



U.S. DEPARTMENT OF
ENERGY

Savannah River Site

**Savannah River Site Citizens Advisory Board
Facility Disposition and Site Remediation Committee**

Heavy Water Components Test Reactor (HWCTR) Update

Presentation By

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Agenda

- **Heavy Water Components Test Reactor (HWCTR)
Background**
- **Completion Objectives**
- **Scope**
- **Accomplishments**
- **Photo Gallery**
- **Conclusion**





List of Acronyms

- **ARRA** **American Recovery and Reinvestment Act**
- **D&D** **Deactivation and Decommissioning**
- **EE/CA** **Engineering Evaluation/Cost Analysis**
- **HWCTR** **Heavy Water Components Test Reactor**
- **KPP** **Key Performance Parameters**
- **M** **Million**
- **RSER** **Removal Site Evaluation Report**





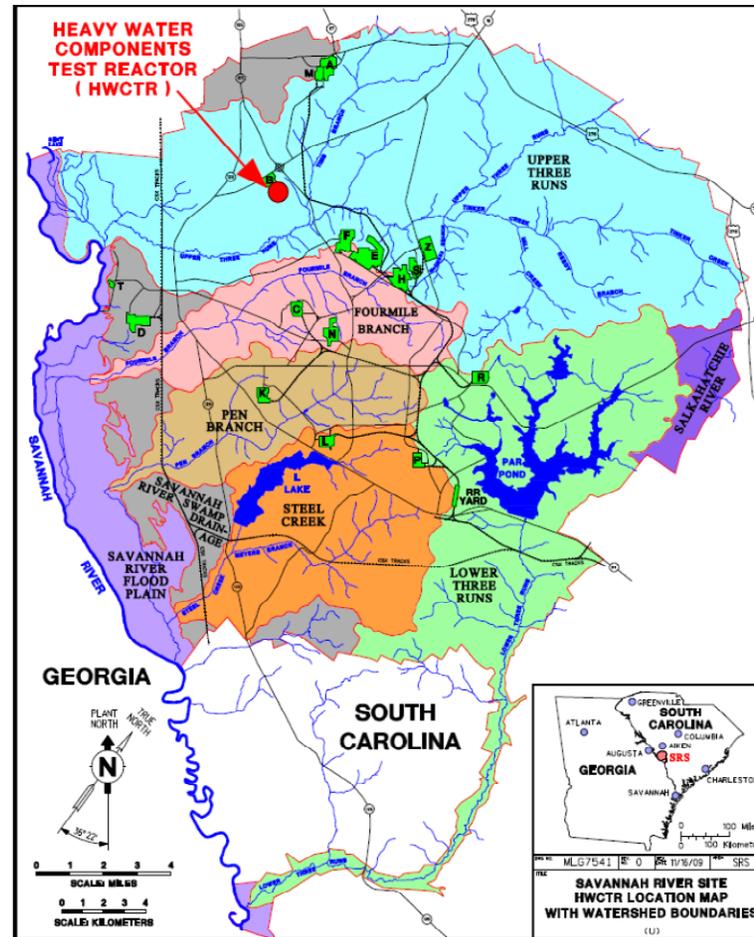
Purpose

To provide a status update on the Heavy Water Components Test Reactor (HWCTR) to the Facilities Disposition and Site Remediation Committee





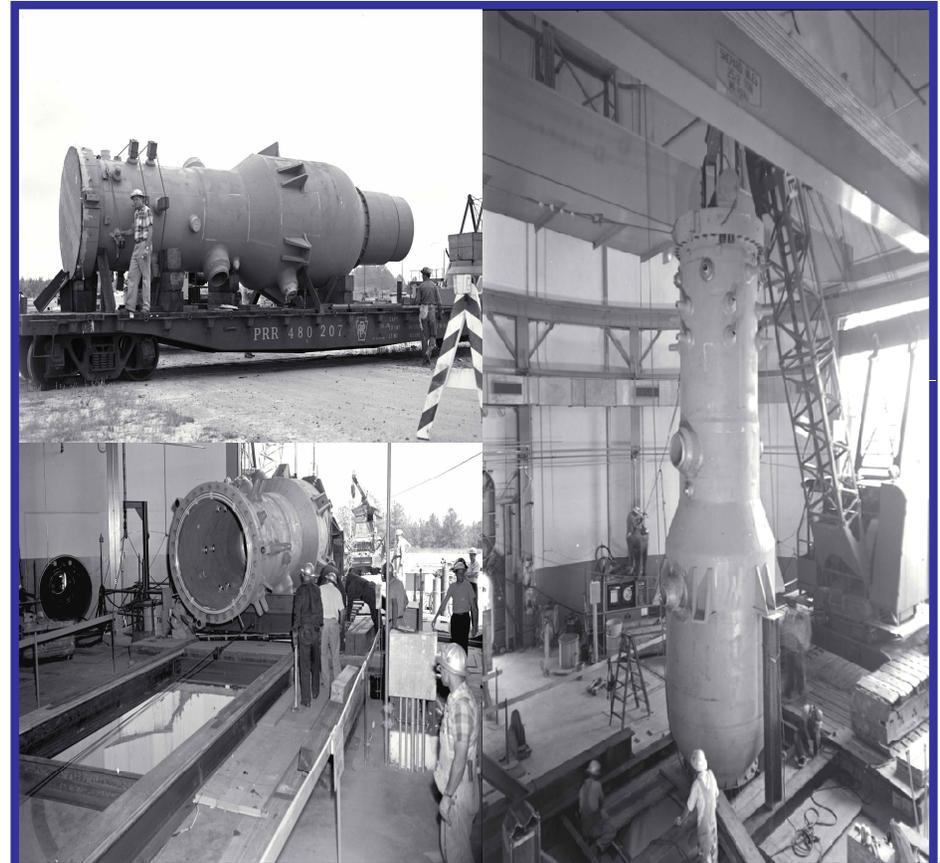
HWCTR Location on the Savannah River Site





Background

HWCTR was built to test the concept of heavy water moderated reactors for the civilian power industry (circ 1960)





Background *continued*

- **1965**
 - Retired in place with controlled access
- **1975-1976**
 - Decommissioning plans considered
 - Postponed due to budget constraints
- **1994-1997**
 - Second attempt to D&D
 - Budget constraints again
 - Auxiliary buildings removed
 - Placed in extended surveillance mode





Background - Panorama view showing inside of HWCTR at Ground Level





Completion Objectives

- ❖ **Achieve Human Health and Environmental Protectiveness by removing approximately 99% contamination**
 - Meets standards for industrial worker

- ❖ **Final Decommissioned End State**
 - In-Situ Decommissioning with Reactor Vessel and 2 Steam Generators removed and disposed E-Area trenches on site

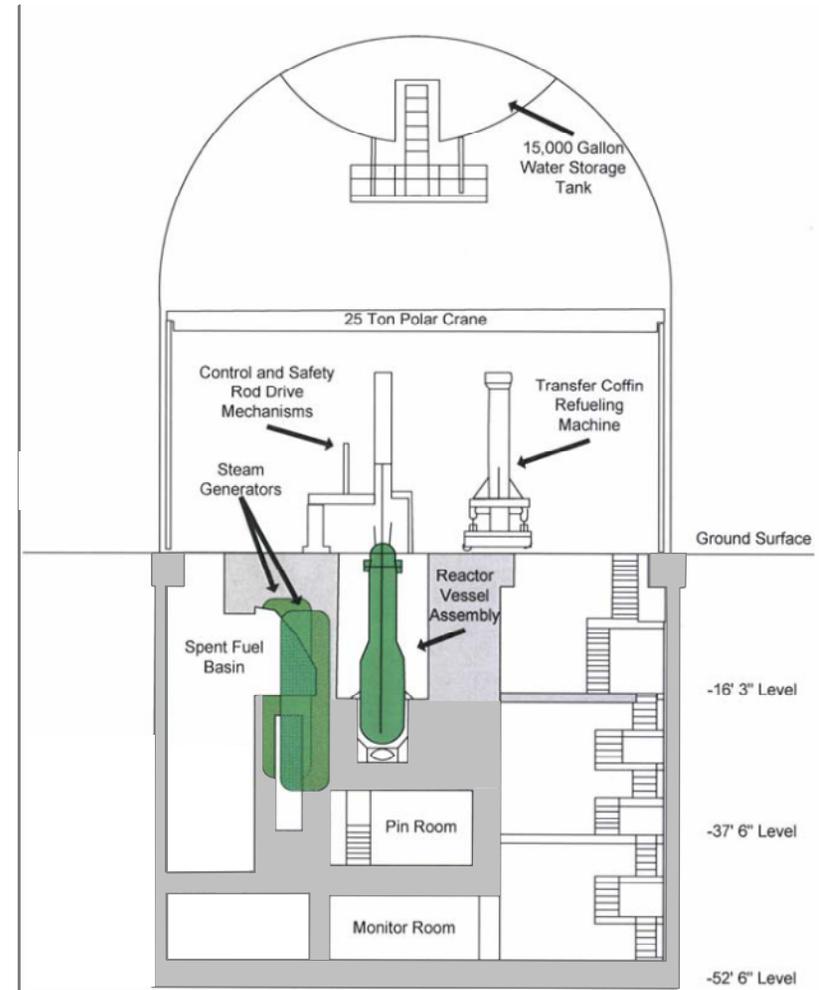




Scope

❖ Major Work Activities

- Drain all liquids and isolate all hazardous energy
- Remove and dispose the metal dome
- Remove and dispose the reactor vessel
- Remove and dispose the two steam generators
- Grout the spent fuel pool
- Grout the below-grade areas of the building, including remaining piping and equipment
- Install a concrete cover over the remaining grouted structure





Scope - Conceptual Site Model of In-Situ Decommissioning with Reactor Vessel and Steam Generators Removal

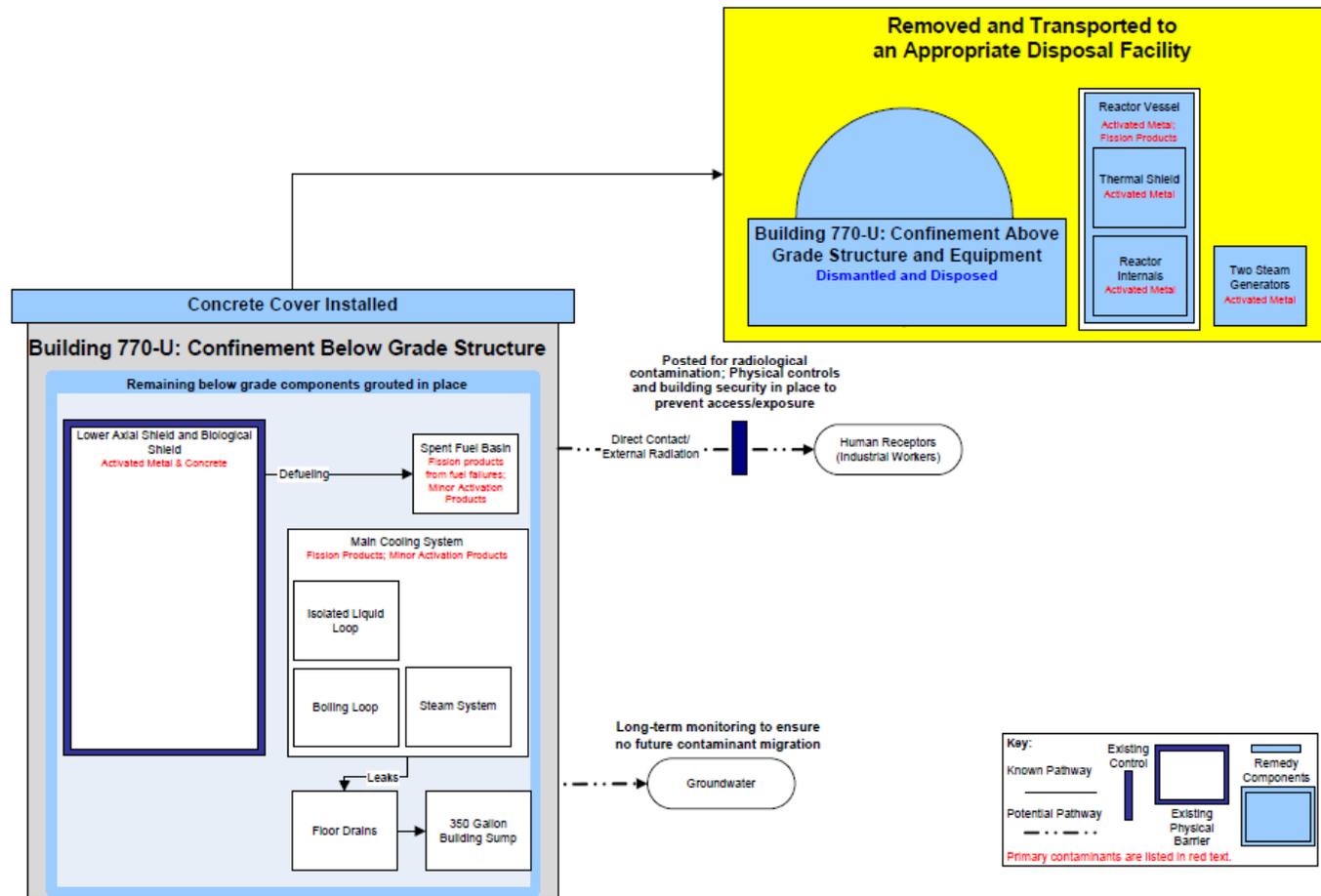




Photo Gallery





Block Removal



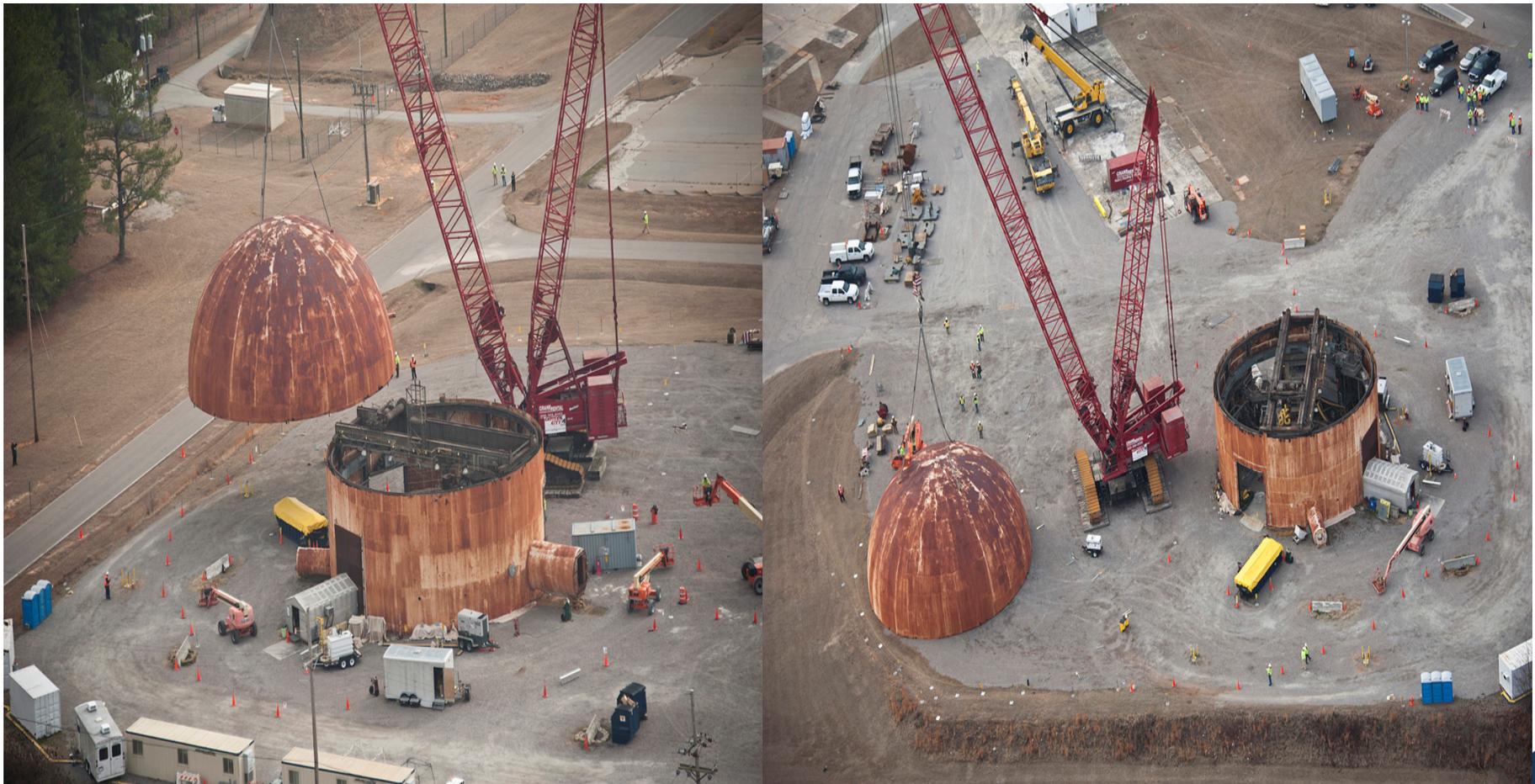


Crane Assembly





Dome Removal





Steam Generator Removal





Reactor Vessel Removal





Relocation of Transfer Coffin





Dome and Wall Shearing





Completed HWCTR Concrete Cap





Conclusion

- ❖ **Work has been performed safely**
- ❖ **Projects are mechanically completed and completed ahead of schedule in July 2011 and below cost**





Cost Backup (Total Project Cost)

	Original TPC (\$ Million)	Actual TPC (\$ Million)
HWCTR Decommissioning	10.7	8.77

