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

R-Area Operable Unit (RAOU)

Presentation By
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Savannah River Operations Office
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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

515 Waste Sites (369 complete)
14 Completion Areas

- Completed
- Working (D, M, P, R)
- Future Reactor Area Closure (C, K, L)
- Non-Reactor Completion Areas
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

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<th>Date</th>
<th>FY09</th>
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<td>1Q</td>
<td>Awarded gantry crane removal contract. Baseline Approved</td>
<td>Complete Cask Car Railroad Tracks closure, Begin grouting of disassembly basin</td>
<td>Complete grouting Reactor Vessel</td>
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<td>3Q</td>
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<td>Complete gantry crane removal</td>
<td>Complete grouting R Reactor Building</td>
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<td>Complete closure of all waste units</td>
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### Project Milestone
- **4/08/09**: Awarded gantry crane removal contract. Baseline Approved
- **3Q**: Complete Cask Car Railroad Tracks closure, Begin grouting of disassembly basin
- **4Q**: Complete gantry crane removal, Complete grouting Reactor Vessel
- **FY10**: Complete grouting R Reactor Building
- **FY11**: Complete closure of all waste units
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-Reactors Facility—Remediation Strategy

R-Reactors 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

Gantry Crane

GMK 7550 Removal Crane Assembly

Gantry Crane Removal Complete

Gantry Crane "Spider" Removal

Gantry Crane Skim 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

Cask Car Railroad Tracks Remediation

R Area Cask Car Railroad Tracks Waste Unit Completion

Cask Car Railroad Tracks Remediation
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 hydroteeading, 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