



UCOR
URS | CH2M
Oak Ridge LLC

*Safely Delivering the Department of Energy's Vision
for the East Tennessee Technology Park Mission*

ETTP Cleanup Mission

Leo Sain, President and Project Manager

September 14, 2011

Who Are We?



- Leader in resolving EM's complex high-risk challenges
- ENR's #1 nuclear waste contractor
- D&D'd 1,020 DOE facilities, 6.9 million ft²
- 15 EVMS-certified sites
- 300 employees currently working in Oak Ridge



CH2MHILL

- #1 program management firm and ENR's largest U.S. environmental company
- Performed D&D on 1,395 DOE facilities covering 9.1 million ft², including 211 Category 1 and 2 facilities
- 5 EVMS-certified sites

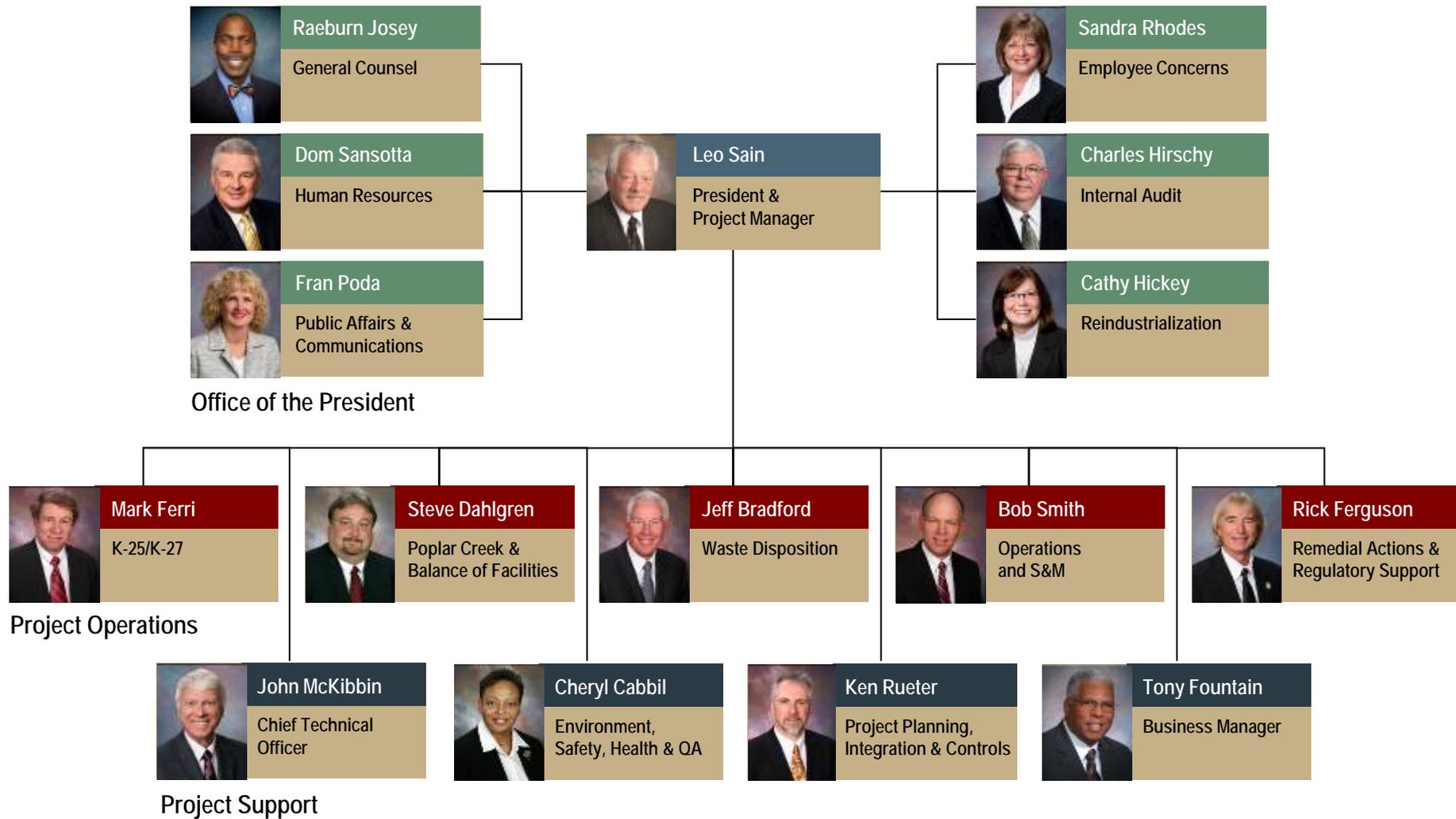


Restoration Services, Inc.

- Oak Ridge-based
- 14 years of ETTP site experience and knowledge
- Characterized 1,328 acres (1,000 acres released with NFA) and 30 ORR facilities

We know D&D

The UCOR Team



We Understand Work Like This

RFETS



- D&D'd 806 buildings (3.6M ft²), including 5 of DOE's highest risk facilities
- Accelerated site closure by 60 years and \$30B less than original baseline estimate
- **Decreased TRC rate from 7.6 to 1.1**

ICP



- D&D'd 171 facilities and structures
- Disposed of 29,983 m³ LLW to date; M&O of 2 LLW landfills
- Remediated 115 sites to date
- **Decreased TRC rate from 4.55 to 0.73**

RCCP



- D&D'd 139 facilities (1.1M ft²)
- Disposed of 2.6M tons LLW, MLLW and HW to date
- M&O of CERCLA cell
- **Decreased TRC rate from 6.77 to 0.46**

SRS



- D&D'd 259 facilities
- Disposed of 25,000 m³ LLW; M&O of disposal facilities
- Accelerated lifecycle baseline by 20 years and reduced cost by \$12B
- **Decreased TRC rate from 1.4 to 0.45**

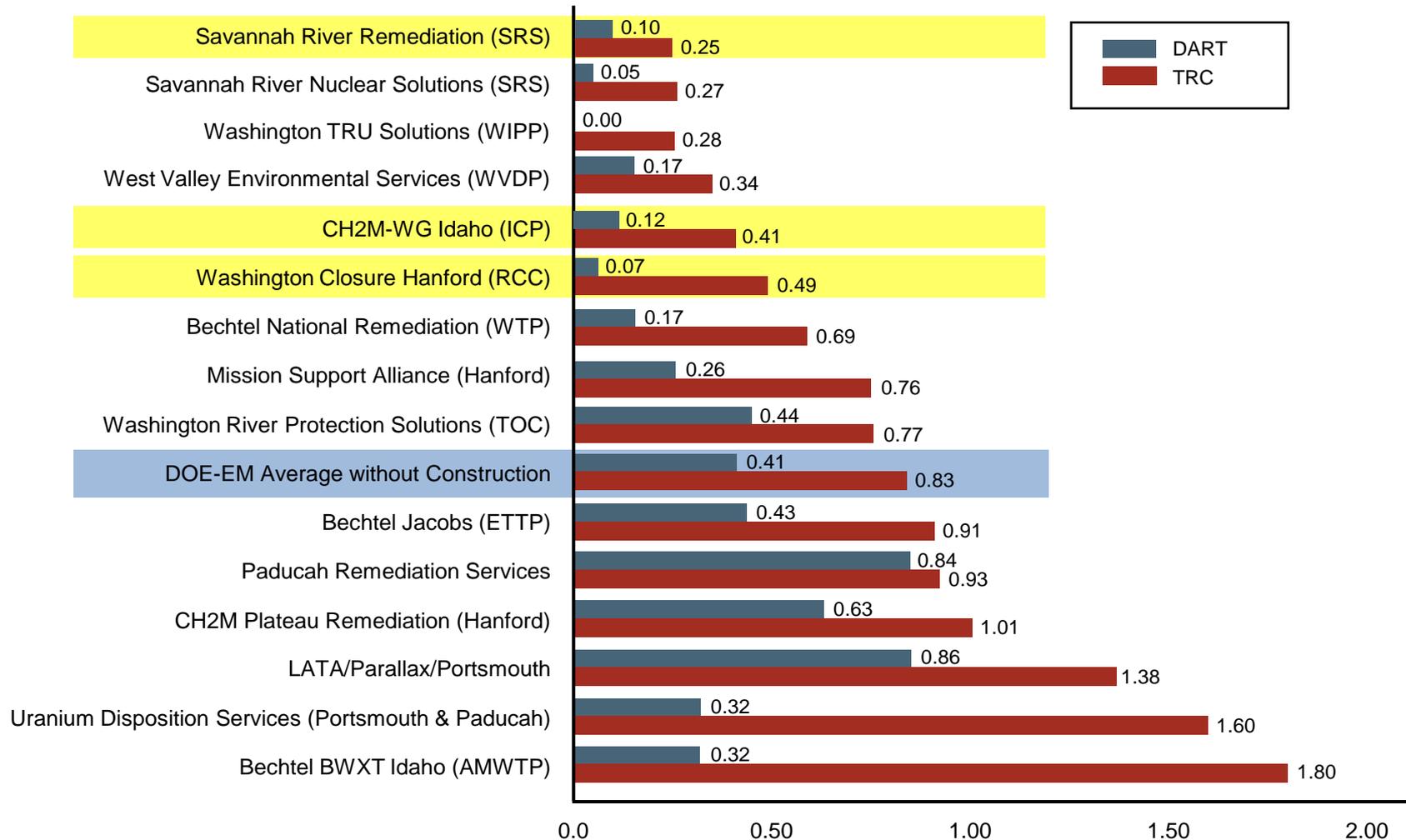
MCP



- D&D'd 64 facilities (560K ft²)
- Accelerated site closure and property transfer to local community for redevelopment by 3 years and \$100M less than previous baseline estimate
- **Decreased TRC rate from 5.6 to 1.6**

Partnership's Performance Elsewhere

FY10 DOE-EM Safety Rankings



Commitment to Safety

Every employee goes home at the end of the day in the same condition he or she came to work



Transforming ETTP

- Commitment of top talent
- Removal of institutional barriers that hinder progress
- New culture, where functions work together to achieve common objectives
- Safest and most cost effective methods
- Proven D&D techniques
- Two decades of lessons learned
- Record of operational excellence



Basic Scope

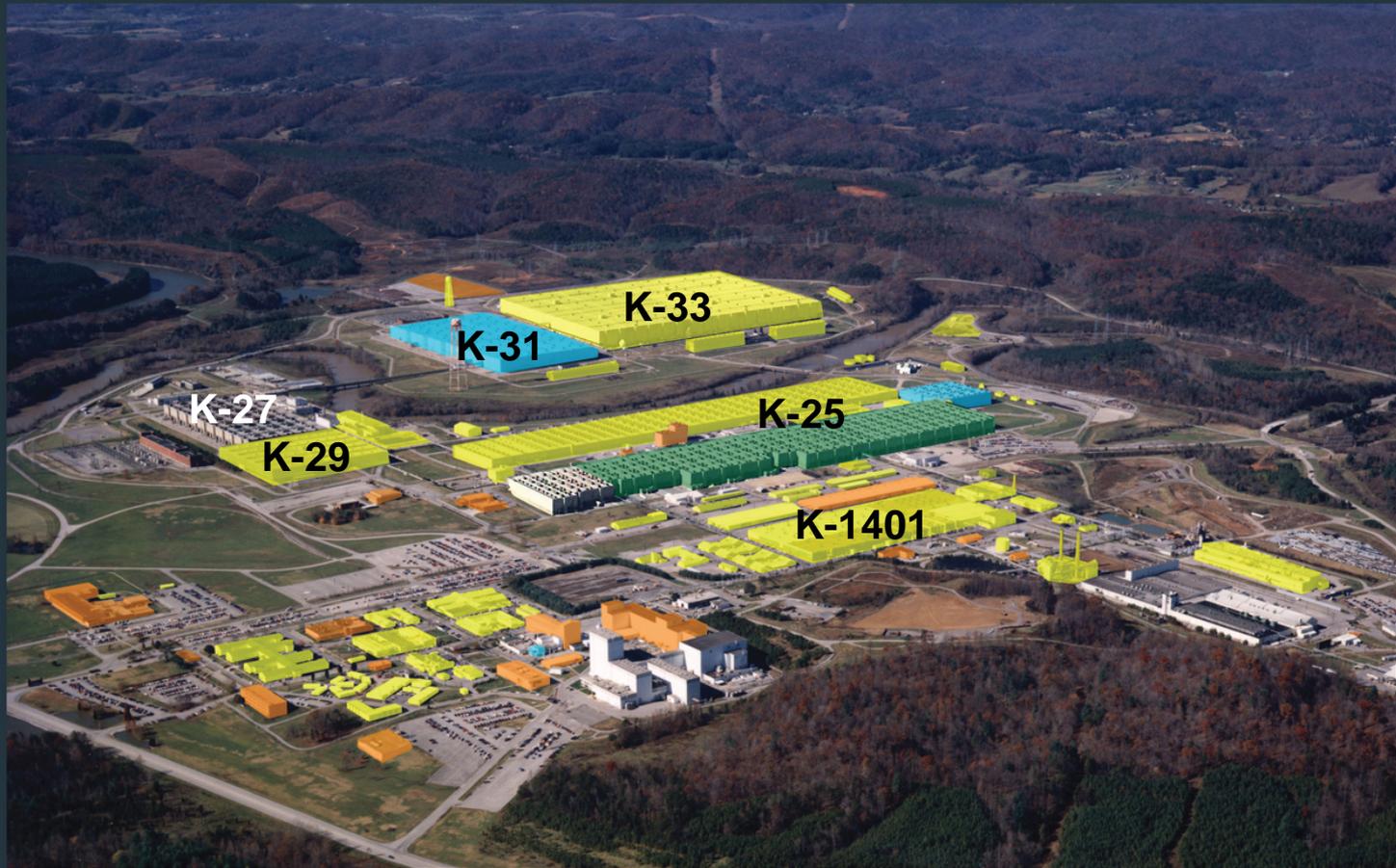
- Complete D&D of K-25, K-27, Poplar Creek, and other ETTP facilities, and complete Tank W-1A removal at ORNL
- Open up new scope early where possible
- Provide ongoing operations and support functions
 - Handle, transfer, and disposition wastes
 - Provide surveillance and maintenance to ensure facility availability and operability
 - Provide general program support
- Achieve site CERCLA closure



Our Approach

1. Challenge the status quo
2. Leverage safety commitment and culture to enhance productivity
3. Make waste management an enabler of remediation and D&D activities
4. Get paperwork off the critical path; establish a backlog of available work
5. Focus resources, including subcontractors, on achieving progress in the field

Current ETTP Status



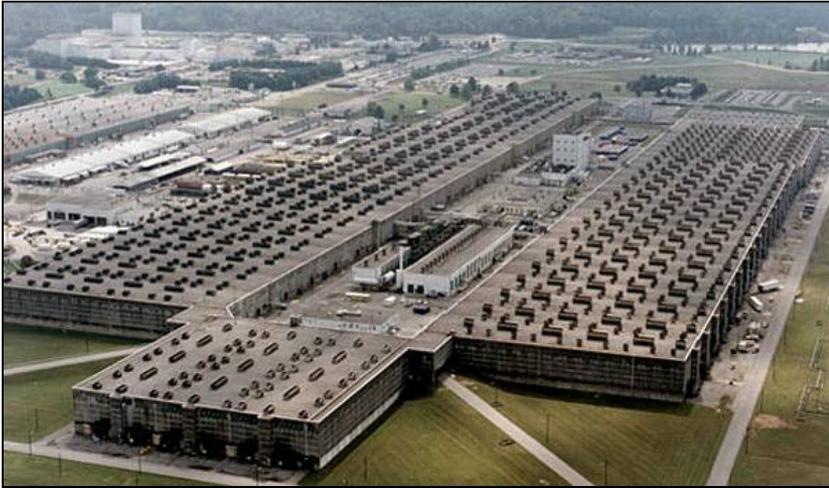
 = Demolished

 = Buildings to remain
(Lease, transfer, DOE-owned)

 = Demolition ready

 = Being demolished

Our Most Important Task: K-25



- Complete D&D in July 2014
- Receive regulatory approval of sitewide remedial action report in January 2020
- Build a stellar safety record in our pursuit of public and environmental protection
- Minimize DOE's residual environmental liabilities

Overview

- Preserve segmentation shop infrastructure to support K-27, HRE operations
- Knowledge and experience gained from K-25 demolition will be used on K-27
- Complete non-Tc⁹⁹ East Wing in 2013
- Begin North End when cleared for demolition
- Support facilities completed in 2014

K-25 Facility D&D



>98% of Tc⁹⁹ source term removed before demolition

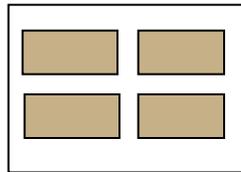
- Assembly line D&D for safety & efficiency
- Distances the worker from facility hazards
- Minimal use of foaming reduces fire hazard
- Bounding characterization for Tc⁹⁹
- Maximizes amount of waste disposed on site
- Controlled demolition/pack-as-you-go
- Waste generator specialists deployed in the field
- Minimizes unnecessary movements of HRE

• Strategy

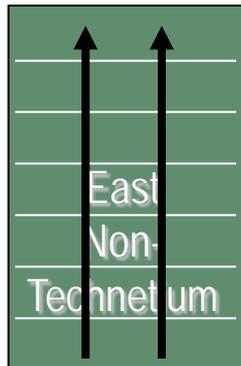
- Develop new nuclear safety approach to reduce or eliminate the use of foam
- Employ an assembly line approach for in-facility work
- Eliminate lag time by employing waste management specialists in the field

Refining Approach for K-25

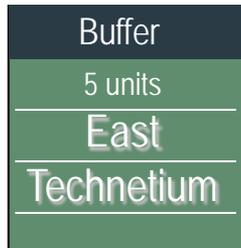
- ▼ Historical considerations
- ▼ Equipment in west wing



◀ Trailers in fall zone for north end



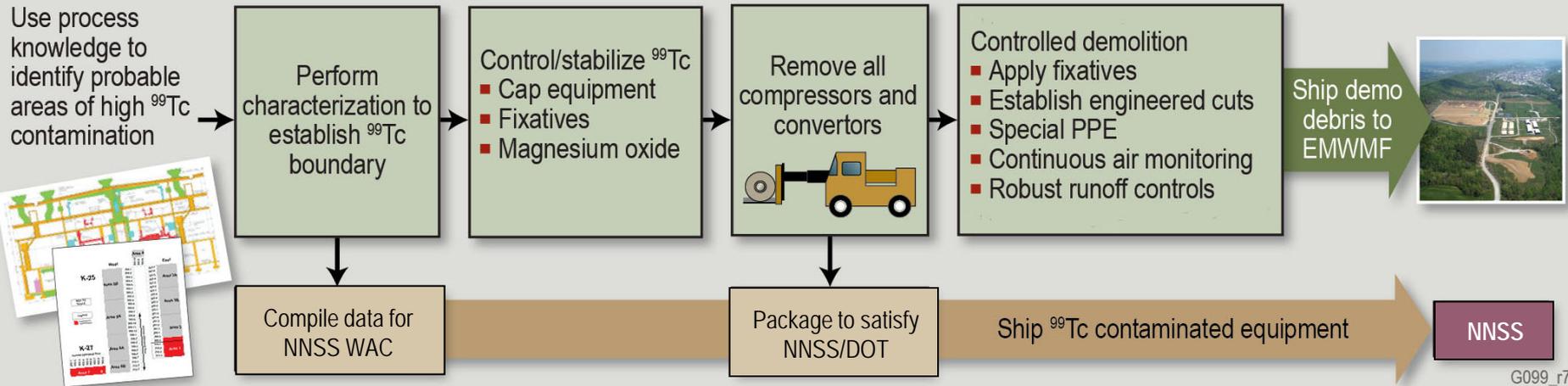
Demolition



Deactivation
Asbestos abatement
Removal of hazards

- Currently working north in non-Tc east wing
- Continue immediately to north end
- Tc units after that
- Tc materials off site, remainder to EMWMF

Technetium



- Implement safety controls
- Identify probable areas of high contamination
- Remove contaminated components, including 98 percent of Tc^{99} source term
- Complete D&D using methods employed in non-technetium areas with additional radiation controls in place
- Characterize removed components only to the level needed for shipment off site
- Results
 - Fewer labor hours in proximity to hazards
 - Fewer samples to be characterized
 - Allows non-technetium and technetium hazard reduction to occur in parallel

East Wing Separation Completed

- Completed separation of Tc⁹⁹ units from portion of East Wing under demolition
- Simultaneously preparing Tc⁹⁹ units for demolition while demolishing rest of East Wing



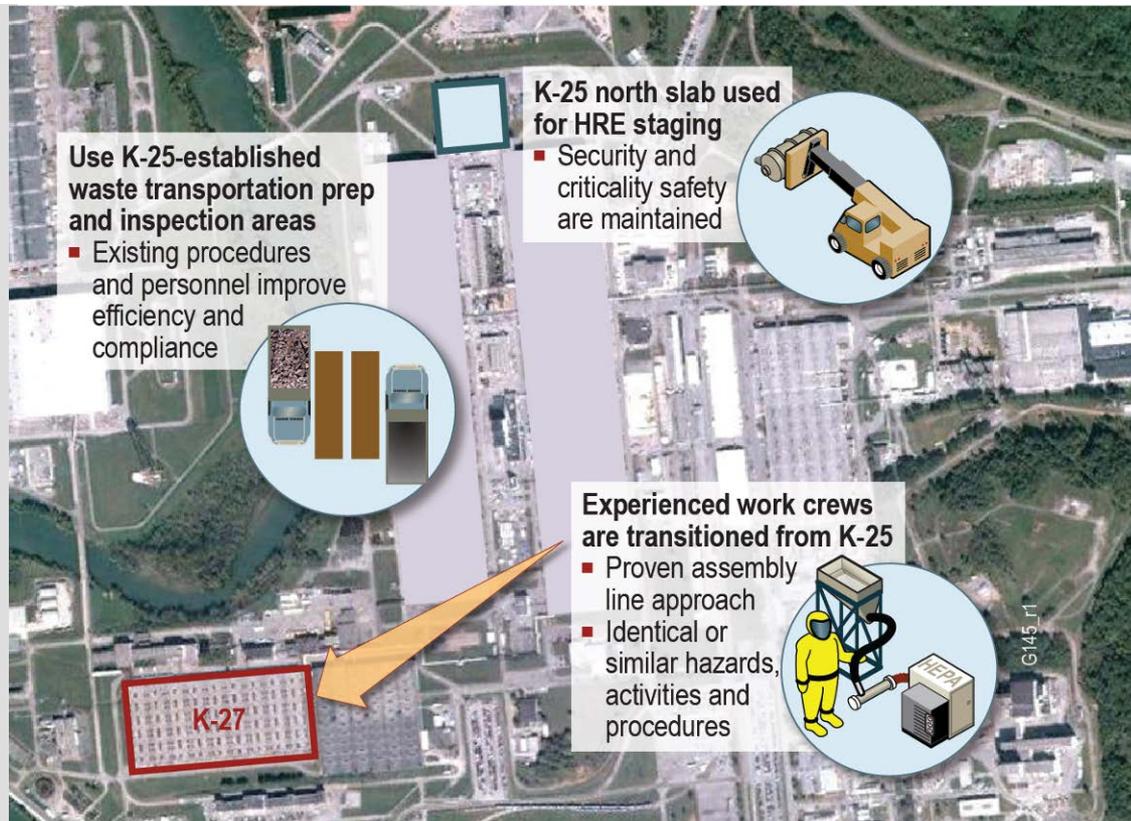
East Wing Waste Approved for On-Site Disposal

- Regulators approved waste profiles, allowing east wing demolition waste to be transported to EMWMF for disposal



K-25 Strategies Applied to K-27

- Adopt assembly line approach
- Deploy experienced work crews to do same tasks
- Use fixatives instead of foaming
- Transition Tc⁹⁹ decontamination methods and crews
- Continue use of NDA and segregation shop
- Implement established pack-and-go waste generation procedures
- Use existing truck preparation and load inspection areas
- Travel established waste hauling routes to EMWMF
- Modify proven procedures and approved regulatory documents



Other Key Organizations Within UCOR

- Poplar Creek D&D
- Tank W-1A Removal Action
- Waste Management
 - An enabler, not a roadblock
 - Waste disposition personnel integrated into waste generating organizations
- Remedial Actions & Regulatory Support
 - Keep paperwork off the critical path
 - Fulfill our commitments to the regulators and the community
- Nuclear Safety and Nuclear Criticality Safety
 - More flexibility needed for specific needs of D&D work

Poplar Creek Facilities D&D



- 21-month duration, start to finish
- We subdivide facilities into three distinct areas, maximizing opportunities for small businesses

80% subcontracted to small businesses

- Reindustrialization
 - Work collaboratively with DOE, CROET the City of Oak Ridge and UCOR management to achieve joint resolution of challenges
- Operations and S&M
 - Strategy and activities consistent at all three sites
 - ORNL, Y-12 S&M under UCOR contract

Tank W-1A Removal Progress

- Completed both the internal and DOE Operational Readiness Review
- Excavation beginning this month
- First removal activity is excavating and stockpiling the top 4 feet of soil, then excavating and containerizing contaminated soil around the tank



Workers practice tank removal inside the Tank W-1A enclosure



Summary

- Committed to the community
- Listening to our stakeholders
- Committed to the employees
- Committed to safe mission completion