



Savannah River Site

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

R-Area Operable Unit (RAOU)

Presentation By

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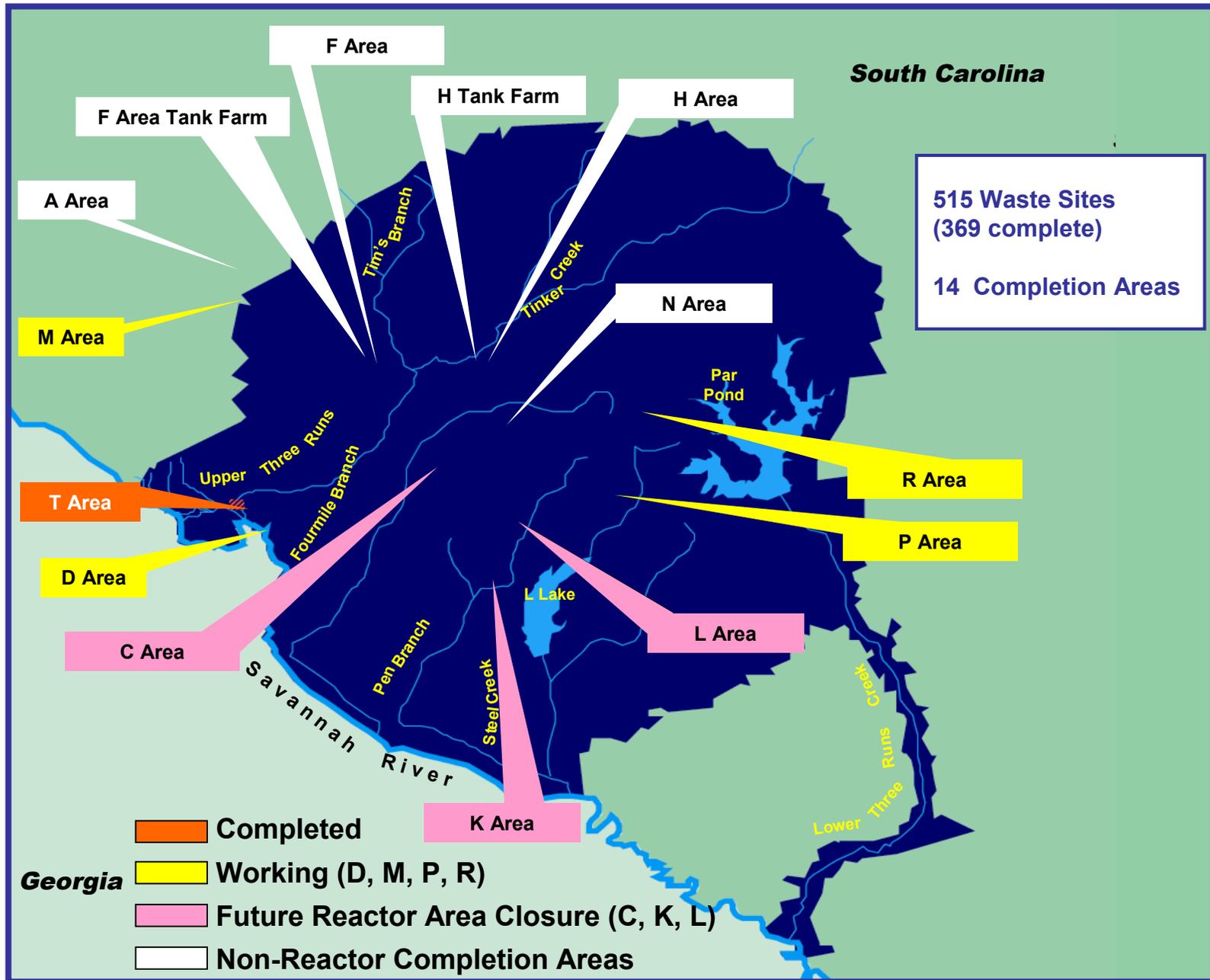
Agenda

- **R-Area Operable Unit (RAOU) Background**
- **Current Status**
- **Scope**
- **Strategy**
- **Accomplishments**
- **Conclusion**

List of Acronyms

- **D&E** **Discharge and Exit**
- **D&D** **Decontamination and Decommissioning**
- **DOE** **Department of Energy**
- **RAOU** **R-Area Operable Unit**
- **RFP** **Request for Proposal**
- **TPC** **Total Project Cost**

Area Completion Approach



RAOU Background

- **R Area was the first SRS reactor constructed and operated from 1953 and shutdown in 1964.**
- **Operable unit comprises approximately 120 acres and includes 16 waste units and facilities to be dispositioned.**
- **Facilities in the area included the reactor building, maintenance buildings, administrative building, cooling water basin, pump house, and a coal fired power house.**
- **R Reactor was the operational centerpiece of the area and its purpose was to produce special nuclear materials for national defense.**
- **The RAOU is the second reactor area to be addressed under the area completion process.**

R-Area Operable Unit

4/08/09

3Q

4Q

1Q

2Q

3Q

4Q

1Q

2Q

3Q

4Q

Awarded gantry crane
removal contract.
Baseline Approved

Complete Cask
Car Railroad
Tracks closure,
Begin grouting
of disassembly
basin

Complete gantry
crane removal

Complete grouting
Reactor Vessel

Complete grouting
R Reactor Building

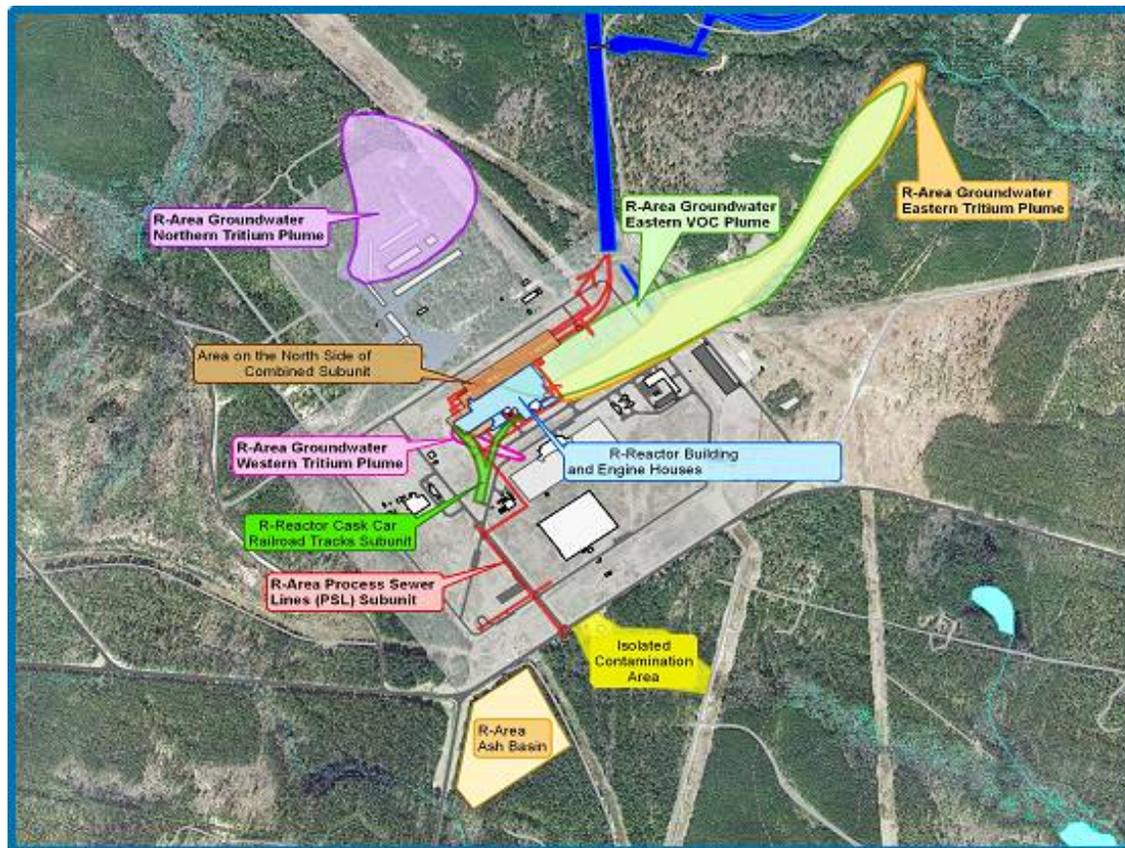
Complete closure of
all waste units

FY09

FY10

FY11

Project Milestone



R-Area Operable Unit Scope

- **This project is being performed under the Recovery Act and has a TPC of \$229M.**
- **This project includes:**
 - **The deactivation and decommissioning of the R Reactor Building**
 - **Place approximately 150,000 cubic yards of grout below grade**
 - **Grout Reactor Vessel and place concrete cap over reactor vessel**
 - **Remove Stack and Gantry Crane**
 - **Grout Disassembly Basin, remove / dispose above-grade structure and install concrete cap**
 - **Modify roof drainage (6) and seal the reactor building**
 - **Complete disposition of 16 Waste Units and facilities within 120-acre footprint**

R-Area Operable Unit Scope (continued)

- **This project includes the remediation of:**
 - **R-Area Cask Car Railroad Tracks**
 - **R-Ash Basin**
 - **R-Process Sewer Lines**
 - **R-Groundwater Operable Unit**
 - **Area north of R Reactor**

R Reactor Current Status

- DOE proposed and the regulators and public agreed that In-Situ Decommissioning is an acceptable final end-state for the permanent closure of the R-Reactor Building
- Project is now executed under the Recovery Act and has been accelerated
- Reactor deactivation is underway



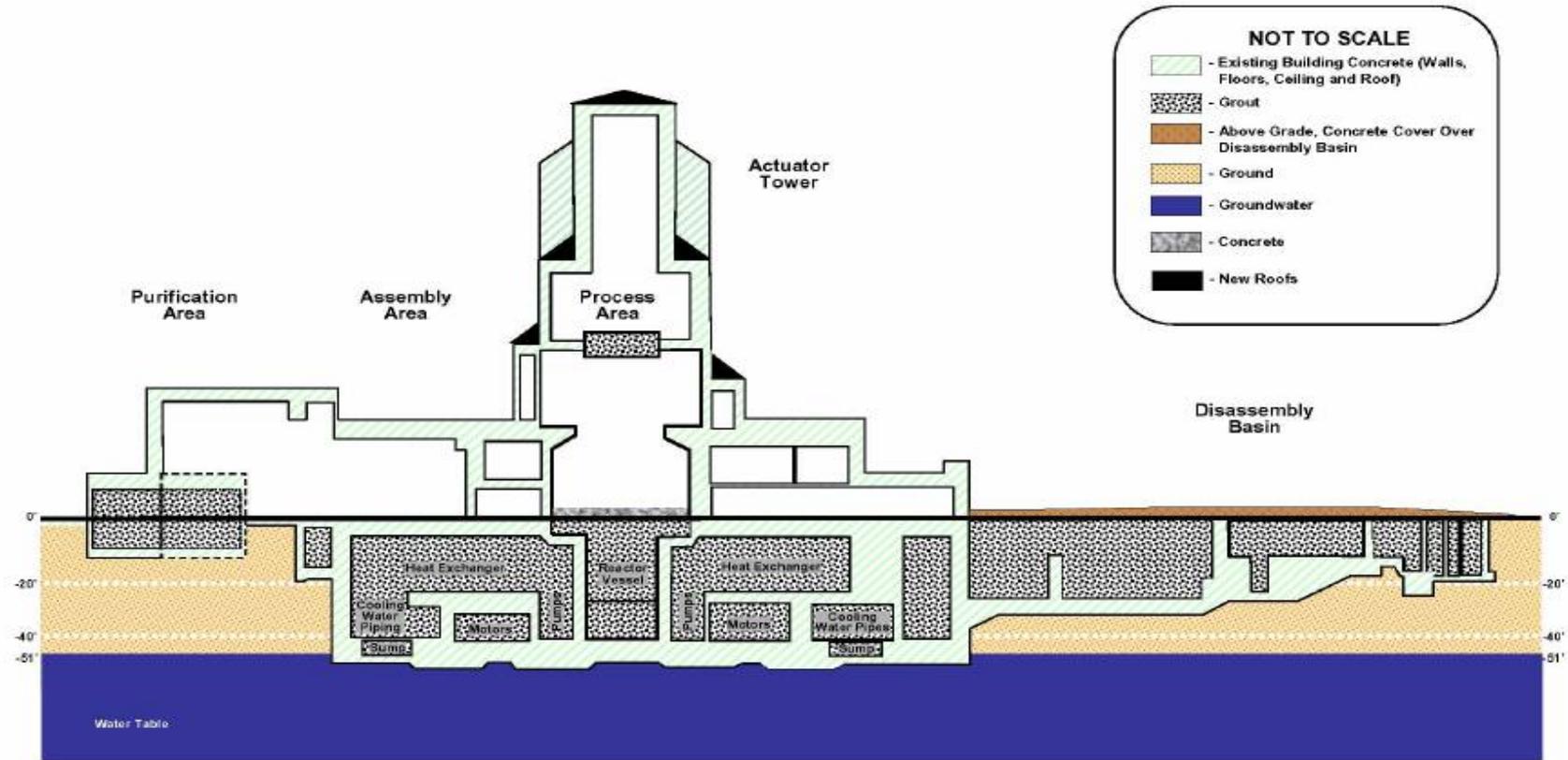
R-Reactor Facility – Remediation Strategy



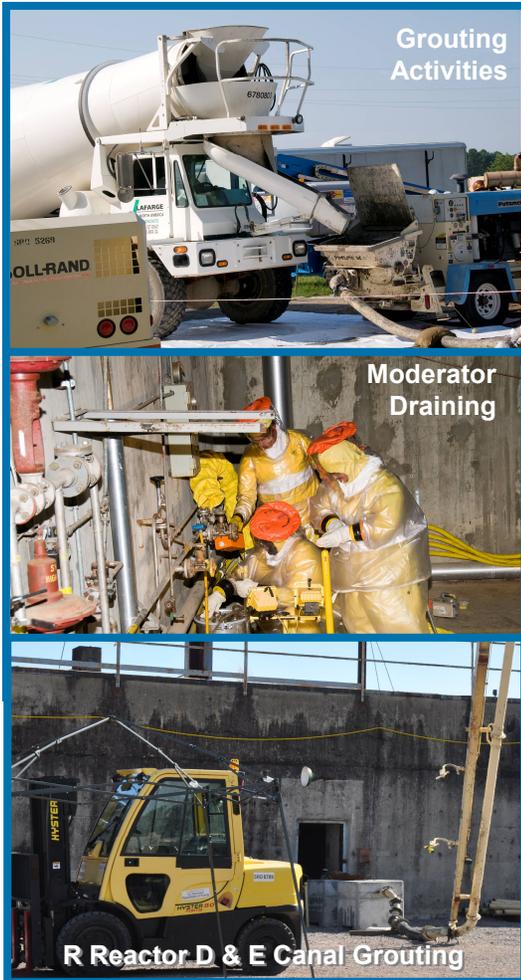
R-Reactor Facility Overview

- Remediation approach is to deactivate facility; grout the below-ground portions of the reactor buildings, remove above grade portion of disassembly basin and cap basin; remove ventilation stack; remove gantry crane; modify roofs and seal building

Reactor In Situ End State Cross Section

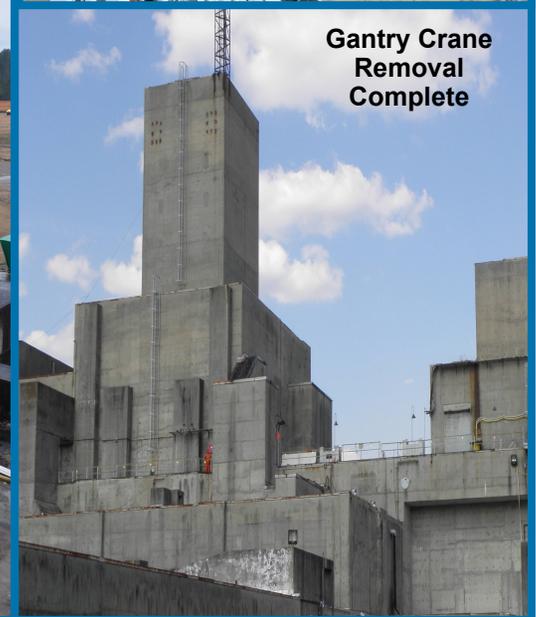
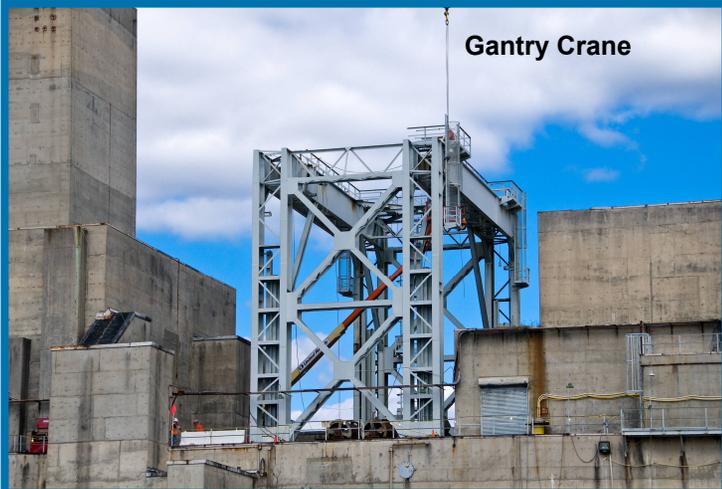


R-Area Operable Unit Accomplishments



- **R Reactor Facility:**
 - Work is being performed safely
 - Ongoing deactivation
 - Installed temporary power and lighting
 - Placed more than 3500 cubic yards of grout in the Disassembly Basin (Seismic Slot and D&E Canal)
 - Awarded contract for Gantry Crane removal and completed demolition of gantry crane
 - Received bids for stack removal and below-grade grouting

R-Area Gantry Crane Mobilization / Removal





R-Area Operable Unit Accomplishments

(continued)

- **Achieved mechanical completion of the R-Cask Car Railroad Tracks Soil Contamination Removal**
 - **Excavated and disposed onsite 620 cubic yards of radiologically contaminated soil and debris**
- **Completed vegetation removal, hydroseeding, and soil stockpiling for 17-acre Ash Basin cover**
- **Initiated monitor well installation**

R-Area Cask Car RR Tracks Remedial Action



R-Ash Basin

- Completed stockpiling more than 62,000 cubic yards of soil from an onsite borrow pit in support of Ash Basin closure
- Completed vegetation removal and hydroseeding, for the 17-acre Ash Basin cover





Conclusion

- **Work being performed safely**
- **Stakeholder involvement and support resulting in cost effective clean up**
- **Significant field activities underway leading to second DOE reactor to be decommissioned**