



Solid Waste Management

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Savannah River Site Information Pods

Barnwell High School, Barnwell, S.C.
June 12, 2014

SRS E Area Solid Waste Management Facility

- Located in central region of SRS
- Waste Types Managed
 - Sanitary Waste
 - *Collected / transported to sanitary landfill*
 - Low Level Waste (LLW)
 - *Majority of LLW is disposed onsite in various disposal units*
 - *Disposal unit and method dependent on curie content and waste form*
 - Transuranic (TRU), hazardous and mixed wastes
 - *Stored on site only*
 - *Commercial vendors primarily used for hazardous waste and mixed waste treatment and disposal*
 - *TRU waste disposed at Waste Isolation Pilot Plant in New Mexico*



A Brief History of Legacy TRU at SRS

- From the early 1970s to April 2009, 13,750 cubic meters of TRU waste were generated
- Retrieval operations started in 1995
- Much of the waste required remediation and repackaging
- First shipment to Waste Isolation Pilot Plant occurred in May 2001
- Over 1,650 shipments made to date
- An estimate of 120 more shipments will complete legacy program
- About 30 percent of original waste volume stored was characterized as low-level waste for disposal

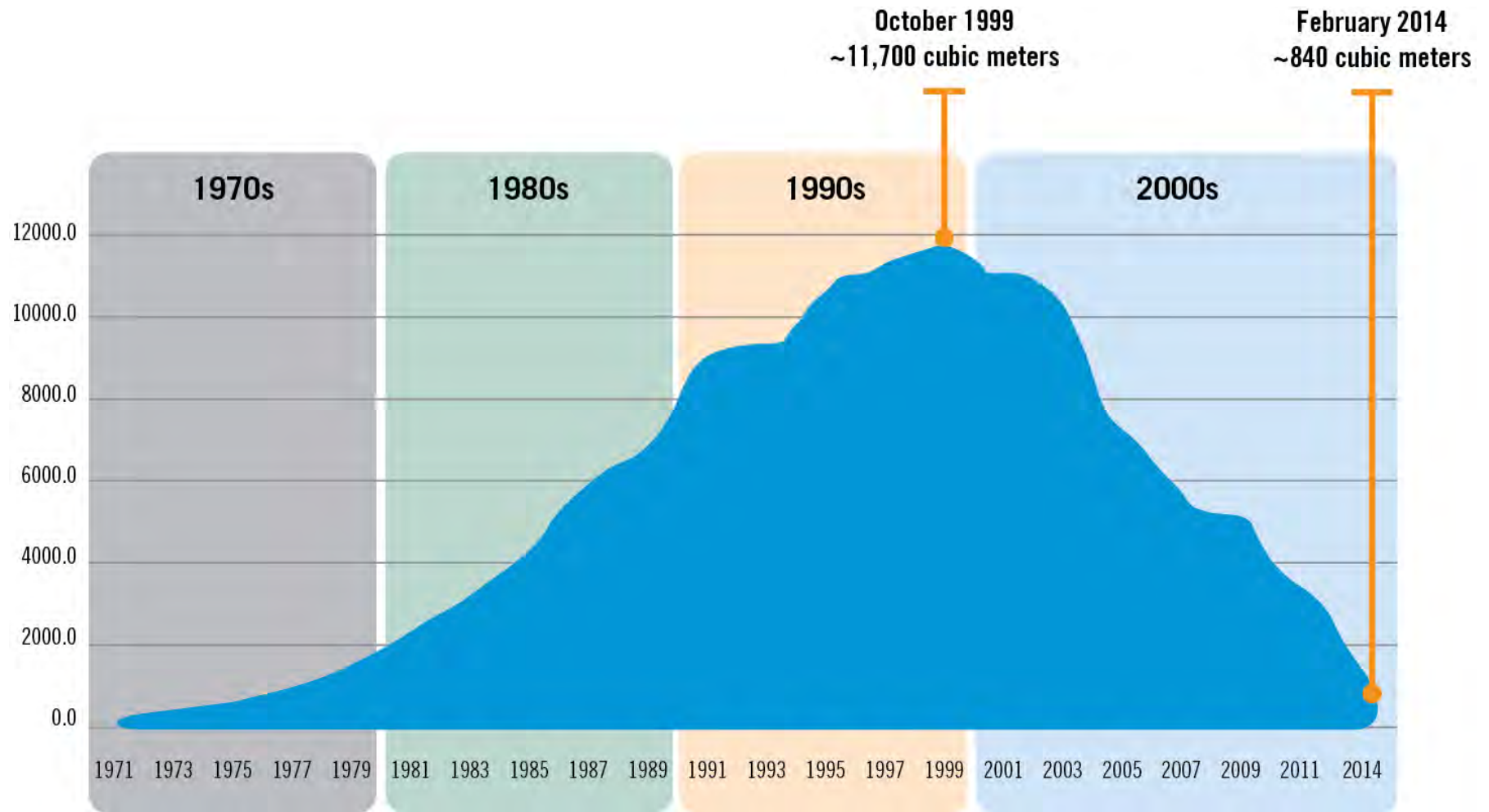


Legacy TRU Storage Over the Years



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TRU Waste Stored Volume *(cubic meters)*



TRU Handling, Repacking and Preparation

To prepare legacy waste to be shipped to the Waste Isolation Pilot Plant, the waste was:

- 1 Removed from its container
- 2 Sorted
- 3 Repacked
- 4 Characterized/Certified
- 5 Loaded into shipping containers, such as TRUPACT-II, TRUPACT-III or 72-B containers



Transporting TRU Waste



- Highly-regulated process (safety, health, emergency preparedness, transportation)
- Numerous federal and state government agencies involved
- Requires coordination of Department of Energy sites across the U.S.



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Summary

- After almost 20 years, all of the legacy TRU waste at SRS has been remediated, packaged, and characterized for disposal.
- TRU waste generated by ongoing operations is safely and compliantly packaged to ensure certification and disposal at WIPP.

TRU Pads 7-13
September 2005



TRU Pads 7-13
August 2008



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Waste Management - Liquid Waste

Dean Campbell

Public Affairs Manager, Savannah River Remediation



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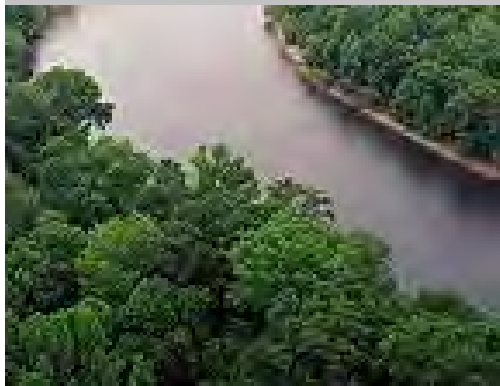
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Liquid Waste Overview

- The U.S. Department of Energy awarded Savannah River Remediation the six-year base contract, plus two year option, for high level waste clean-up
- Contract began July 1, 2009
- Currently about 1,700 employees

Environment and Public Safety

- Protect the environment
- 37 million gallons of high level waste
- 45 underground tanks. Two tanks grouted and closed in December. Six closed total.



Waste Disposition

- Support U.S. government's nuclear nonproliferation agenda = H Canyon
- Remove waste from tanks and stabilize into glass and grout



Clean Up

- Clean the empty tanks
- Close tanks



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A Focus on Safety



Industrial Safety



Radiological Safety



Environmental Safety



Chemical Safety

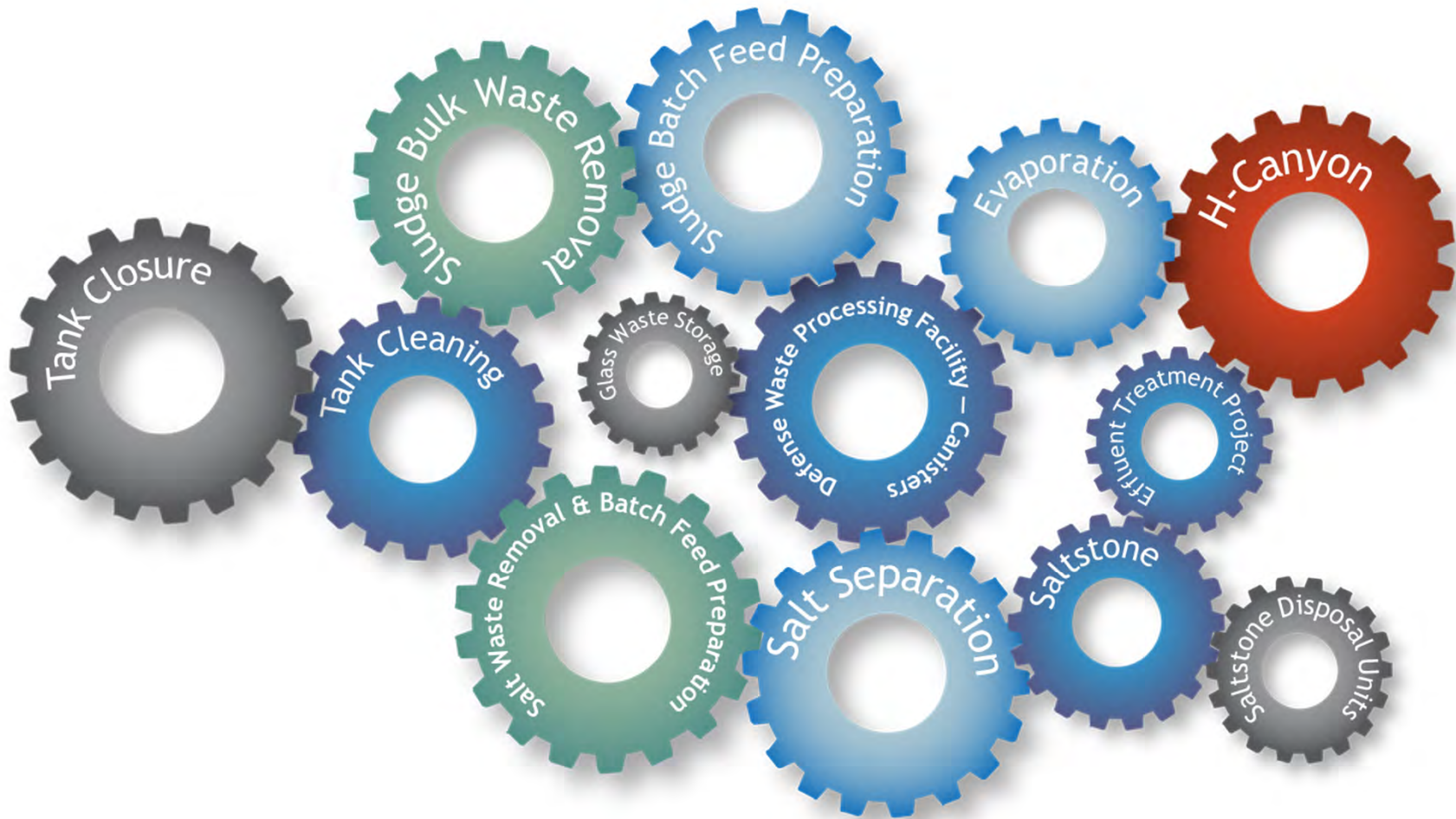
Safety: Perspective/Awards

- Construction forces (legacy and current) accumulated over 26 million safe hours
- Recipient of National and State Awards in recognition of safety performance (National Safety Council Occupational Excellence Achievement Awards and Million Hour Awards, S.C. Chamber of Commerce and S.C. Department of Labor, Licensing and Regulation Awards)
- More than one year without a days away injury.



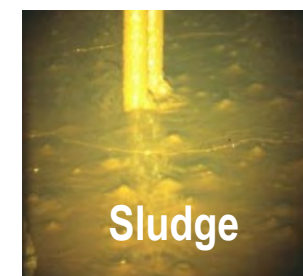
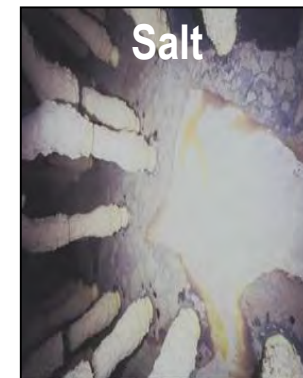
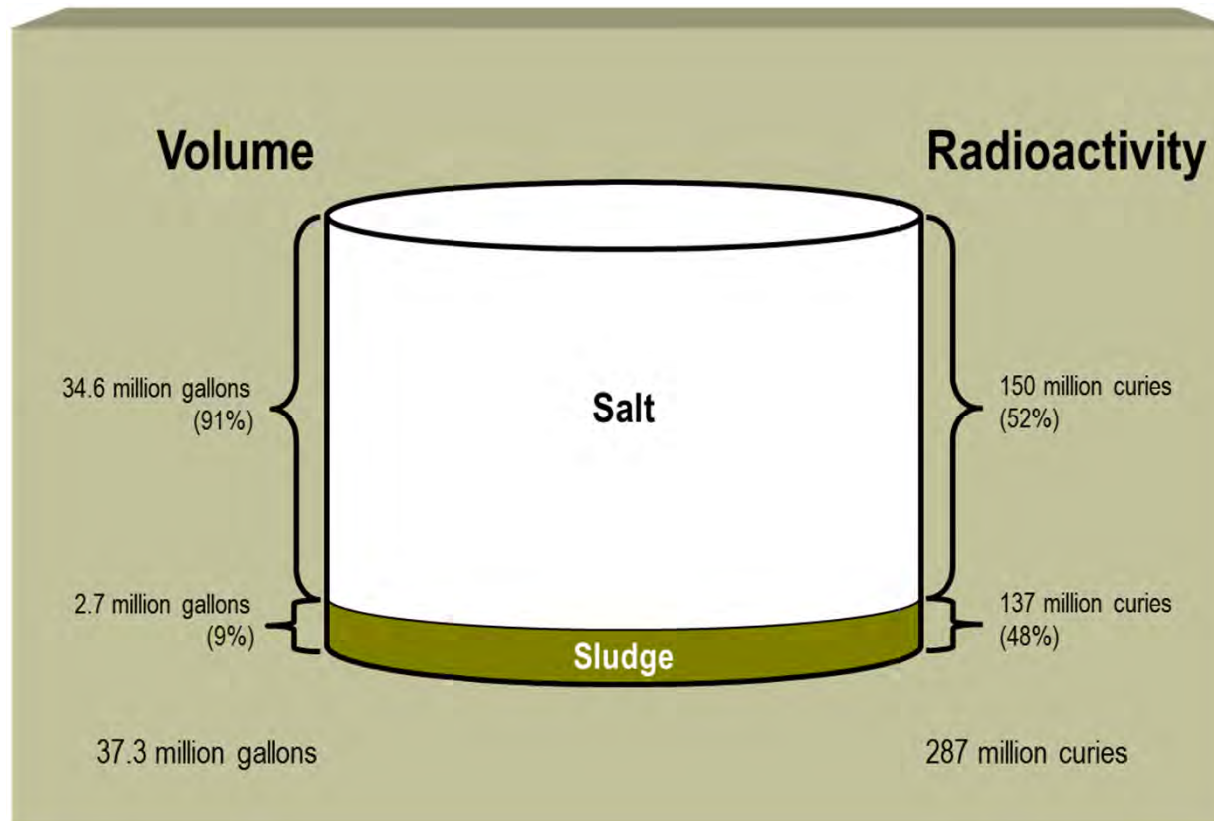
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An Integrated System



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Where it Starts: Waste in the Tanks



“The high-level waste at the Savannah River Site represents the single largest environmental risk in South Carolina.” – S.C. Department of Health and Environmental Control



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Liquid Waste Facilities

Actinide Removal Process



Saltstone Production Facility



Modular Caustic Side Solvent Extraction Unit



Defense Waste Processing Facility



Salt Processing

- Saltstone Disposal Unit (SDU)
SDU 3 and 5 currently being filled with a grouted decontaminated salt solution
- SDU 6 under construction
- SDUs 7-12 are for future use



Record Production Last Year

**Defense Waste
Processing Facility**



- **DWPF: 40 canisters produced in August, most ever in one month since startup in 1996**
- **ARP/MCU processed 1.3 million gallons of salt waste for the year, most ever since startup in 2008**
- **Saltstone facilities: 2 million gallons processed during the year, most ever since startup in 1990**

Saltstone Facility

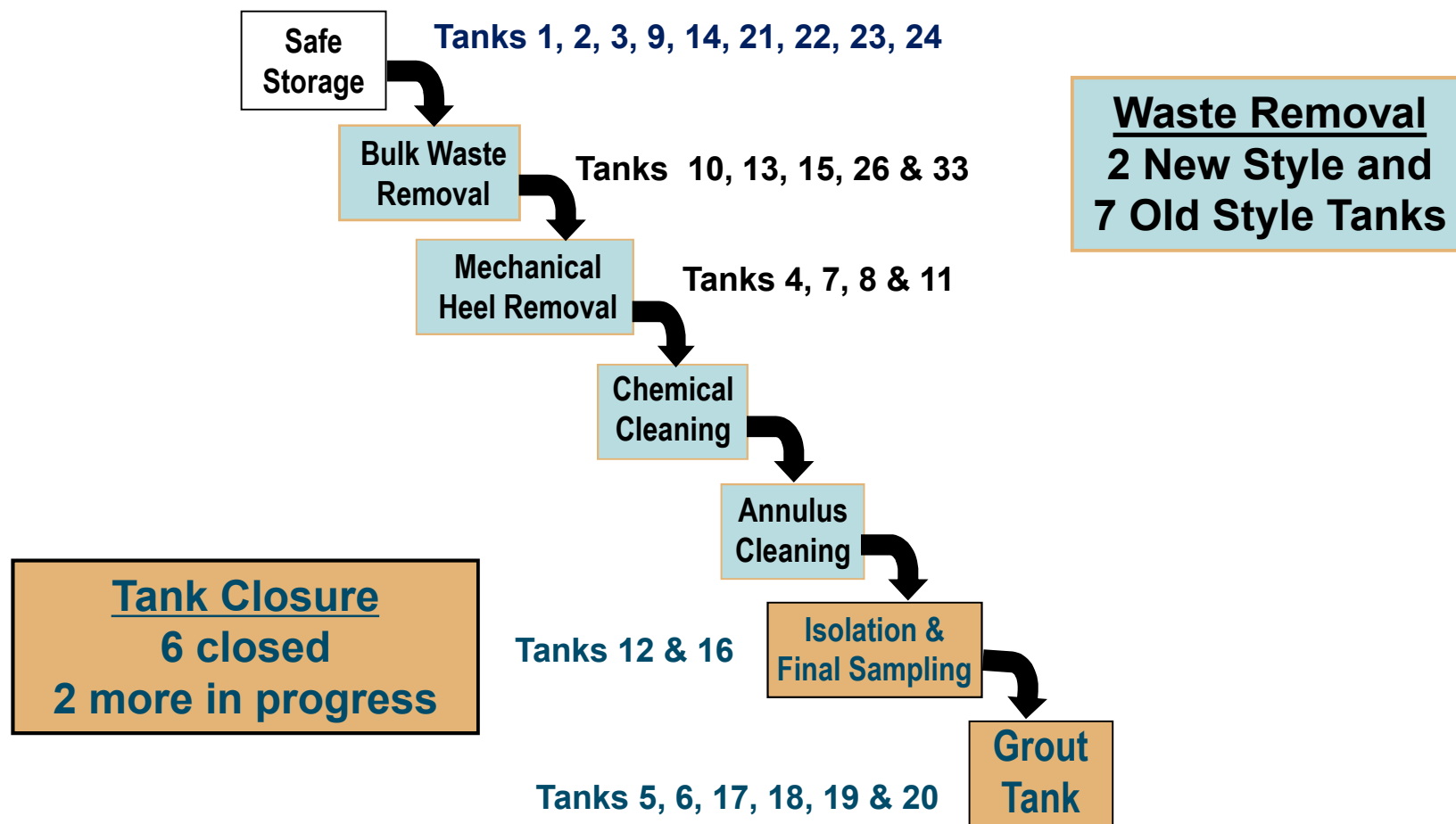


**Actinide Removal Process (ARP)
& Modular Caustic Side Solvent Extraction Unit (MCU)**



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Tank Closure



Tank Closure



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Conclusion

- **We continue to perform safely**
 - Focus on safety has been excellent
- **Sharing our technology and our people across the DOE Complex for cost-savings**
- **Operations are proceeding as planned, and progress is being made**
- **Waste treatment and tank closure work reduces the risk for all of us**

