



U.S. DEPARTMENT OF
ENERGY

OFFICE OF
ENVIRONMENTAL
MANAGEMENT

Oak Ridge Office of Environmental Management

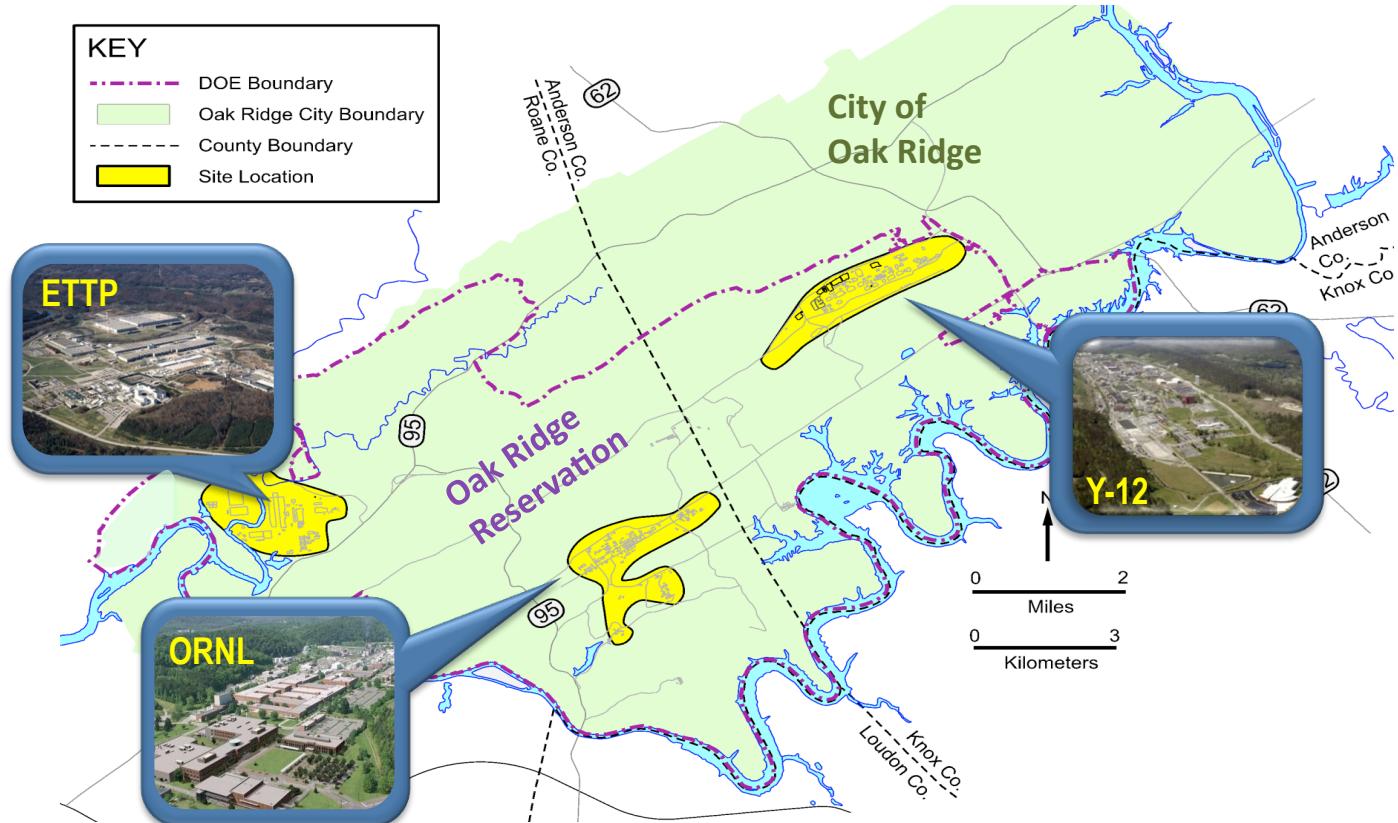
Congressional Nuclear Cleanup Caucus

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May 16, 2013

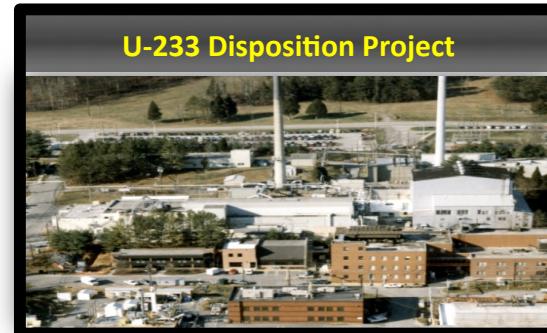
EM Program Overview

- Work is organized by Cleanup Portfolios
 - ETTP
 - Y-12
 - ORNL



EM Program Overview

- Approximately 10-Year Scope of Work
- Regulatory Agreements
- Partners and Stakeholders
- Diverse, complex projects
- Ongoing DOE Science and National Security missions with billions of dollars in investments
- Balancing competing priorities



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East Tennessee Technology Park (ETTP)



BEFORE

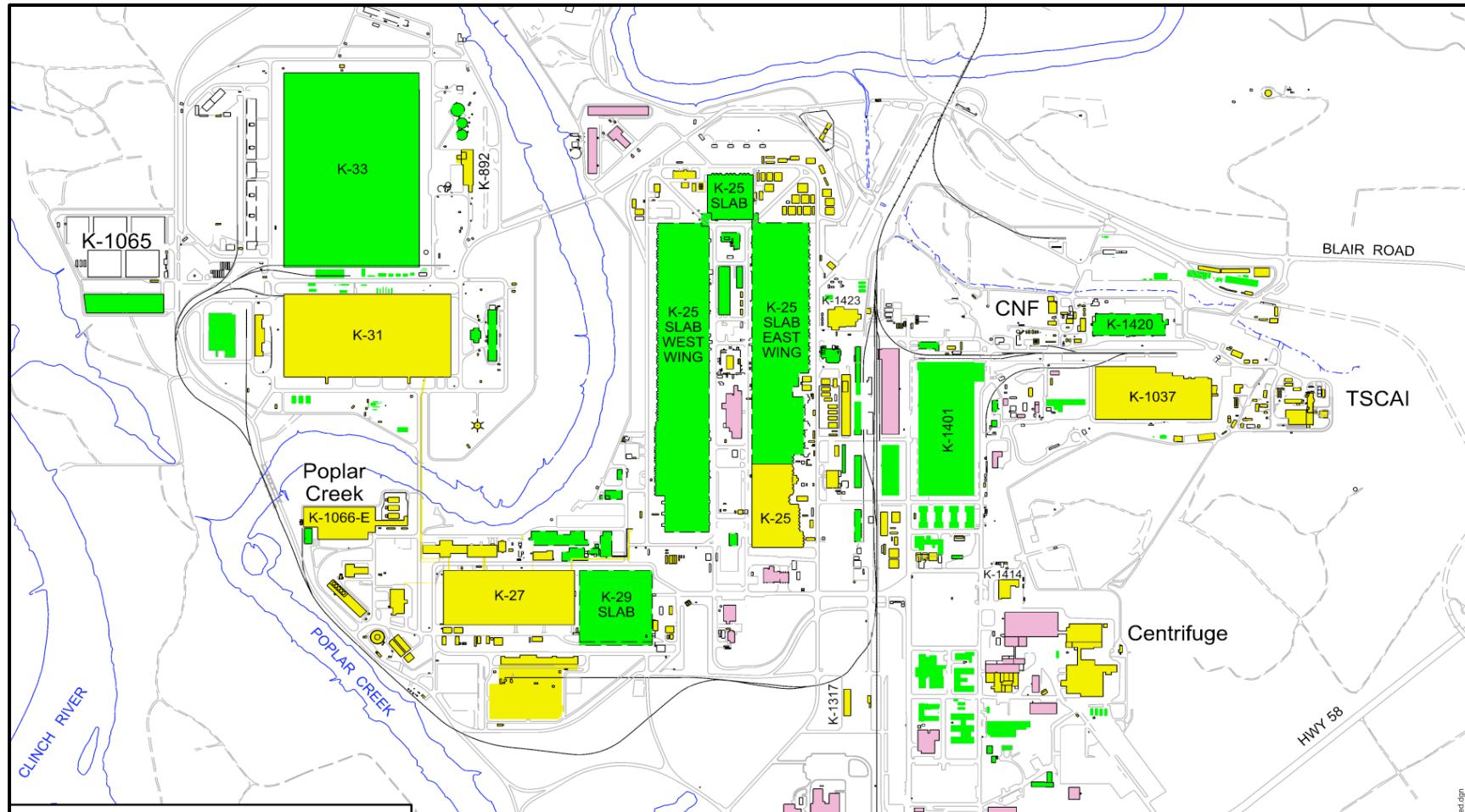


AFTER

- Approximately 2,200 acres
- Over 600 buildings
- Radiological contaminants (primarily Uranium and Technetium-99) and wide range of chemical constituents

- DOE legacy cleanup complete
- Private-sector industrial park

East Tennessee Technology Park



Completed

To be Demolished

Transferred/Leased Property

Near-Term Plan at ETTP

- Complete demolition of K-25 building
- Complete demolition of K-27 building
- Zone 1 Record of Decision, and K-25 & K-27 soil actions
- Prepare for demolition of balance of facilities
- Security, S&M, Operations, Infrastructure, Landlord



K-25 building



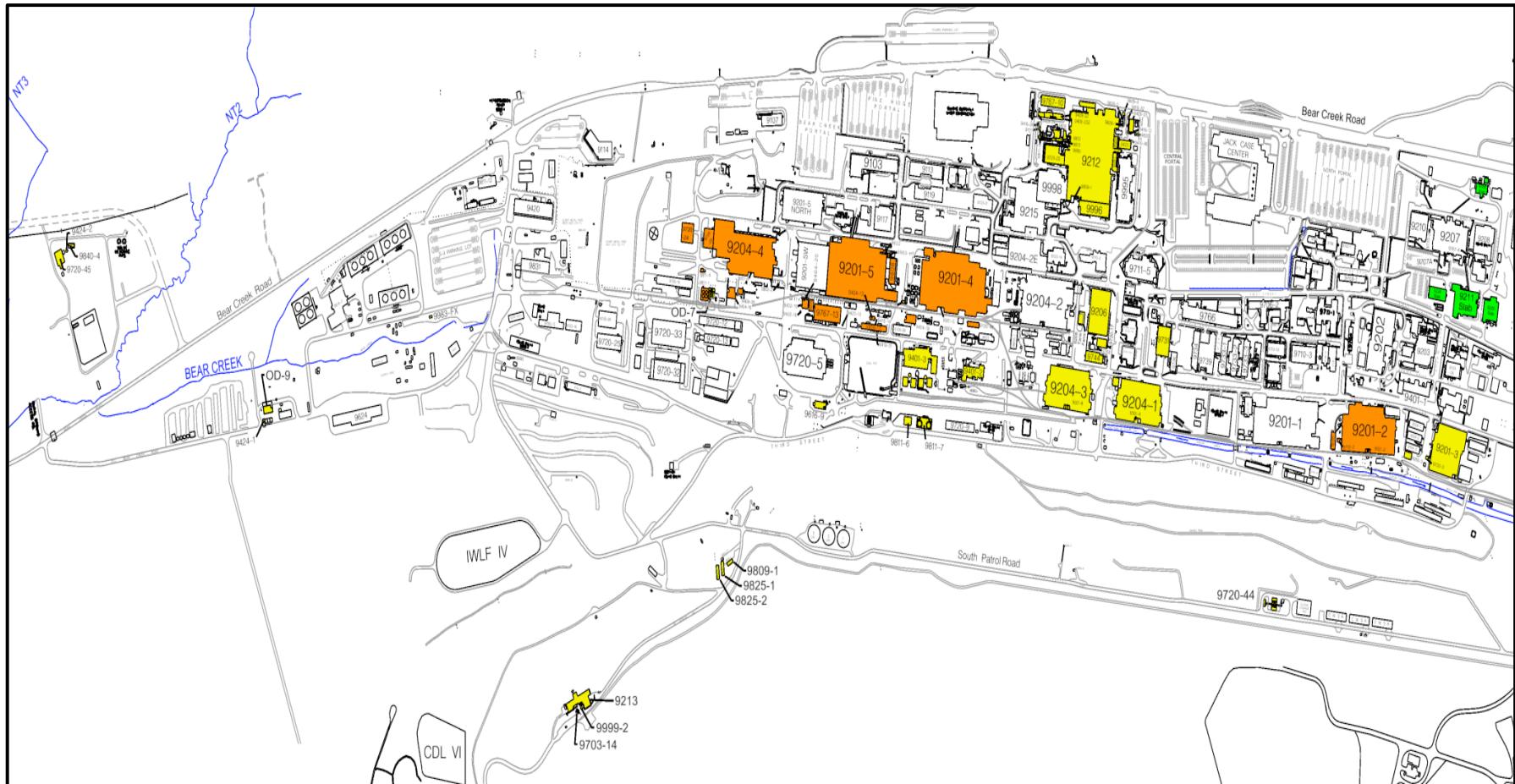
K-27 building

Y-12 National Security Complex



- Approximately 800 acres
- Nearly 100 excess buildings totaling 3.8 million square feet
- 2 million pounds of mercury lost to the environment primarily during the 1950s – 1960s
- DOE legacy cleanup complete
- High security footprint reduced
- Modernized Y-12 incorporating new facilities

Y-12 National Security Complex



Completed

High Risk Facilities to be Demolished

Balance of Facilities to be Demolished

Near-Term Plan at Y-12 National Security Complex

- Proposed Outfall 200 Mercury Treatment Facility
 - Conceptual design recently completed
 - Proposed design parameters
 - Treat to 200 parts per trillion mercury in effluent, goal specified in the Interim Record Of Decision
 - Capacity 1,500 gallons per minute
 - Allows for further expansion – modular and scalable design
 - Mercury remediation goals
 - Reduce mercury flux leaving site and entering public waters
 - Provide future mercury reduction capabilities for wastewater projected to be generated during large-scale demolition
- Strategic Mercury-related technology development/R&D investments planned for FY 2014 and beyond

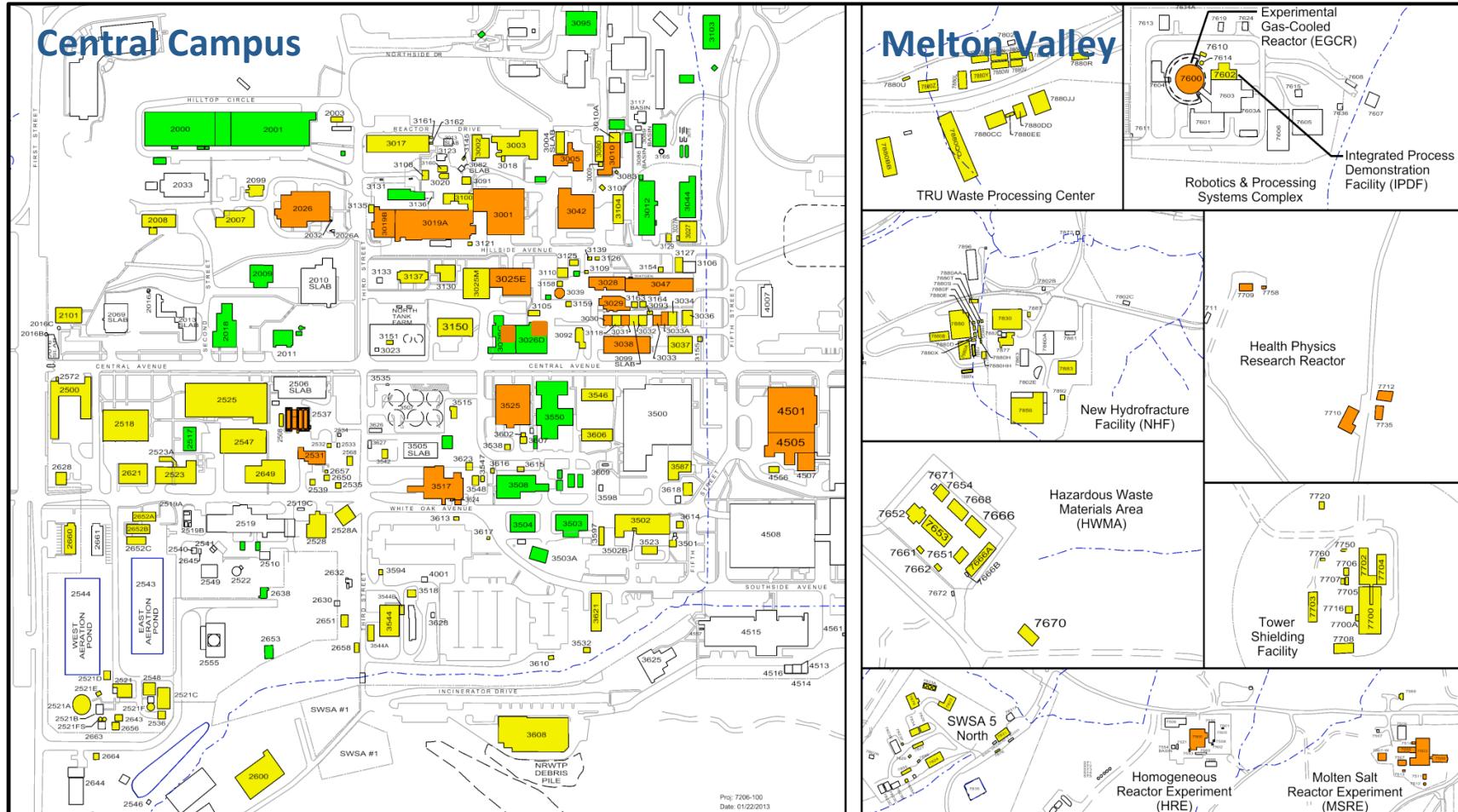


Oak Ridge National Laboratory



- Approximately 4,400 acres
- Over 300 excess buildings totaling 1.5 million square feet
- Predominately radiological contaminants (Transuranics, Strontium, & Cesium)
- DOE legacy cleanup complete

Oak Ridge National Laboratory



Near-Term Plan at Oak Ridge National Laboratory

- TRU Disposition
 - Processing and/or repackaging solid transuranic waste on-site at the Transuranic Waste Processing Center, then shipping it off-site for disposal
 - Future construction to provide facility for processing sludge waste (~500,000 gallons) for off-site disposal



- Uranium-233 Disposition
 - To date, ~10% of containers have been removed from site (sent for reuse)
 - Another ~40% will be sent off-site for reuse or disposal by 2016
 - Remaining 50% of inventory to be processed by down-blending

Outlook/Summary

- Key 2013 activities
 - Mercury and Groundwater Strategy Plans
 - Planning for 2 new capital asset construction projects
 - Transuranic Waste Processing Center Sludge Processing Facility Build-Out at ORNL
 - Outfall 200 Mercury Treatment Facility at Y-12

*The Oak Ridge Reservation will be
Remediated, Modernized and Reindustrialized*



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Leo Sain

*President and Project Manager
Oak Ridge, TN*

May 16, 2013



- Remediate ETTP
 - K-25 demolition & waste disposal (historic mile-long uranium enrichment facility built in 1943)
 - K-27 demolition & waste disposal (uranium enrichment facility, similar to the K-25 Building but much smaller)
 - K-31 demolition & waste disposal (uranium process facility)
 - Demolition and preparation for demolition of other facilities (Centrifuge, Toxic Substance Control Act (TSCA) Incinerator, etc.)
 - Remediation of soil, scrap yards, and burial areas
- Operate waste treatment facilities and landfills on the DOE Oak Ridge Reservation
- Clean up other specified areas on the DOE Oak Ridge Reservation
- Provide ongoing surveillance and maintenance of EM facilities at ETTP, Oak Ridge National Laboratory (ORNL), and Y-12 National Security Complex



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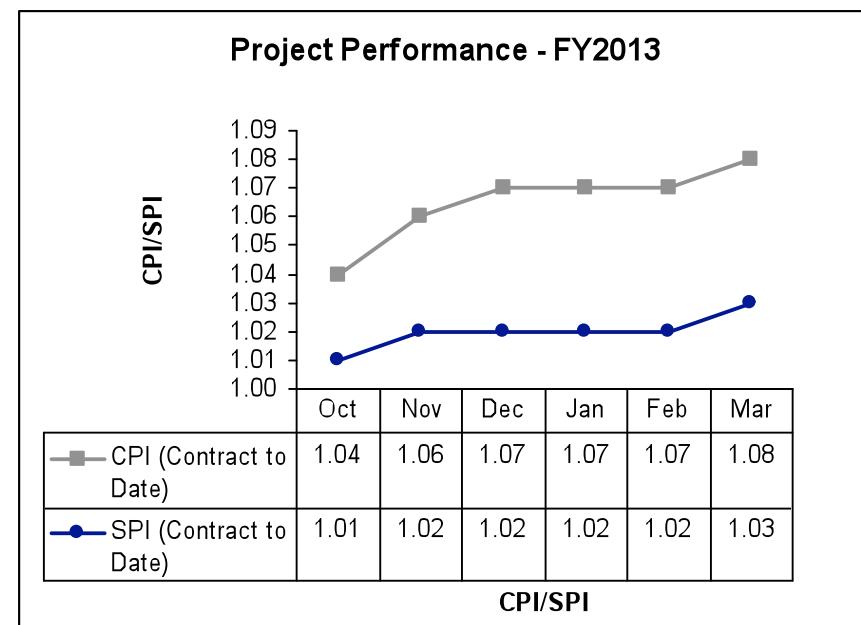
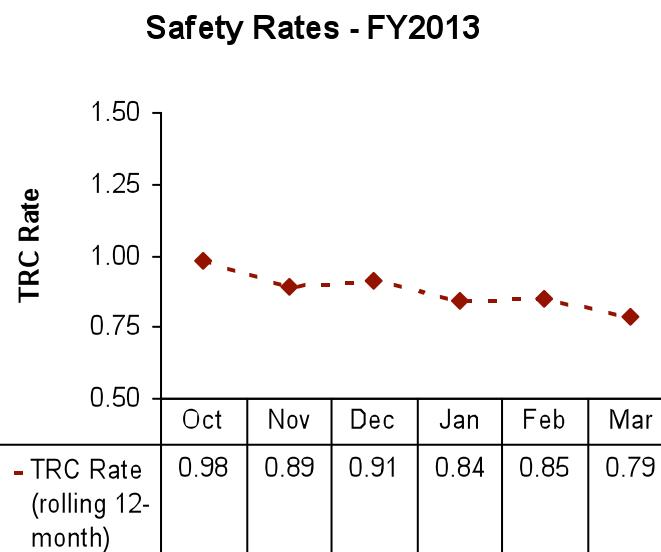
UCOR Scope of Work (continued)

Nuclear cleanup work is complex and hazardous





- Over 4 million hours worked without a Lost Work Case Away (LWCA)
- Maintaining the balance through a safety conscious work environment and a robust nuclear safety culture





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ETTP Site Before Cleanup





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ETTP Site Today



The Oak Ridge EM Cleanup Mission is essential to the safety and health of our communities



Cleanup Project Highlights

- Completed demolition of the K-25 Building East Wing non-Technetium 99 area
- Completed demolition of the K-25 Building North End
- ~ 2 million square feet of Category 2 Nuclear Facility demolished



K-25 Building (December 2011)



K-25 Building (July 2012)



K-25 Building (April 2013)



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Cleanup Project Highlights (continued)



Highest hazard components at K-25 & K-27 removed (Sodium Fluoride traps)



Mercury contaminated tanks removed at Y-12



TSCA Incinerator – demo ready



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Cleanup Project Highlights (continued)



Tank W-1A - largest potential source of groundwater contamination at ORNL removed



Surge tanks used in uranium processing dispositioned at Environmental Management Waste Management Facility (EMWMF)



K-1070-B Burial Grounds remediated



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Cleanup Project Highlights (continued)



K-25 Converters - final disposition at EMWMF



K-25 Surge Tanks - final disposition at EMWMF



1.4 million miles of safe nuclear waste transport – over 110,000 cubic yards of K-25 demolition debris dispositioned at EMWMF



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ETTP Site Today and the Future

Facilities demolished:
378

Waste dispositioned:
1.77 million yd³

DUF₆ cylinders removed:
7,000

Area cleared for unrestricted use:
1,400 acres

26% remaining to complete ETTP Cleanup





- Performing work safely, ahead of schedule, and under budget
- Minimizing environmental release potential and worker hazards
 - Demolishing deteriorated facilities (K-25, K-27, K-31 & others)
- Mitigating potential soil, surface water, and groundwater contamination
- Transferring ETTP to private sector for reindustrialization

