Savannah River Citizens Advisory Board
Facility Disposition and Site Remediation Committee

C, K, L, and R Reactor Complexes
Early Action Proposed Plan

Presentation By
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Agenda

• Purpose
• EAPP Purpose
• Review Reactor Complex History
• EAPP Content
• Preferred Alternative
• Path Forward
Acronyms

- CAB  Citizens Advisory Board
- CERCLA  Comprehensive Environmental Response, Compensation, and Liability Act
- DOE  Department of Energy
- D&D  Deactivation and Decommissioning
- EAPP  Early Action Proposed Plan
- EPA  Environmental Protection Agency - Region IV
- FD&SR  Facility Disposition and Site Remediation
- ROD  Record of Decision
- SCDHEC  South Carolina Department of Health and Environmental Control
Purpose

• Inform the Facility Disposition and Site Remediation (FD&SR) committee of the purpose, content and preferred alternative of the C, K, L, and R Reactor Complexes Early Action Proposed Plan (EAPP).

• Announce the EAPP is out for public review as of June 18, 2009.

• Department of Energy (DOE) plans to conduct a public workshop in conjunction with the July 2009 Citizens Advisory Board Meeting.

• Solicit input regarding the EAPP from the FD&SR committee.
Purpose of the EAPP

• Describes remedial alternatives for C, K, L, and R Reactor Complexes in order to achieve Area Completion.

• Provides evaluation of remedial alternatives.
  – Utilizes nine CERCLA criteria

• Proposes the preferred alternative for the C, K, L, and R Reactor Complexes.

• Provides for public involvement in the decision making process.
Reactor Complex History Review

- Reactors operated from the early 1950s through late 1980s.
- Reactors purpose was to produce tritium, plutonium, and other special nuclear materials for national defense.
- Chemical and radioactive waste were generated as a result of operations.
Reactor
Generic Layout of Reactor
Reactor Operations Timeline

- C-Reactor: 1955-1986
- L-Reactor: 1954-1968
- P-Reactor: 1954-1988
- R-Reactor: 1953-1964

Timeline:
- 1950
- 1960
- 1970
- 1980
- 1990
- 2000
EAPP Streamlined Decision Making

- Due to similar design, construction and operational histories, the EPA, SCDHEC and DOE (Core Team) agreed that each of the Reactor Complexes are analogous.
- Site conditions at P Reactor Complex are expected to resemble the site conditions of the remaining Reactor Complexes.
- The same information evaluated to reach the end state decision for P Reactor Complex can be applied to the remaining Reactor Complexes.
- This strategy will streamline the end state decision-making process and reduce or eliminate redundant data collection and evaluation.
EAPP Content

• Reactor Complexes Background
  – Similarities between Reactor Complexes

• Reactor subunits (refer to slide 9)
  – Reactor Vessel
  – Disassembly Basin
  – Building and attached structures

• Characterization data gained from P and R Reactor
  – This information provides a range of expected levels of risk at the remaining Complexes

• Summary of risks

• Remedial Action Objectives
EAPP Content

- Summary of contaminant fate and transport analysis
- Remedial alternatives
- Evaluation of alternatives
- Preferred alternative
- Post ROD schedule
  - R Reactor Complex addressed in FY09
  - C, K, and L addressed in out years
Remedial Alternatives

- **No Action**
  - Required by CERCLA for comparative purposes
  - Not protective of human health and the environment
- **In Situ Decommissioning with Land Use Controls**
  - Stabilizes and isolates remaining contamination
  - Mitigates contaminant migration to groundwater
  - Prevents exposure to the industrial worker
  - Prevents animal intrusion
  - Previously selected alternative for P Reactor Complex
- **Complete Removal**
  - Highly effective but very costly
  - Higher exposure to the worker during D&D activities
  - Moves the problem somewhere else
Comparison of Alternatives

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Overall Protection of Human Health and Environment</th>
<th>Compliance with ARARs</th>
<th>Long-Term Effectiveness</th>
<th>Reduction of Toxicity, Mobility, or Volume</th>
<th>Short-Term Effectiveness</th>
<th>Implement-ability</th>
<th>Cost</th>
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<tbody>
<tr>
<td>No Action</td>
<td>No</td>
<td>No</td>
<td>Poor</td>
<td>Poor</td>
<td>None</td>
<td>N/A</td>
<td>$0</td>
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<tr>
<td>In Situ Decommissioning with LUCs</td>
<td>Yes</td>
<td>Yes</td>
<td>Good</td>
<td>Medium</td>
<td>High</td>
<td>Easy</td>
<td>$52,540,985 - $236,260,000</td>
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<tr>
<td>Complete Removal</td>
<td>Yes</td>
<td>Yes</td>
<td>Good</td>
<td>High</td>
<td>Low</td>
<td>Difficult</td>
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Preferred Alternative: In situ Decommissioning
Path Forward

• Plan C, K, L, and R Reactor Complex
  – Public Workshop in conjunction with July 2009 CAB meeting

• Develop and issue Early Action ROD in September 2009
  – Will support R Area Operable Unit Completion schedule

• C, K, and L Area specific Proposed Plans and RODs will follow
• Questions, Comments, Input?