



Savannah River  
Remediation

*We do the right thing.*

# System Plan Revision 15



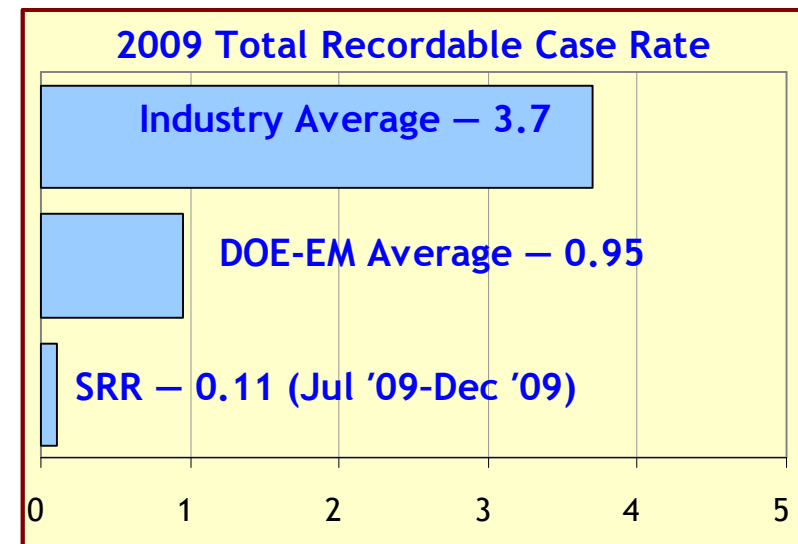
February 23, 2010

Pete Hill  
Technical Planning and Risk Management  
Savannah River Remediation

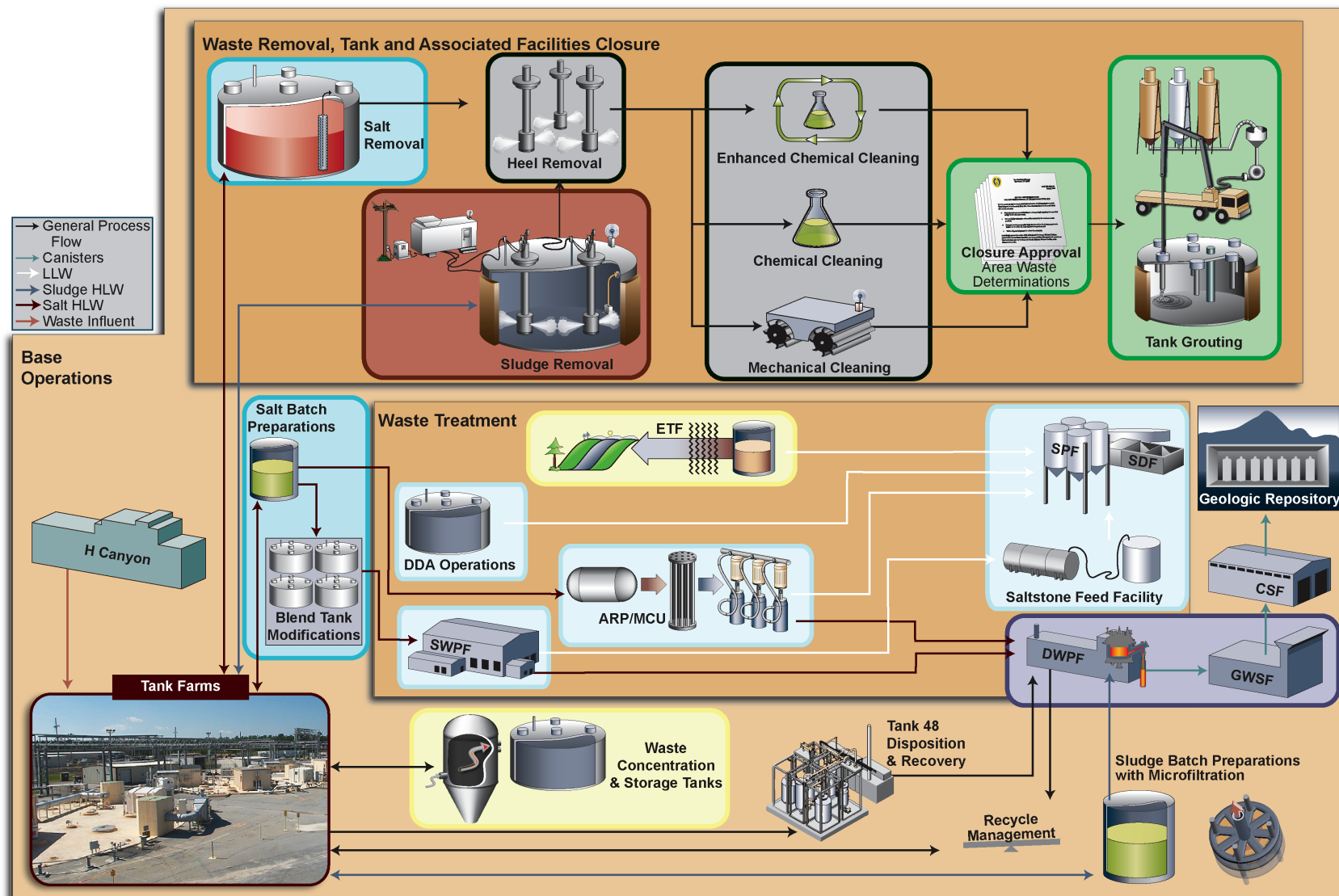
- Safety
- Process Overview
- SRR Commitment
- System Plan Inputs
- System Plan Results
- FY10 Progress
- Summary

## A Safe and Secure Foundation

- SRR is building upon the safety tradition by retaining safety and security as company priorities and prerequisites for any activity, and by performing with uncompromising integrity
- SRR is performing well in safety

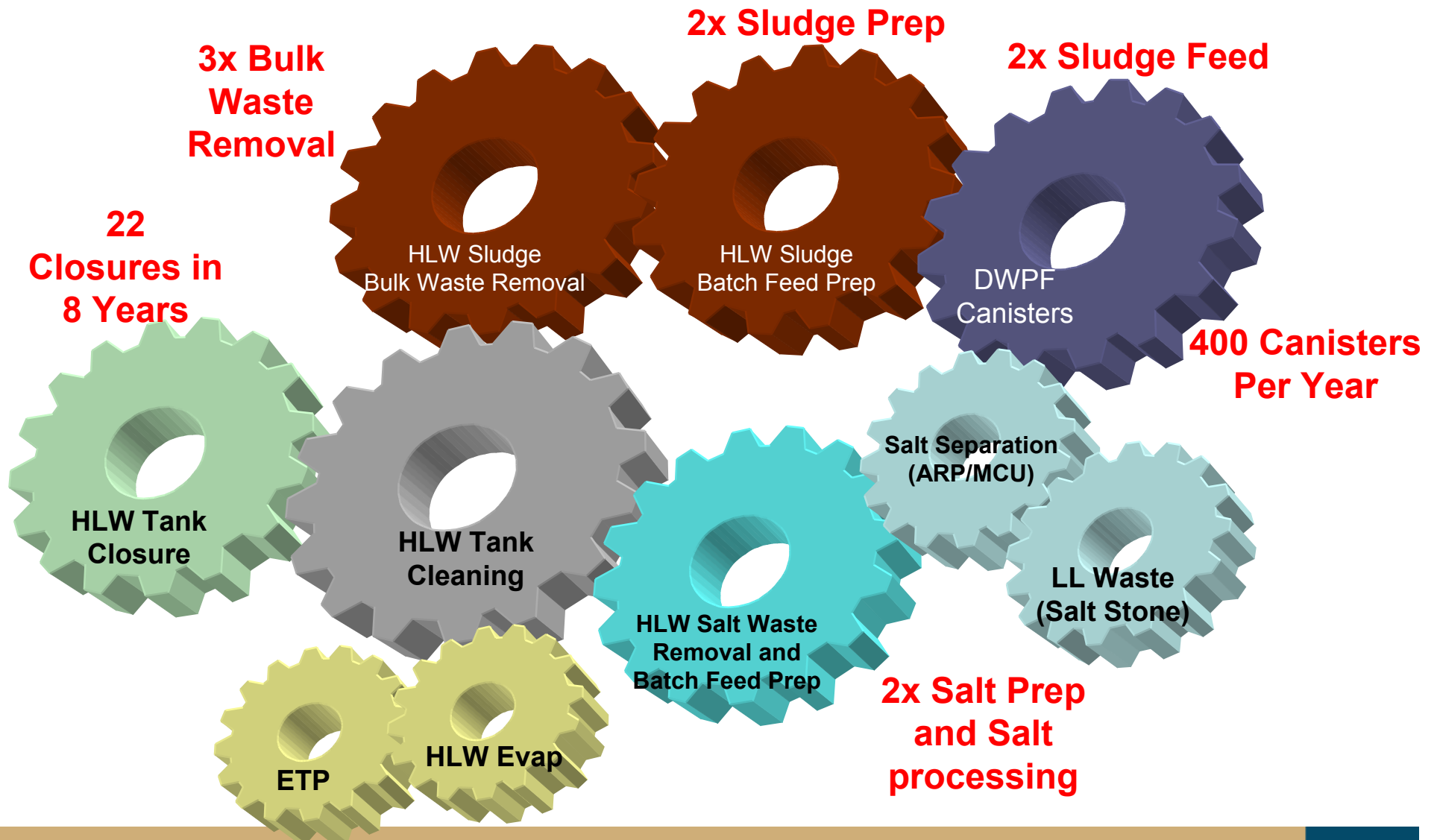


# Liquid Waste Overview



- Close 22 Tanks in 8 years
  - Deploy Enhanced Chemical Cleaning
  - Reduce time required for closure documentation
- Double ARP/MCU throughput to 40,000 gal/week
- Increase DWPF processing rate to
  - 325 canisters/year in August 2010
  - 400 canisters/year in January 2012

# Integrated Processing

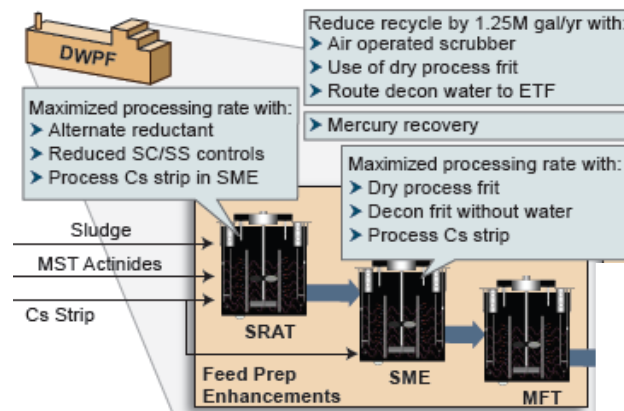


## Melter Bubblers

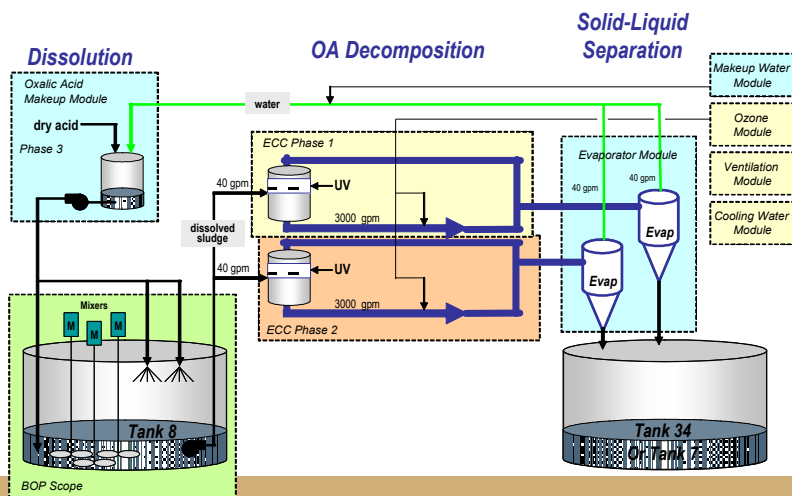


Thanks to Vitreous State  
Laboratory

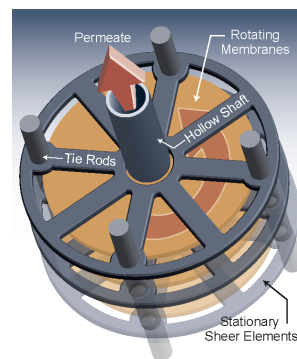
## DWPF Process Enhancements



## Enhanced Chemical Cleaning



## Rotary Microfiltration





## Rev 15 Inputs and Assumptions

- The ARP/MCU processing rate is 40 thousand gallons (kgal) per week from Tank 49, when feed is available
- Batch qualification requires 2 months between batches
- The ARP and MCU facilities will permanently shutdown no later than six months prior to the startup of SWPF allowing for SWPF tie-ins
  - The ARP and MCU facilities will operate within the curie projections of the *Savannah River Site - Liquid Waste Processing Strategy*

Rev 15 complies with RFP and contract requirement that

“the total volume of waste, and the total curies, processed with interim processing shall not be increased above that discussed in the 3116 Basis”

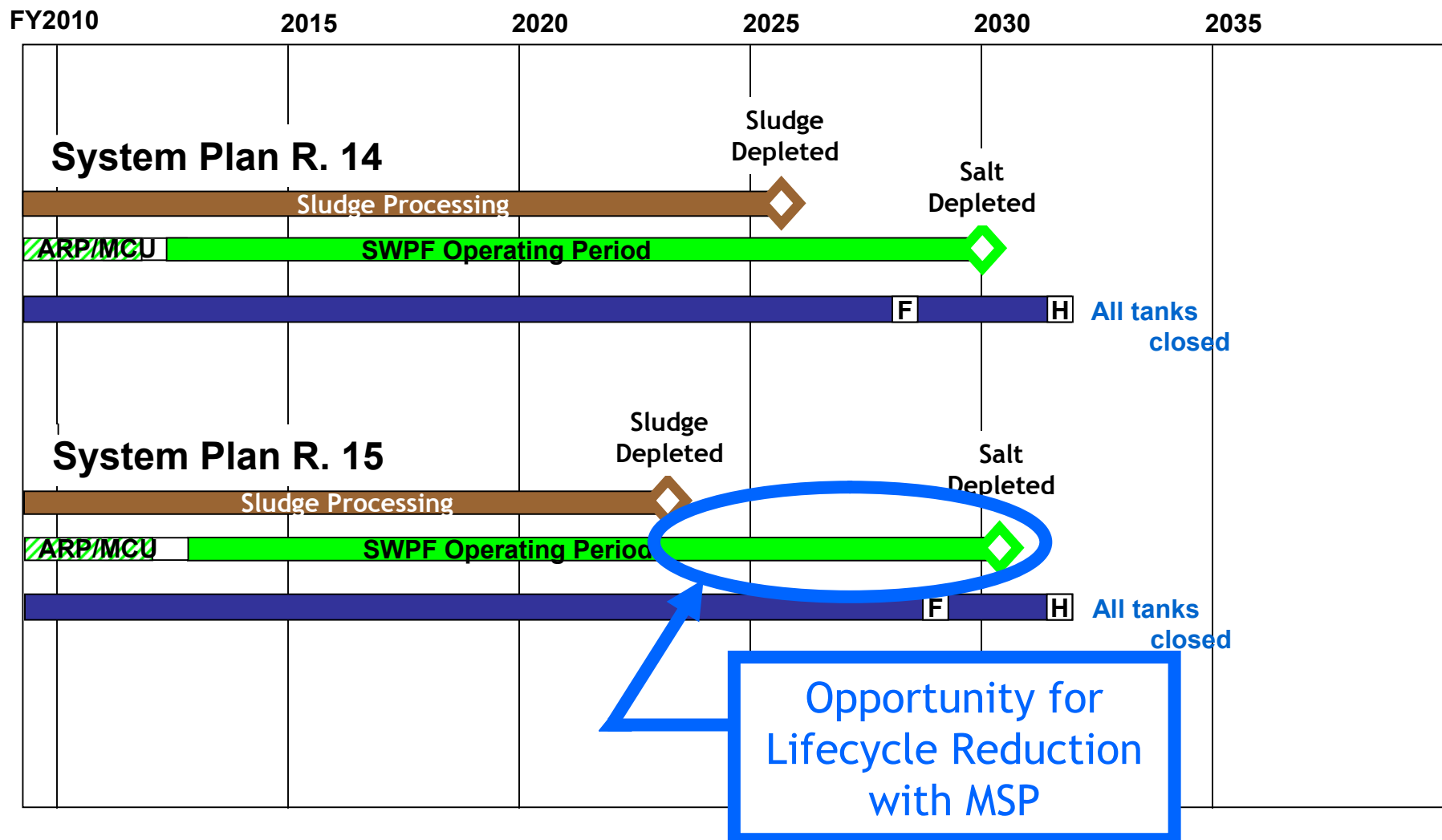


- The Salt Waste Processing Facility (SWPF) becomes operational May 2013 with SCDHEC approval
- SWPF tie-ins will require a four-month outage of DWPF operations beginning February 2013
- The SWPF processing rates are:
  - 3.75 million gallons (Mgal) of salt solution processed in the initial twelve months of operation
  - 6.0 Mgal/yr (nominal rate) of salt solution processed per year beginning in the second year of operation

- Tank 48 waste treatment is complete and the tank is available for general waste service by December 2014
- Tank 50 is available for general waste service with higher levels of radioactivity by October 2011.

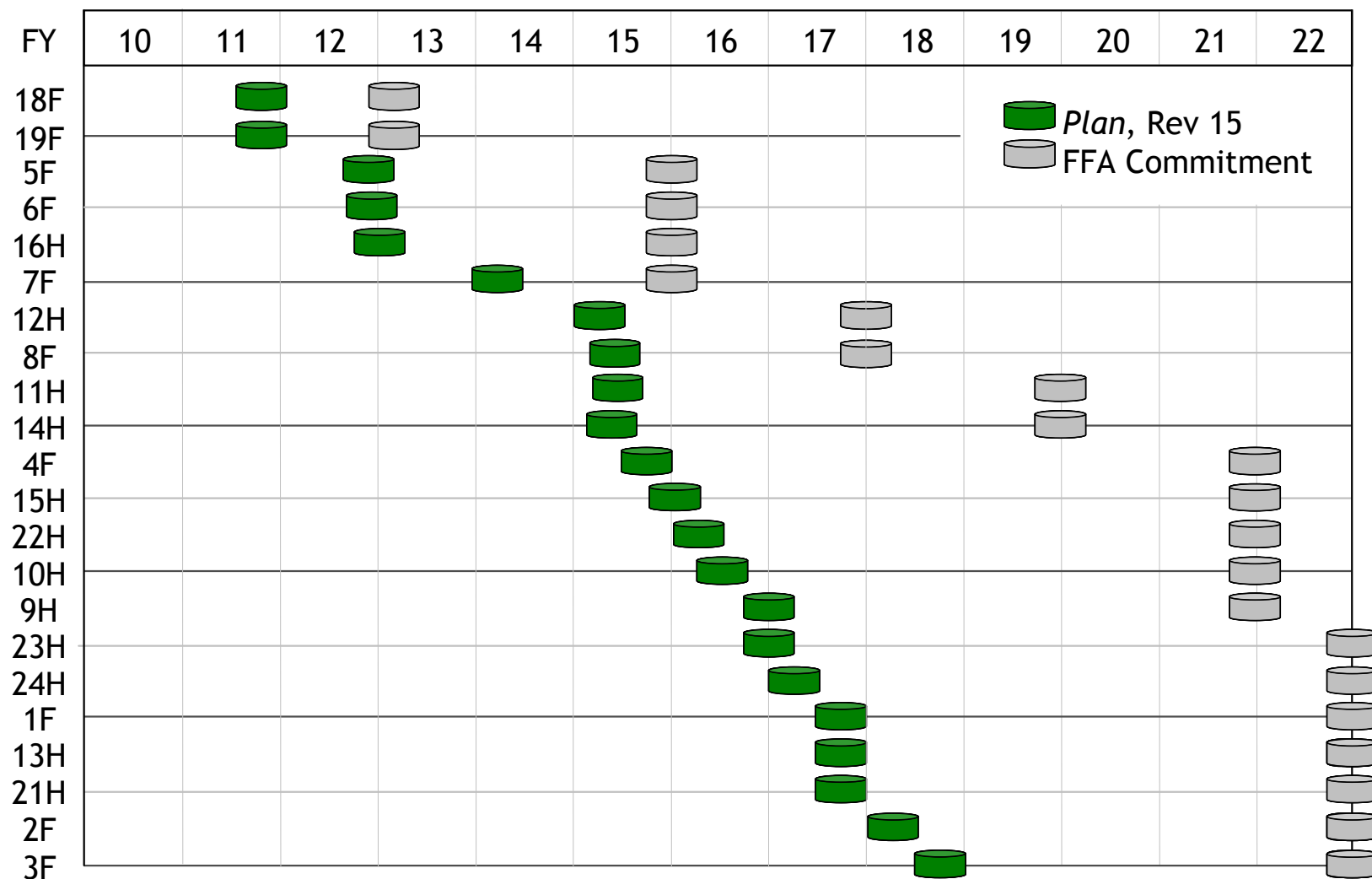
- DWPF will produce canisters at maximum throughput for the duration of the program (based on achievable melt rate, planned outages, and waste loading for sludge being processed).
- Increase DWPF processing rate to
  - 325 canisters/year in August 2010
  - 400 canisters/year in January 2012

Key Milestone	Revision 14	this Plan
Date when all non-compliant tanks are closed	FY22	FY18
Sludge processing complete	Sep 2030	May 2023
Total number of canisters produced	~6,300	~7,200
– <i>Salt only canisters produced</i>	0	250
Initiate ARP/MCU Processing	Mar 2008	Apr 2008 (actual)
Initiate SWPF Processing	Sep 2012	May 2013
– <i>Salt Solution Processed via DDA only</i>	2.6 Mgal	2.8 Mgal
– <i>Salt Solution Processed via ARP/MCU</i>	4.3 Mgal	5.2 Mgal
– <i>Salt Solution Processed via SWPF</i>	90.3 Mgal	89 Mgal
● <i>Total Salt Solution Processed</i>	<b>97.2 Mgal</b>	<b>97 Mgal</b>
Salt Processing Complete	2030	2030
Tank 41 Available as Salt Blend Tank	Apr 2008	In Service
Tank 42 Available as Sludge Blend Tank	Jun 2012	Oct 2011
Tank 50 Available as Salt Blend Tank	May 2012	Oct 2011
Tank 48 Available as Salt Blend Tank	Sep 2012	Jan 2015
Alternate Recycle Handling Implemented	2018	2025
GWSB #3 Available	Sep 2019	July 2015

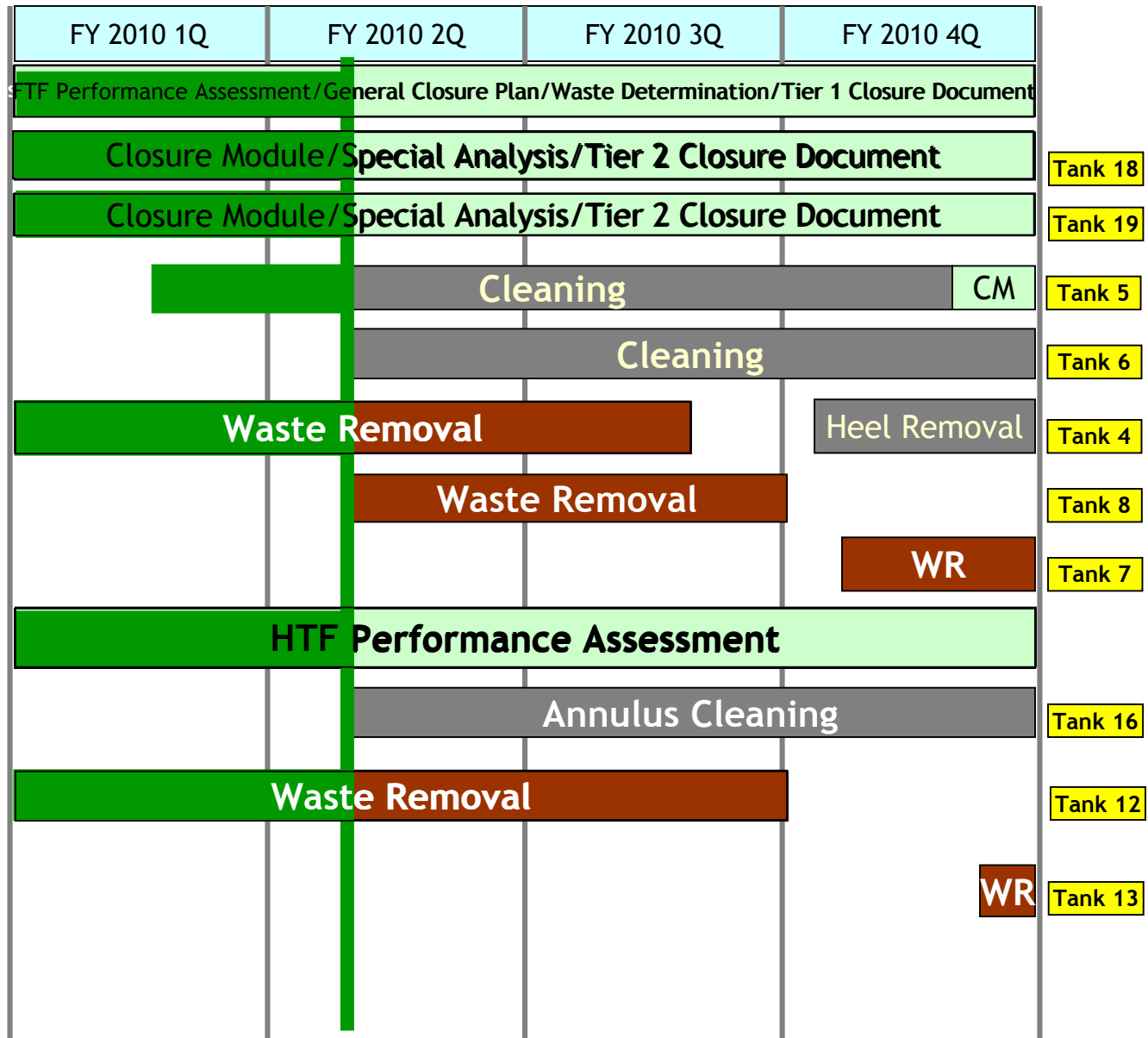


# Tank Closure Schedule

## Tank Closure Milestones

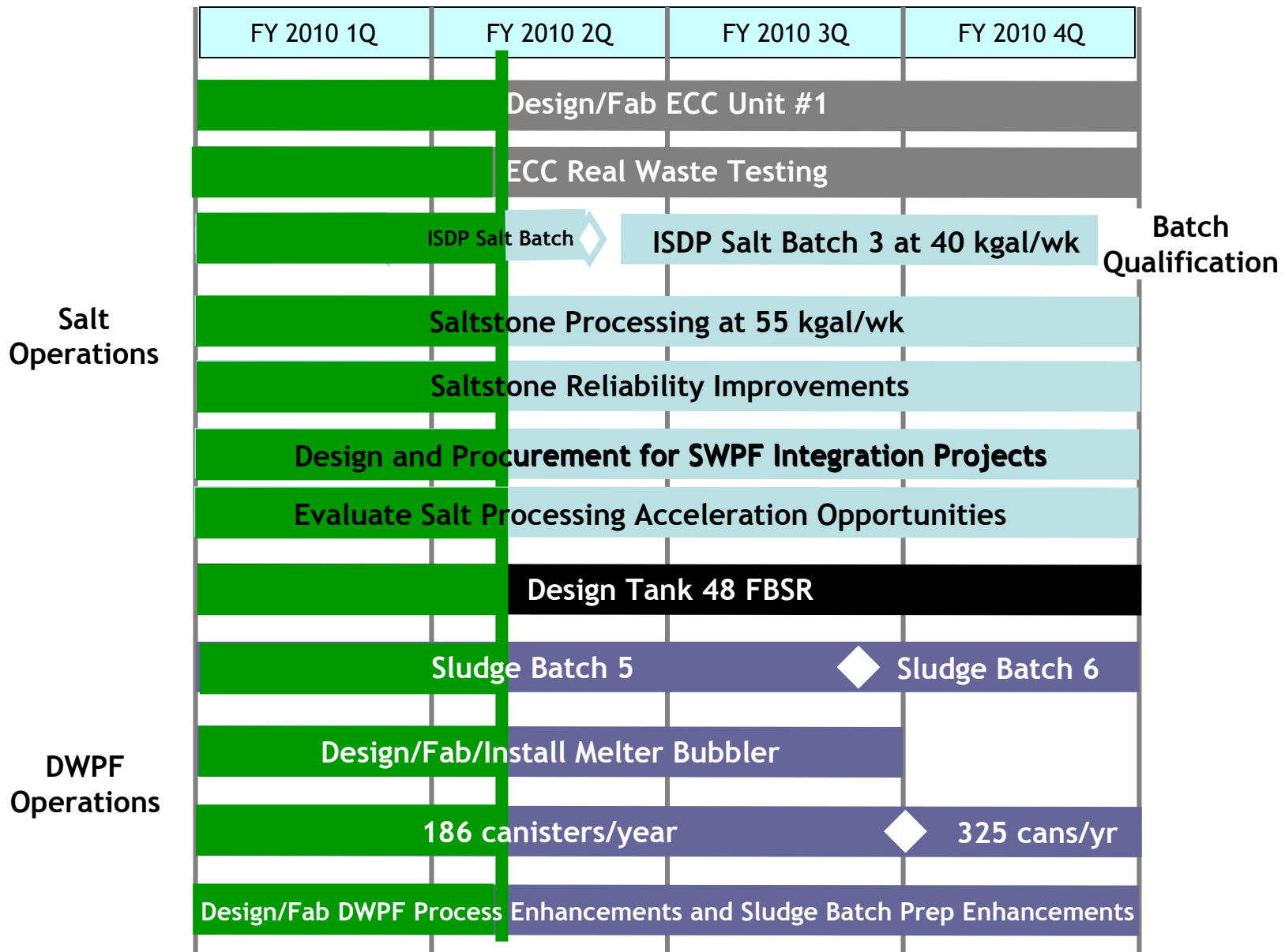


## SRR Tank Operational Closure Schedule





## Our Approach



- System Plan Revision 15 developed based on SRR proposal
- Utilizes key technology deployments to accelerate tank closures and maximize DWPF throughput
- Sludge processing complete in 2023
- Salt processing complete in 2030
  - Schedule acceleration opportunities being evaluated
- Execution of the plan underway in FY10

ARP	Actinide Removal Process
ARRA	American Recovery and Reinvestment Act
CPB	Contract Performance Baseline
Cs	Cesium
DWPF	Defense Waste Processing Facility
ECC	Enhanced Chemical Cleaning
FBSR	Fluidized Bed Steam Reformer
FFA	Federal Facility Agreement
FTF	F Tank Farm
HLW	High Level Waste
HTF	H Tank Farm
ISDP	Interim Salt Disposition Project
MCU	Modular Caustic-Side Solvent Extraction Unit
MSP	Modular Salt Processing
MST	Monosodium Titanate
SPF	Saltstone Processing Facility
SWPF	Salt Waste Processing Facility
WR	Waste Removal