



*We do the right thing.*

# Savannah River Remediation

Delivering the Mission



**Dave Olson**  
**President and Project Manager**

**Presentation to the SRS Citizens Advisory Board**

**May 23, 2011**

# Liquid Waste Operations Overview



CH2MHILL



- **Single Liquid Waste Operations contractor**

- Savannah River Remediation LLC
  - Began work in July 2009
  - Workforce of ~ 2,700 employees
- Focused on acceleration of liquid waste mission

- **Liquid Waste Funding**

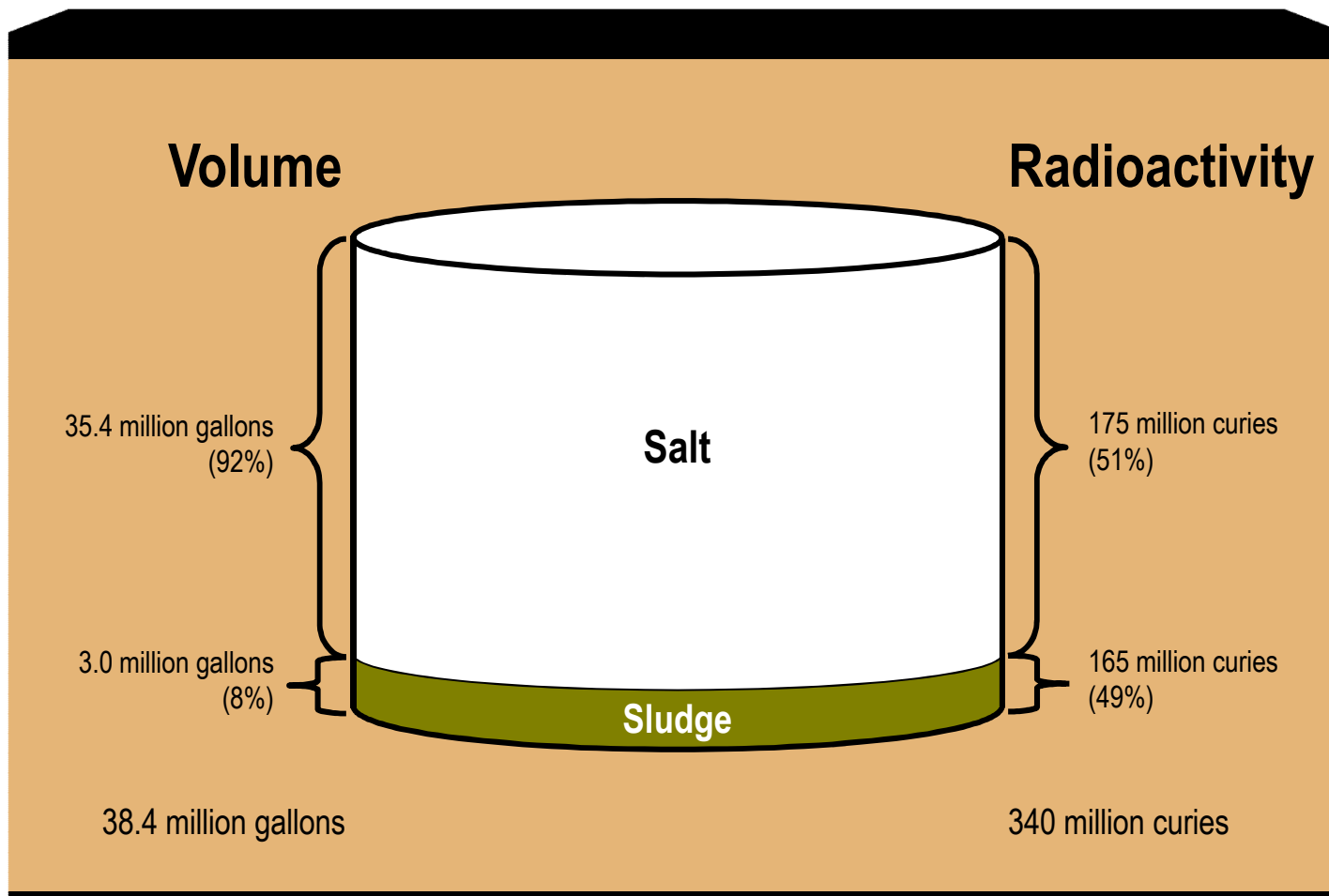
- Annual budget: ~ \$600 million/yr
- Life cycle cost: \$13B (FY08 – FY26)
- \$200 million in American Recovery and Reinvestment Act (ARRA) – near term investment to accelerate tank cleaning and closure

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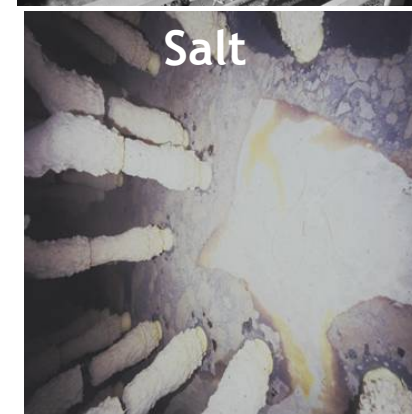
- **SRR safety performance is grounded in the culture**
  - High-hazard, high-risk, complex work daily
- **SRR Operations employees had the lowest Total Recordable Case rate of any major SRS contractor in over 25 years (0.25 in FY10).**
- **23+ million hours of safe work in Liquid Waste construction**
  - Record performance
- **1+ million hours of safe Recovery Act work**
- **Recent Safety Awards**
  - National Safety Council - Million Hour Award
  - National Safety Council - Occupational Excellence Achievement Award
  - National Safety Council - Occupational Excellence Achievement Award (Construction)
  - South Carolina Chamber of Commerce Annual Commendation of Excellence Award - 2011
  - South Carolina Chamber of Commerce Annual Commendation of Excellence Award - 2011 (Construction)
- **Radiological Performance since assuming contract (July 1, 2009)**
  - No Adverse Trends or Programmatic Issues
- **Environmental Performance since assuming the contract**
  - 0 Notice of Violations
  - 0 Reportable Spills
- **No chemical exposures**
- **SRR has completed the Industrial Hygiene Exposure Baseline (one of DOE complex leaders in this area)**



# The Challenge



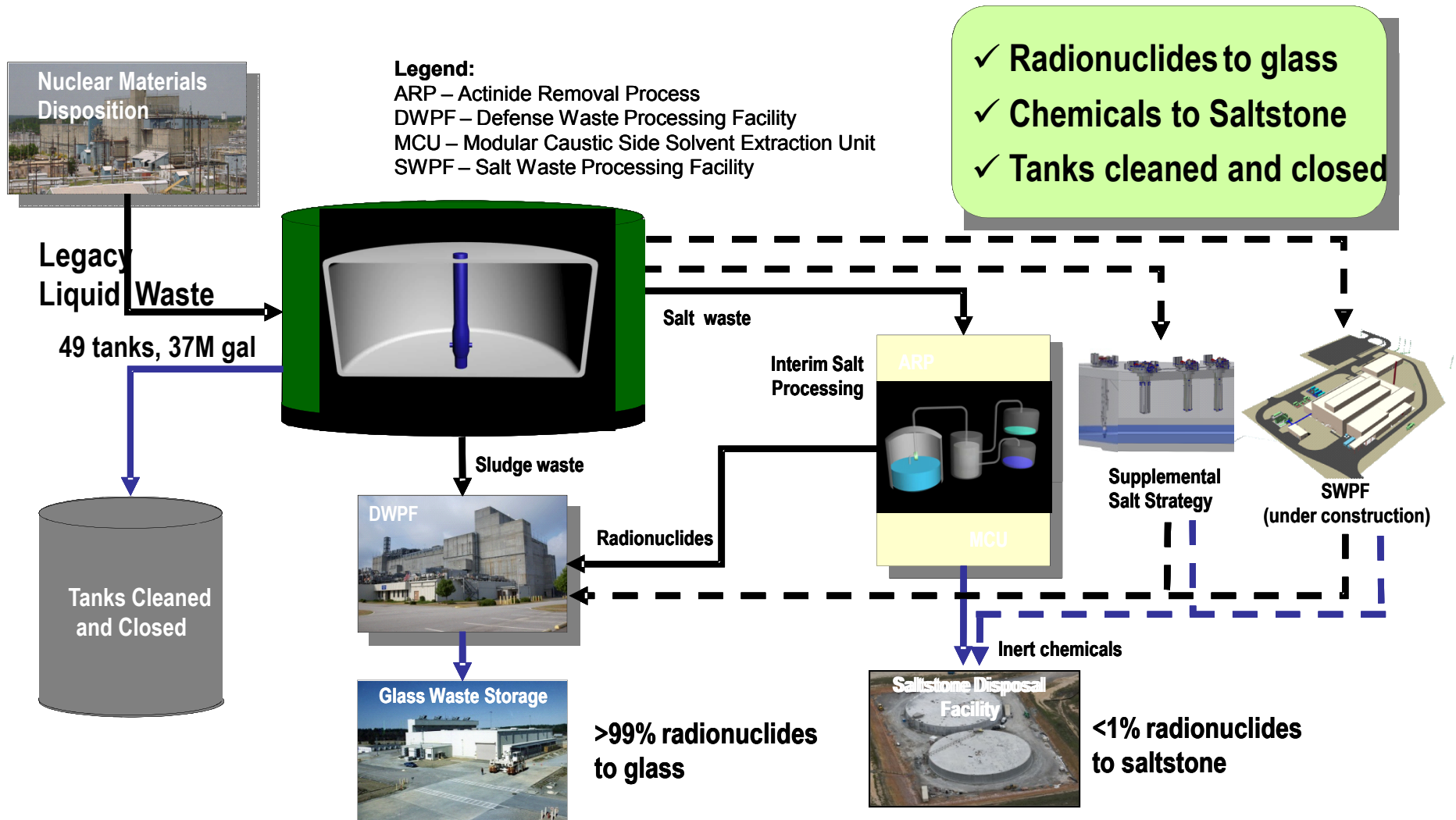
Inventory values as of 2011-03-31



**Sludge**

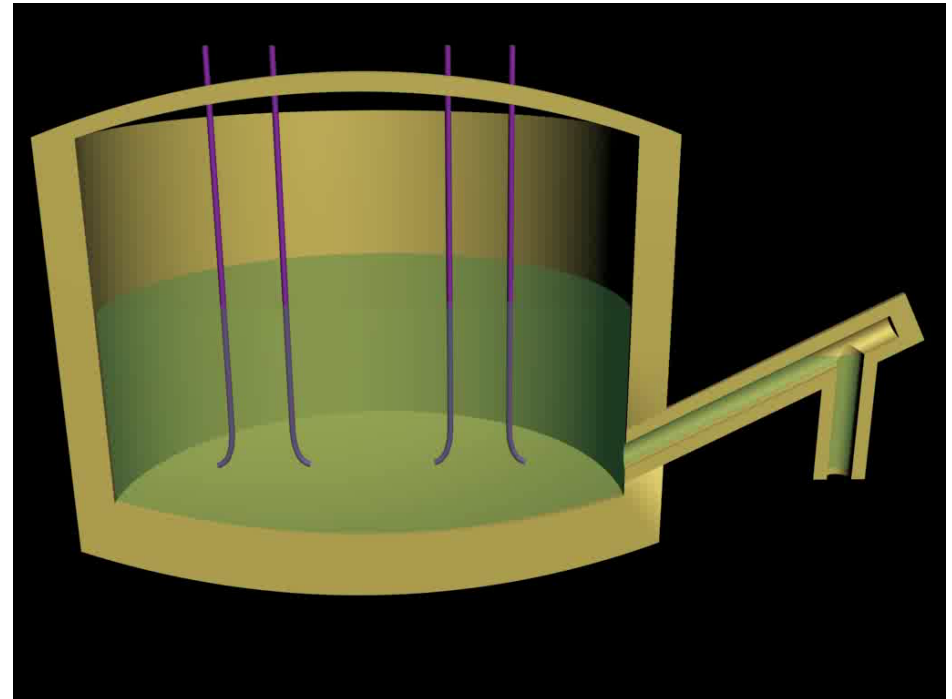


# The Solution



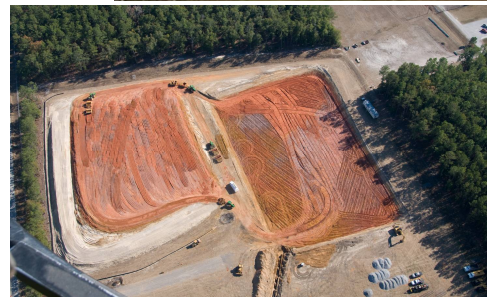
# Sludge Waste Treatment

- October 2010 poured 3,000<sup>th</sup> canister of glass
- DWPF has poured more than 12 million pounds of glassified waste
- New transformational technology, 'Bubblers,' recently installed has the capability to nearly double canister output
  - Developed by Vitreous State Laboratory of Catholic University and tested by Savannah River National Laboratory
- **DWPF Glass Waste Storage Buildings: Two in place**
  - Underground reinforced concrete vaults designed to be interim storage



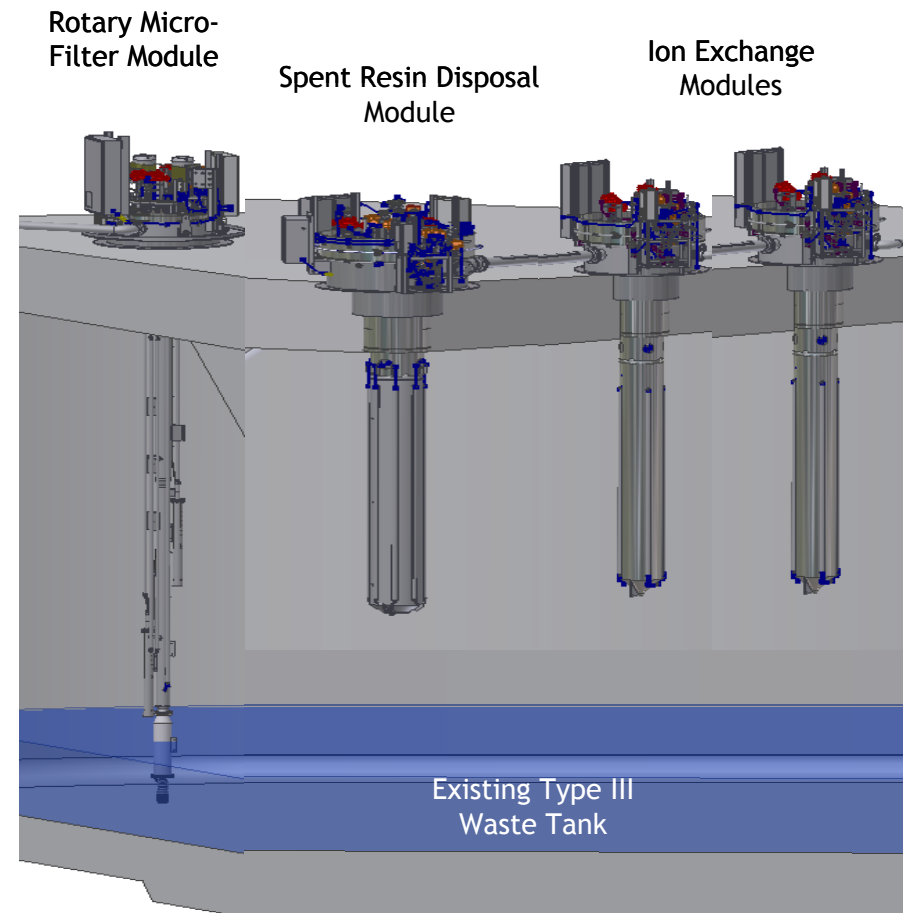
## Near-Term Salt Waste Treatment

- **Operating interim salt processing to support tank closure**
  - 1.4 million gallons processed to date
- **Saltstone facilities being upgraded to improve reliability and to receive organic materials**
  - Processed 800,000 gallons last fiscal year; already processed over 800,000 gallons this fiscal year
- **Construction on Saltstone Disposal Unit 2 going well.**
  - 2 re-enforced concrete vessels, each 150 foot diameter by 22 feet tall
  - Filling operations should begin May 2012
  - Construction has started on SDUs 3&5 - a total of 4 vessels



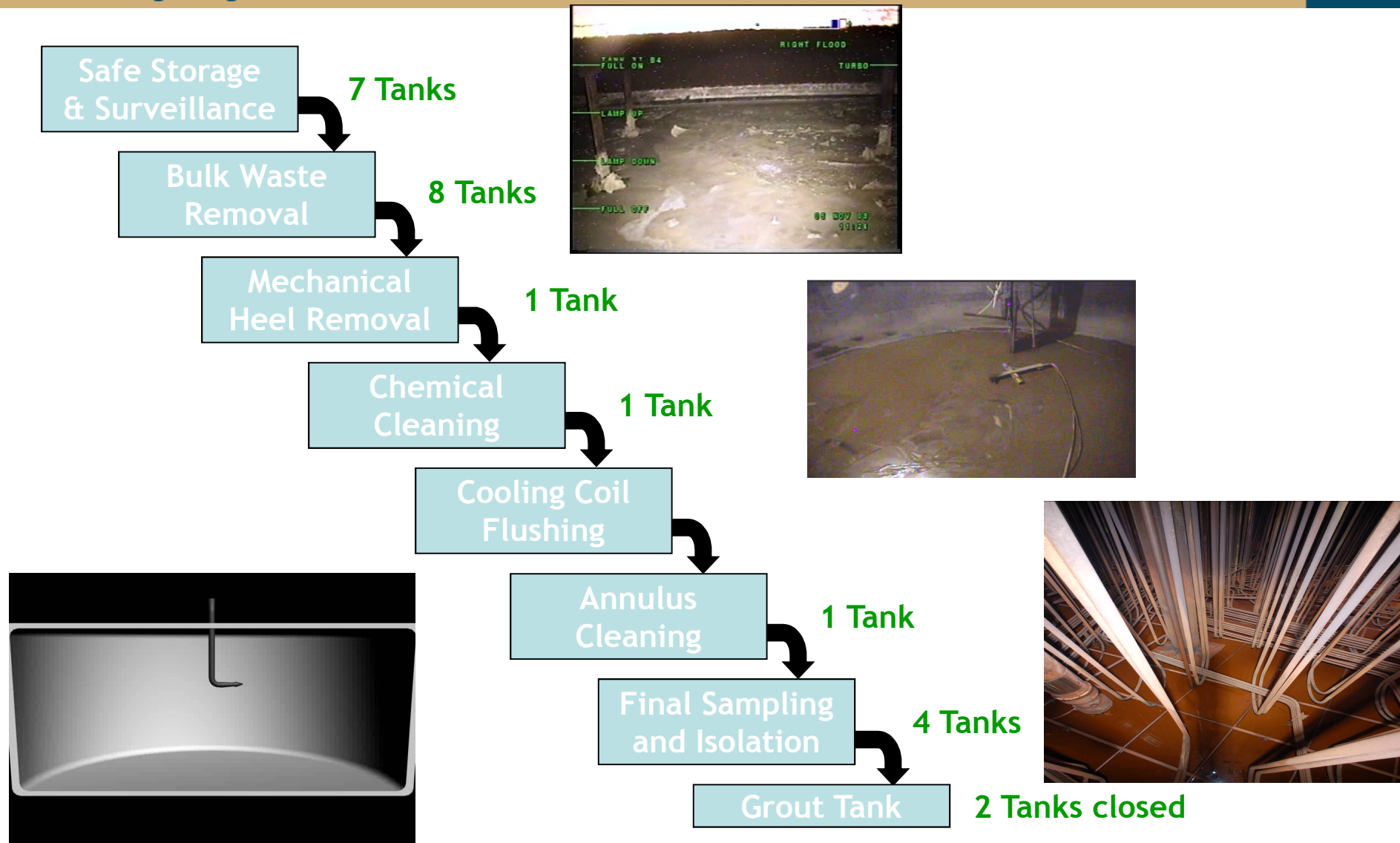
- **Deploy transformational at-tank treatment technologies**
  - Rotary Microfilter
  - Small Column Ion Exchange
  - Spent Resin Disposal
  - Next Generation Solvent
- **Provide additional salt processing capability**
- **Support accelerated SRS waste retrieval and tank closures**
- **Design in progress for supplemental salt processing capability to start-up in 2013**
  - Transformational technology will accelerate salt waste removal

## Small Column Ion Exchange





# Tank Closure Progression

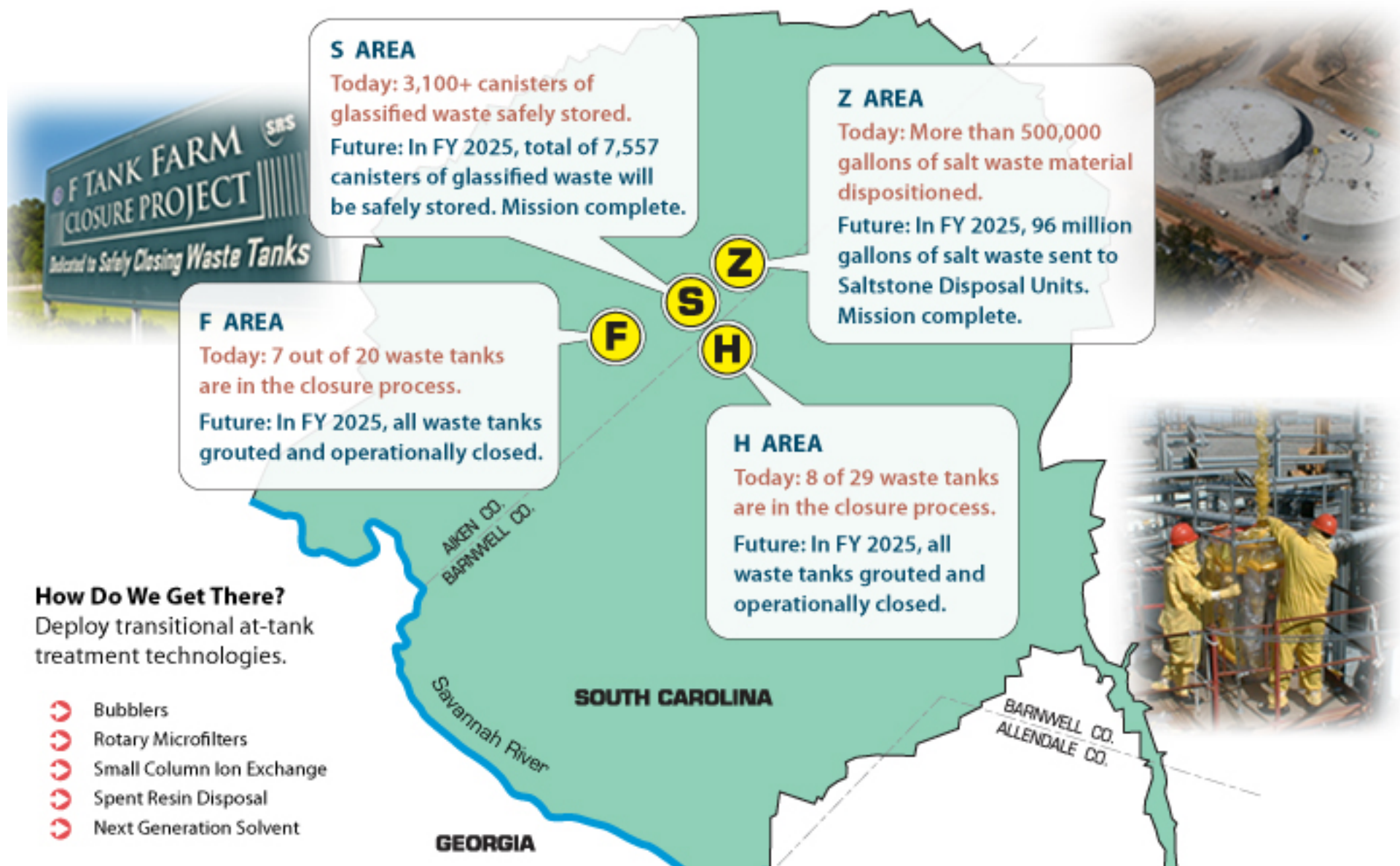




Tank	Bulk Waste Removal						Tank Cleaning			Residual		Isolate Tank	Prep & Approve Closure Docs	FFA Closure Forecast (cal year)	FFA Closure Commitment (year)
	Phase I			Remaining Phases			Mechanical	Chemical	Annulus	Sample	Analyze				
	Prep	Mix	Transfer	Prep	Mix	Transfer									
17								N/A	N/A						
20								N/A	N/A						
18								N/A	N/A				Dec-11	2012	2012
19								N/A	N/A			Jun-11	Dec-11	2012	2012
5											Aug-11			2013	2015
6										May-11				2013	2015
16														2014	2015
12							Sep-11							2015	2017
8							Apr-13							2015	2017
24							Jan-15		N/A					2018	2022
11						Apr-11								2015	2019
4						Jun-11								2014	2021
7						Sep-11								2014	2015
21				Oct-11					N/A					2017	2022
22				Oct-11					N/A					2017	2021
3		Dec-12												2017	2022
13	Sep-11													2017	2022
23	Oct-11								N/A					2017	2022
2	Jan-13													2017	2022
10	Sep-13													2017	2021
14	Oct-13													2016	2019
1	Oct-13													2018	2022
15	Jan-14													2016	2021
9	Apr-14													2018	2021

# Savannah River Remediation - Today and the Future

## EVOLUTIONAL IMPROVEMENT / REVOLUTIONARY CHANGES



# Advances In Tank Cleaning and Residue Sampling





## American Recovery and Reinvestment Act (ARRA) Work

SRR Liquid Waste Program was awarded \$200 million in ARRA funding in September 2009:



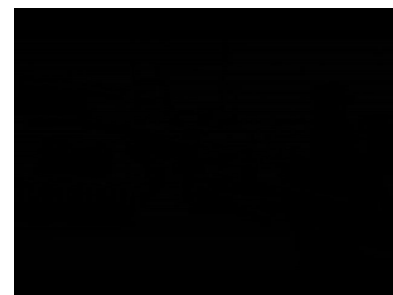
- **Waste Treatment**—Design and install components to enhance Defense Waste Processing Facility (DWPF) and Saltstone operations. (11 operating activities)

- **Salt Disposition Integration**—Install salt processing infrastructure to support Salt Waste Processing Facility (SWPF). (12 operating activities)



- **Tank Closure Infrastructure**—Equipment installation and infrastructure modifications to support tank closure activities. (14 operating activities)

- **Facility Operations**—Design and install modifications to support enhanced salt and sludge waste removal. (4 operating activities)



# Expected Results

- **Next 12 months**
  - Deploy additional technology improvements in the Liquid Waste System
  - Near-term investment for lifecycle acceleration
- **Results**
  - Close 22 tanks by 2018 (4 years ahead of FFA)
- **Complete HLW Mission 2026**
  - Realize Six Year, \$3 billion lifecycle savings
- **Demonstrate transformational technologies for deployment in the DOE Complex**





# Summary

- **Our primary focus is on safe work**
  - Protect workers, public, environment
- **SRS embraces common goals and values with community that emphasize risk reduction**
- **SRS is committed to deploying transformational technologies that will accelerate liquid waste mission completion by **six** years and save taxpayers \$3B**
  - Focus on accelerating salt processing with application of transformational technologies
  - Continue to reduce risk with tank waste removal and cleaning ahead of FFA commitments
- **Continue to be good stewards of taxpayers' money**
  - Accelerating the cleanup saves money long-term
  - Technology is transferred to other sites, bringing more cost-savings