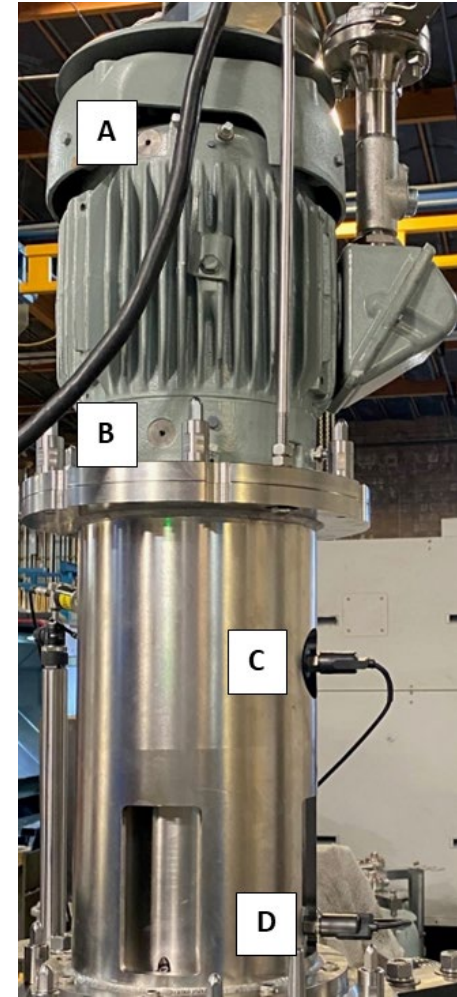
- *Included all high-risk mechanical failures & units with solids fouling*



SWPF Centrifugal Contactor

Centrifugal Contactor Vibration Monitoring

- **Upgraded remote monitoring capability for SWPF centrifugal contactors**
- **Increased from one to four temperature/vibration sensors per unit**
 - *9" diameter core drill through 36" shield wall*
 - *Modifications on each contactor to mount new sensors*
 - *> 900 cable terminations*
- **Improve reliability and reduce down time**
 - *Improve predictability of failure and decision making*
 - *Capitalize on planned & unplanned outages*



Centrifugal Contactor Monitor Locations

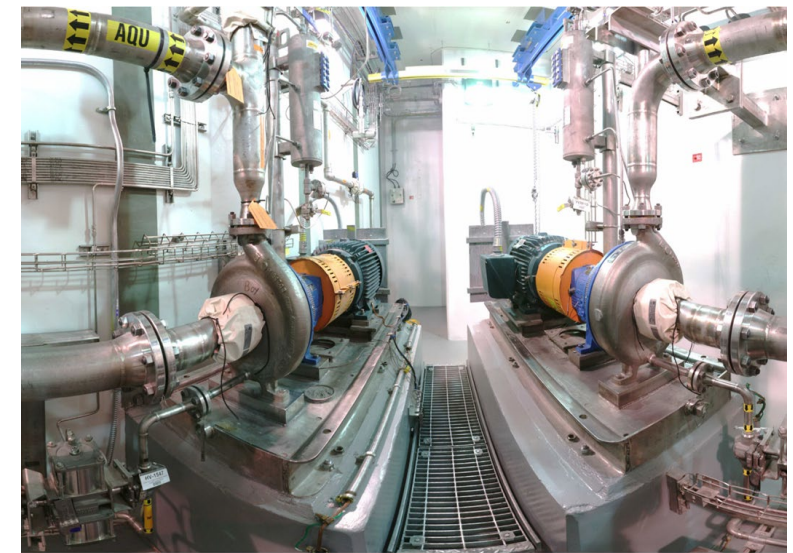
Corrective & Preventative Maintenance Examples

- Distributed Control System (DCS) upgrade
- Preventative Maintenance of Electrical Load Centers
- Shielded Canister Transporter (SCT) Tire Change
- Steam and Steam Condensate Repairs



SWPF Room 136B Pump Repairs

- **Emergent Corrective Maintenance Task**
 - *Aligned with planned outage to minimize down time*
- **Room 136B houses strip effluent (SE) transfer pumps**
 - *Drain valve and seal leakage detected*
 - *High radiation, cesium laden product stream*
 - *Dose rates of ~640R/hour (Federal Limit = 5R/year)*
- **Repairs have been successfully completed**
 - *Extensive use of robotics, extended tools and innovative shielding techniques*



Post-Outage Status

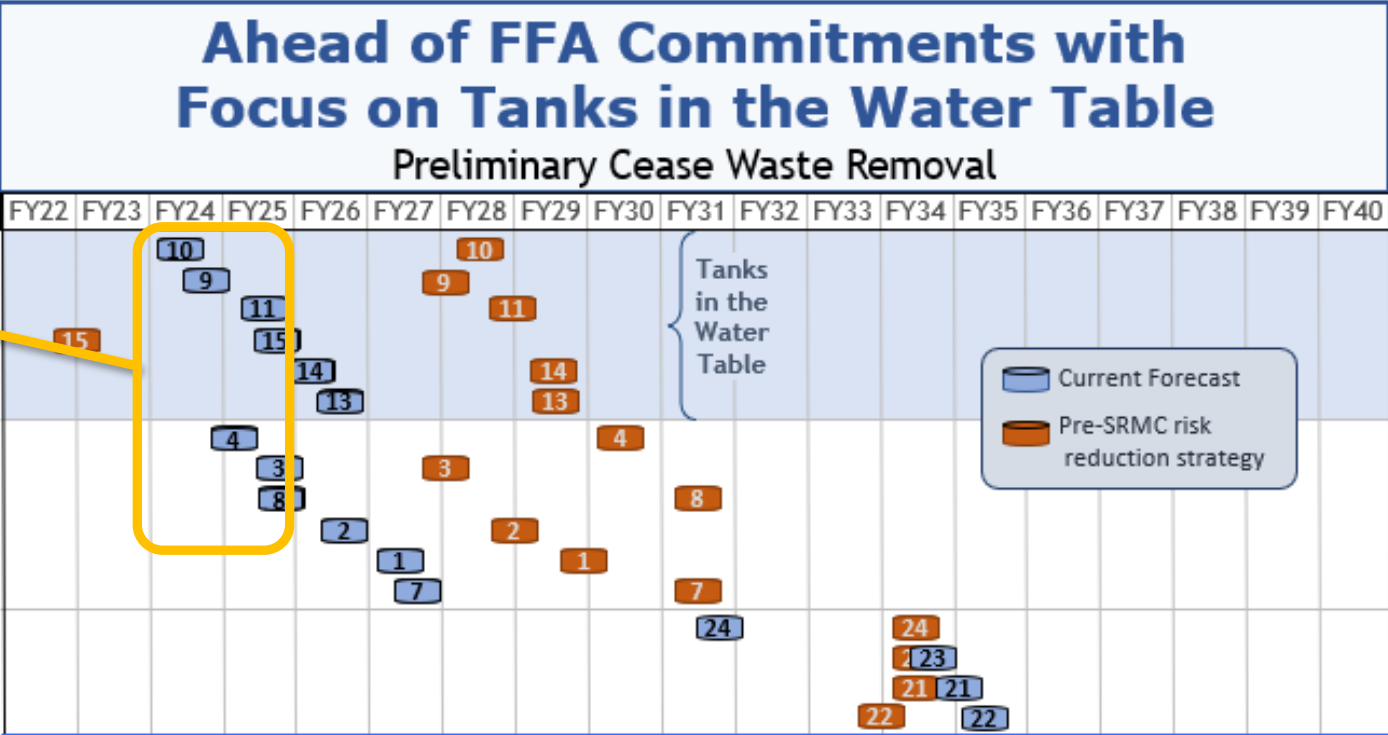
- **SWPF throughput supports System Plan & mission requirements at 18.5 gallons per minute processed, resulting in multiple new processing records**
- **System Availability has increased to 58% since August 18th post-outage restart (CY25 was at 30% pre-outage)**
- **DWPF has resumed melter feed prep and poured 17 canisters**
- **512-S has successfully provided buffer support to allow for increased plant availability**

Return on Investment - Milestones

FFA Milestone Summary

Calendar Year	Preliminary Cease Waste Removal (# of Tanks)	Operational Closure (# of Tanks)
2023	0	0
2024	1 Complete	0
2025	3 Complete	0
2026	2 Complete	0
2027	1 of 2 Complete	0
2028	0	3
2029	2	0
2030	1	2
2031	0	3
2032	0	1
2033	0	2
2034	1	0
2035	1	0
2036	1	1
2037	2	4
Total	16	16

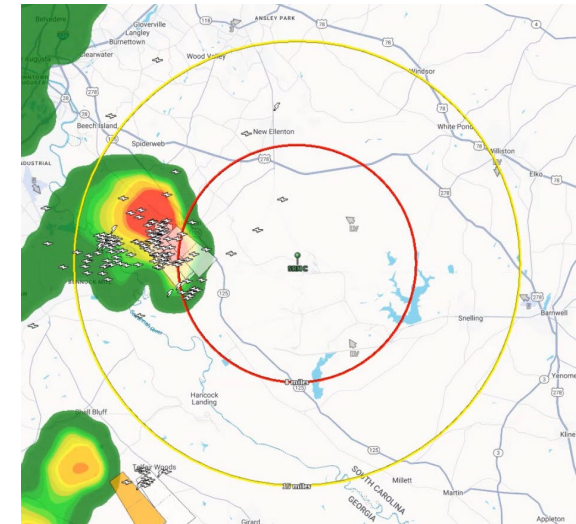
Waste Removal & Tank Closure Task Order Plan



- PCWR achieved on Tank 3 in September
- 4 total achieved in 2025
- 7 total achieved since start of contract

Return on Investment - Safety

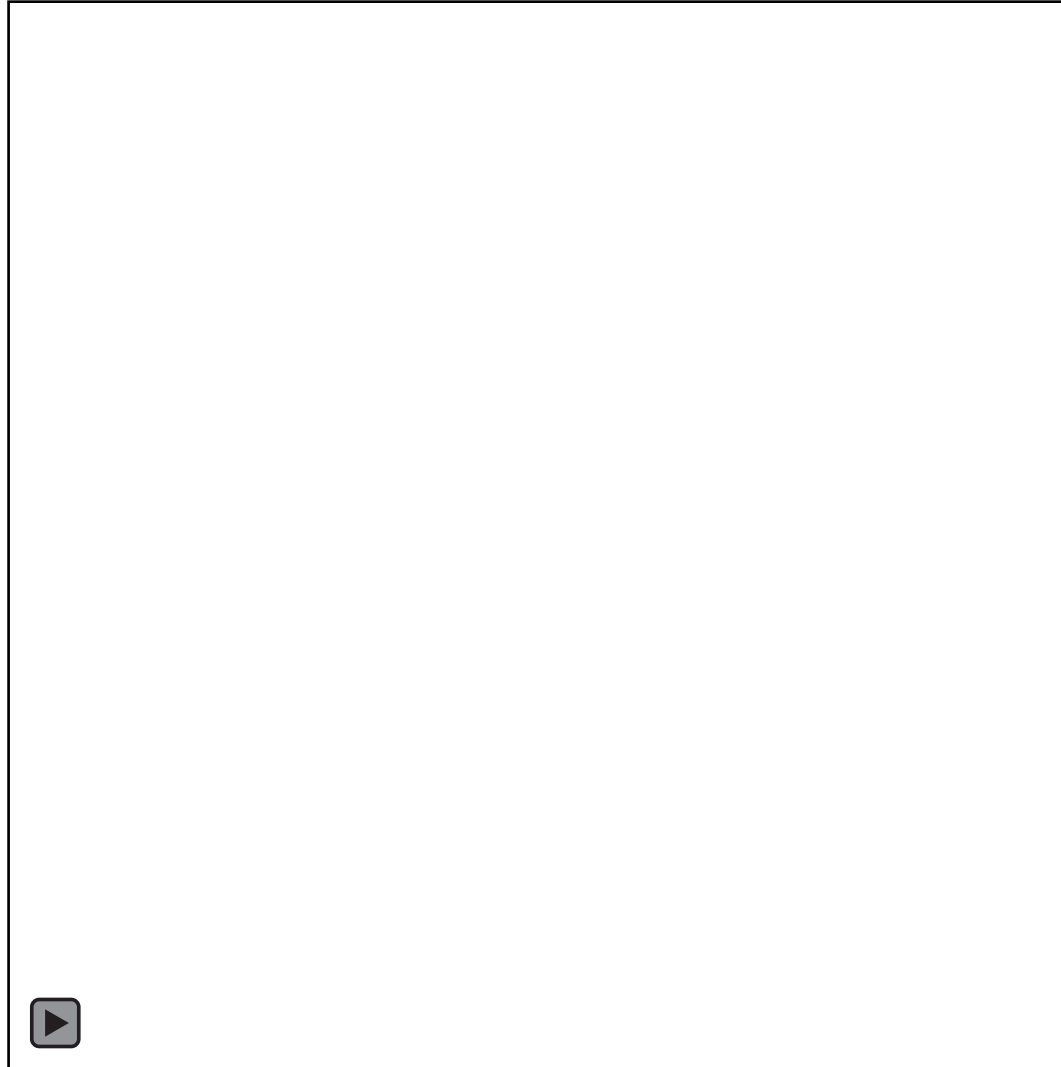
- **SlateSafety** – SlateSafety armbands protect our workers by monitoring their body functions, such as heart rate and core temperature, and pauses work when necessary
- **WeatherSentry** – implemented WeatherSentry for enhanced monitoring/alerts, improved communication, and more accurate work pauses/releases



Return on Investment – Time & Cost

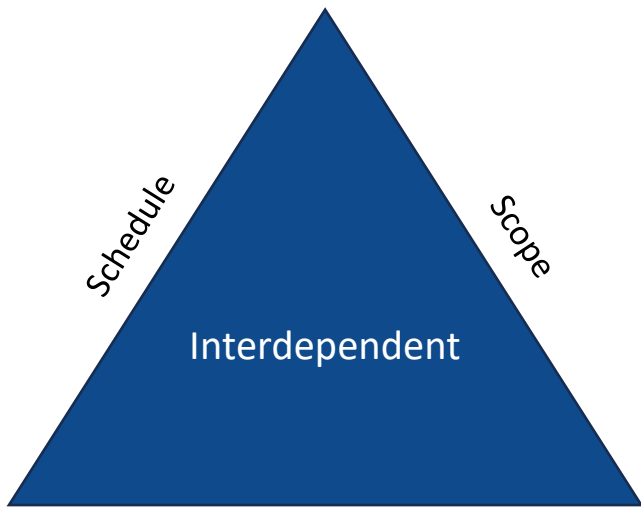
- Utilizing drones and 3D printed drone attachments to retrieve samples & map tanks quicker – savings up to 4 weeks and \$700k per tank
- Maximizing utilization of an offsite laboratory to perform tank characterization samples for PCWR and final closure – savings up to 6 months and \$2M per tank
- Piloted AI with the Training organization, with time-savings of around 70% in the development of computer-based training. Now expanding to engineering and operations
- Applied machine learning tools in spare part inventory identification, saving hours from performing task manually
- Deployed scalable software technology that supported operators to make over 1,000 error-free nuclear waste transfers

Drone Sampling



Opportunities for Improvement – Budget Alignment

End State Contract - Any change to one side affects the others



Cost/Funding



Requirements (Req.) Case
(\$1.046B escalated)

Funding Levels Since SRMC Contract Start (SDUs not included)

	2022	2023	2024	2025	2026
PB	890,865	851,660	880,323	971,235	1,066,000
Req.	--	934,000	1,021,500	1,066,000	1,122,955
Final	889,365	851,660	986,573	1,066,000	tbd
PB vs. Req	--	-82,340	-141,177	-94,765	-56,955
Req vs. Final	--	-82,340	-34,927	0	tbd

End-State Contract: Path to Completion in 2037

- **55% Sludge Complete**
- **25% Salt Complete**
- **60% Salt Curies Complete**
- **29% (15 of 51) PCWR Complete in High-Level Waste Tanks, including 63% of the non-compliant tanks complete**
- **16% (8 of 51) Operational Tank Closure Complete in High-Level Waste Tanks**