

Challenges in DOE HLW Tank Management

March 5, 2014

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Presentation to:
Waste Management 2014
095 Panel
*Challenges in US DOE HLW Tank
Management*



SRS Tank Waste Operations Mission

We do the right thing.

- SRR was awarded by DOE the 6-year base contract, plus 2 year option, for High-Level Waste clean-up
- Contract began July 1, 2009

Environment and Public Safety

- Protect the environment
- 37 million gallons of high level waste
- 45 underground tanks (2 tanks grouted in December/6 grouted total)



Waste Disposition

- Support US government's nuclear non-proliferation agenda = H-Canyon
- Remove waste from tanks and stabilize into glass and grout



Clean up

- Clean the empty tanks
- Close (fill with grout) tanks



We do the right thing.



Pump testing

- **Safety still a top priority:**
 - > 3 million hours in Total Workforce (includes subs) without a days-away injury
 - > 25.9 million hours in construction without a days-away injury
- **Saltstone facilities proves capability to support increased salt waste processing**
- **Saltstone Disposal Units (SDU) 3 and 5 being used**
 - SDU 6 under construction
 - First mega-vault
- **Record performance during the fiscal year:**
 - Defense Waste Processing Facility (DWPF): 40 canisters produced in August, most ever in one month since startup in 1996
 - Actinide Removal Process/Modular Caustic Side Solvent Extraction Unit (ARP/MCU) processed 1.3 million gallons of salt waste for the year, most every since startup in 2008
 - Saltstone facilities: 2 million gallons processed during the year, most ever since startup in 1990

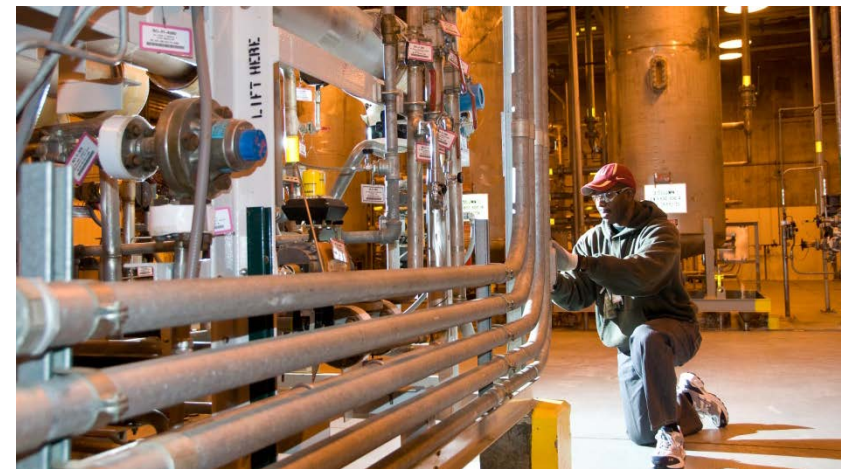
We do the right thing.



- Began Fiscal Year ~\$70 million less than the FY13 budget
 - 2-week furlough on the heels of a 465-employee workforce restructuring
- Facilities were in pre-planned first quarter of year maintenance outage
- All facilities now operating
 - ARP/MCU demonstrating Next Generation Solvent/demo in progress
 - Recovering from steam outage due to freeze
- Closed Tanks 5 & 6 in December, nearly 2 years ahead of schedule
- SRR Project Enterprise initiated

We do the right thing.

- Reestablishing our company brand (We deliver)
- Conduits for our future
 - Mitigating aging workforce
 - People connect to business
 - Science, Technology, Engineering, & Mathematics (STEM) Program
 - Veterans support
 - Co-op Program
- Growth in Mission delivery
- Three product lines
 - Projects (EPC)
 - Waste Treatment (High-Hazard ops)
 - Tank Closures (D&D/WM/Closure)
- Nuclear Services Planning Model



We do the right thing.

- **Change the Thinking - Change the Model**
- **Use "Nuclear Services" Contractors to:**
 - Manage large scopes of work including outages
 - Design
 - Design-Build
 - Perform Work Planning
 - Perform Maintenance/Construction
- **Provide "Minuteman" resources (rather than one-resume at a time - staff augmentation)**
- **This model has proven success in the commercial nuclear industry**

We do the right thing.

- DOE-EM Peer Review Out-brief
- Summary: Extremely positive
- Specific comments include:
 - Contract and project are "super aligned"
 - "Two thumbs up" for project change control processes and procedures
- Several best practices identified
- Three findings for improvement
- Many positive comments

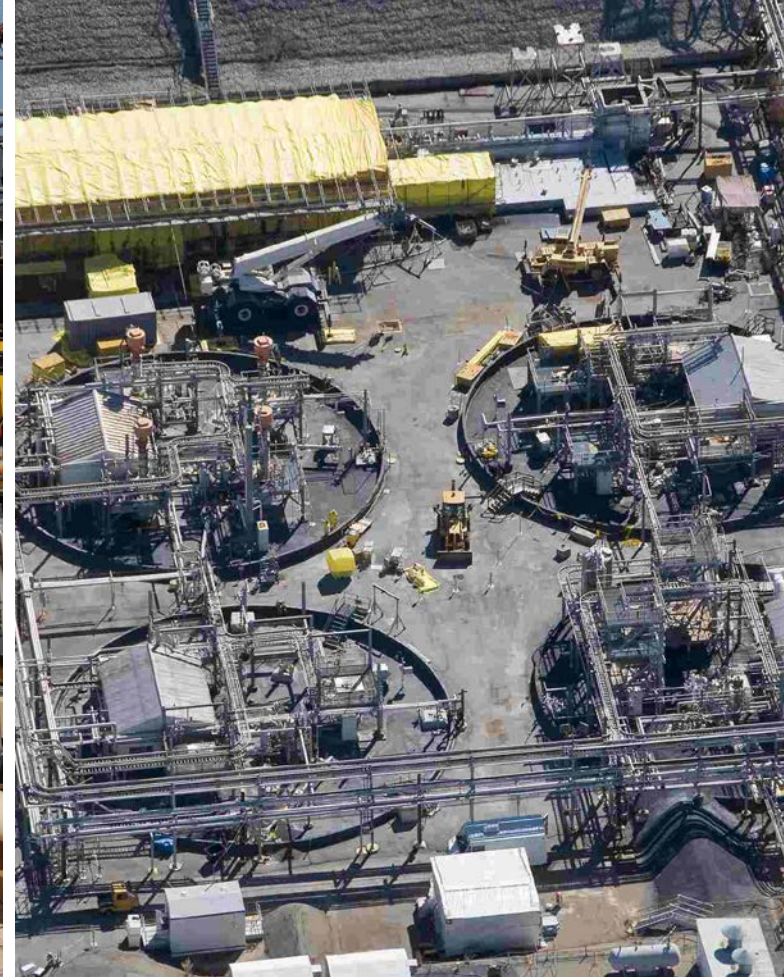
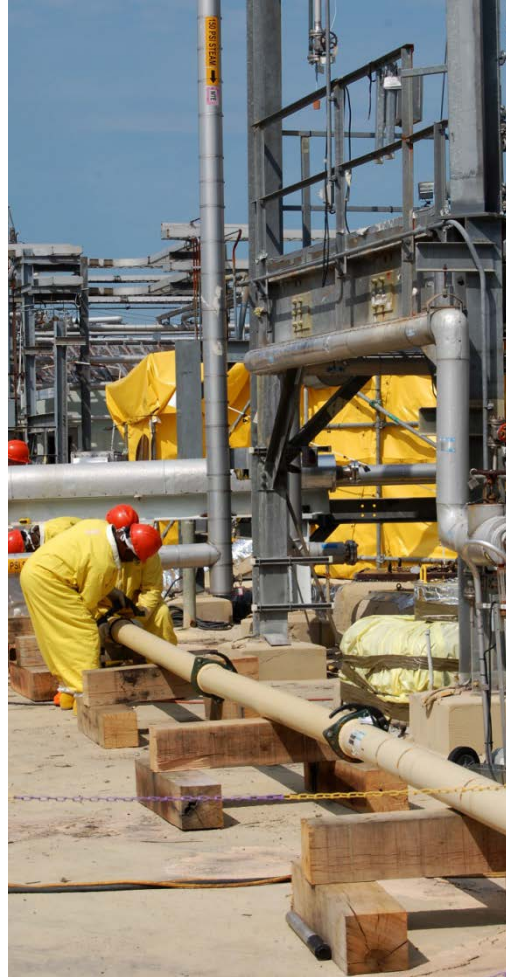


We do the right thing.

- **Support Salt Waste Processing Facility (SWPF) Startup and Operation at Capacity**
 - Installation of SWPF Infrastructure and Tie ins
 - DWPF Enhancements
- **Ensure Facility Availability and Attainment**
 - Maintain Facility Infrastructure
 - Targeted Process Improvements
 - Address aging equipment trends
- **Mitigate Impact to Near Term Federal Facility Agreement (FFA) Commitments**
 - Continue progress on Tanks 12 and 16

We do the right thing.

- Continue closure of Tanks 12 and 16
- Continue bulk waste retrieval from 2 additional tanks
- Operate production plants to treat waste:
 - Convert sludge into 100 canisters of glass at DWPF
 - Decontaminate 800,000 gallons of salt waste at MCU in support of LW mission
 - Dispose of 2 million gallons of decontaminated salt solution at Saltstone facilities

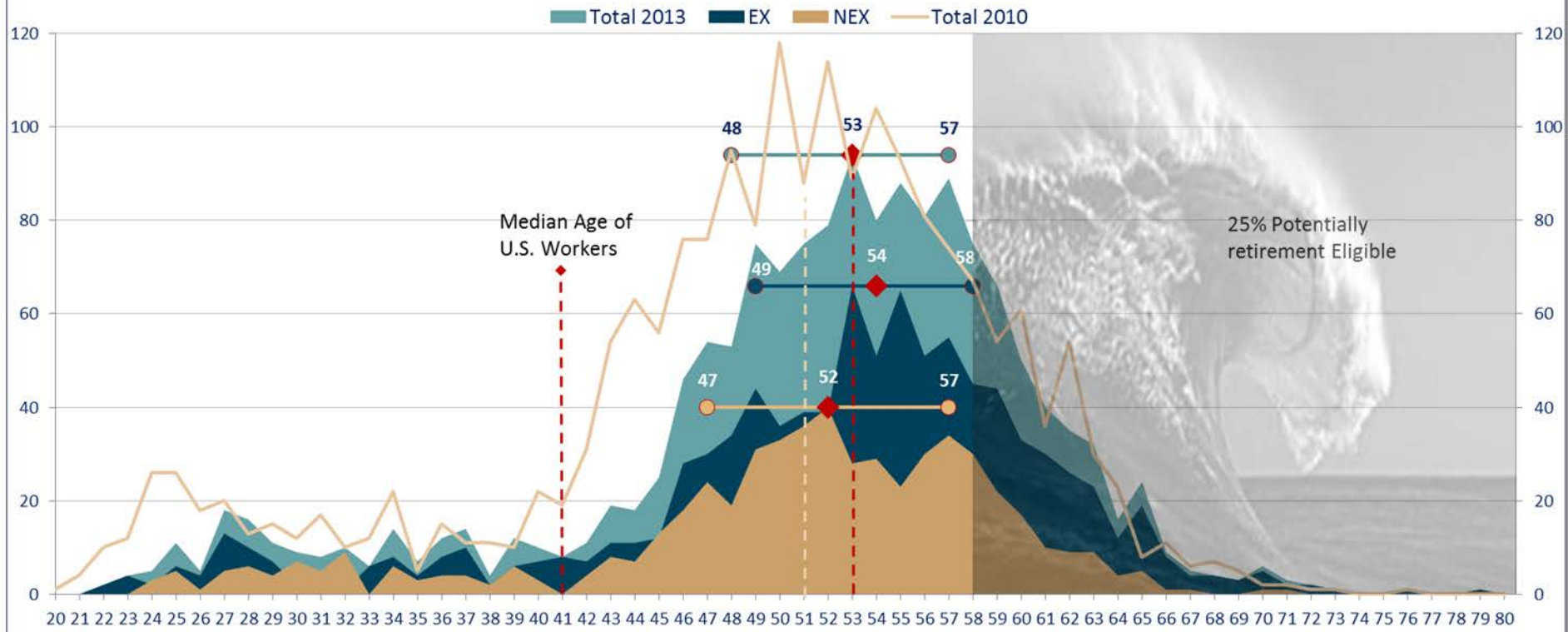


We do the right thing.

- The delay until 2018 of the Salt Waste Processing Facility
- 8 old-style tanks are situated in the water table
- Leaving waste in old-style tanks longer under current funding
- Threatened fines from SCDHEC
 - Partnership between SRS and SCDHEC is headed toward less cooperation
- Operational challenge with system turndown (2x to 3x) and close coupling with sludge and salt
- Canister interim storage challenge
- Aging workforce and infrastructure

We do the right thing.

SRR Age Distribution showing 25%, 50%, and 75% Quartiles
 as of 12/31/2013



We do the right thing.

- **Our primary focus is on safe work**
 - Protect workers, public, environment
- **Continue to be good stewards of taxpayers' money**
 - Seeking ways to cleanup while saving money long-term
 - Technology/knowledge is transferred to other sites, bringing more cost-savings
- **Balance and plan for FY14 aligned to funding levels focused toward safe storage and project operational needs/priorities**
 - Aging infrastructure
 - SWPF long-term integration
 - H Canyon mission
 - Progress on old-style HLW tank closure