SRR Accomplishments and Challenges

Dave Olson, SRR President and Project Manager
• **Single Liquid Waste Operations contractor**
  - Savannah River Remediation LLC
    - Began work in July 2009
    - Workforce of ~ 2,600 employees
    - Focused on acceleration of liquid waste mission

• **Liquid Waste budget requirements**
  - Annual budget: ~ $600M/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

“The HLW at SRS represents the highest environmental risk in South Carolina” – South Carolina Department of Health and Environmental Control
Our Focus: Safety

• Over 3 million safe hours in operations
  – Operations employees had the lowest Total Recordable Case rate of any major SRS contractor in over 25 years (0.25 in FY10).

• 23 million-plus safe hours in Liquid Waste construction
  – Record performance

• 1 million safe hours in Recovery Act work
  – No recordable injuries since work began

• Radiological Performance since assuming contract (July 1, 2009)
  – No reportable radiological events
  – No Adverse Trends or Programmatic Issues
  – No Watch List Items or recurring issues

• Environmental Performance since assuming the contract
  – 0 Notice of Violations
  – 0 Reportable Spills

• SRR has completed the Industrial Hygiene Exposure Baseline (one of DOE complex leaders in this area)
The Challenge

Volume

- 19.2 Mgal (51%)
- 15.6 Mgal (51%)
- 3.2 Mgal (8%)
- 34.0 Mgal (92%)

37.0 Million Gallons (Mgal)

Curies

- 165 MCi (48%)
- 177 MCi (51%)
- 12 MCi (3%)
- 166 MCi (49%)

343 Million Curies (MCi)

Inventory values as of 2010-12-31
The Solution

Legend:
ARP – Actinide Removal Process
DWPF – Defense Waste Processing Facility
MCU – Modular Caustic Side Solvent Extraction Unit
SWPF – Salt Waste Processing Facility

- Radionuclides to glass
- Chemicals to Saltstone
- Tanks empty and closed

Legacy Liquid Waste
49 tanks, 37M gal

Tanks Empty and Closed

Glass Waste Storage
>99% radionuclides to glass

Salt waste

Interim Salt Processing

Saltstone Disposal Facility
<1% radionuclides to saltstone

Supplemental Salt Strategy

SWPF (under construction)
Tank Closure Progression

- Safe Storage & Surveillance: Tanks 1, 2, 3, 21, 22, 23, & 24
- Bulk Waste Removal: Tank 4 in active BWR; Tanks 7, 9, 10, 11, 13, 14, & 15 preparation
- Mechanical Heel Removal: Tank 12 in progress
- Chemical Cleaning: Tank 8 being prepped for chemical cleaning and ECC design/real waste testing in progress
- Cooling Coil Flushing: Tank 16 in progress
- Annulus Cleaning: Tanks 5, 6, 18 & 19 in progress
- Final Sampling and Isolation: Tanks 17 & 20 closed
- Grout Tank:
• Recently poured 3,000th canister of glass
• DWPF has poured more than 11.7 million pounds of glassified waste
• New technology, ‘Bubblers,’ recently installed has the capability to nearly double canister output
• DWPF Glass Waste Storage Buildings: Two in place
• Underground reinforced concrete vaults
• Seismically qualified
• Designed to be interim storage
Salt Waste Treatment

• Operating interim salt processing to support tank closure

• Saltstone facilities being upgraded to improve reliability and to receive organic materials
  – Processed 800,000 gallons last fiscal year; already processed over 300,000 this fiscal year

• Design in progress for supplemental salt processing capability to start-up in 2013
  – Technology will accelerate salt waste removal
Actual vs. Contract Goal

- * = Actual as of 1/1/11
- ** = Expected by end of contract

- *1X vs. **1/2X Bulk Waste Removal
- *1X vs. **1/2X Duration for closure documentation
- *1.5X vs. **3X Cleaning Rate
- *1.5X vs. **2X Salt Preparation
- *1X vs. **4X Interim Salt Processing
- *2X vs. **2X Saltcrete Processing
- *1X vs. **2X Canister Production
- *1X vs. **2X Sludge Feed Delivery
- *1X vs. **2X Sludge Preparation
Next 12 Months

• Deploy additional technology improvements in the Liquid Waste System

• Near-term investment for lifecycle acceleration
  − Complete Recovery Act work
  − Execute Supplemental Salt treatment

Results

• Close 22 tanks by 2018
  − Four years ahead of federal and state requirements

• Complete HLW Mission 2026
  − Realize 6 Year, $3B lifecycle savings

• Demonstrate technologies for deployment in the DOE Complex