U.S. DEPARTMENT OF ENERGY | Savannah River Site

Savannah River Citizens Advisory Board
Facility Disposition and Site Remediation Committee

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

Presentation By

Ray Hannah
Project Manager
Department of Energy
Savannah River Operations Office

Chris Bergren
Project Manager, Area Completion Project
Savannah River Nuclear Solutions, LLC

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AMERICAN RECOVERY AND REINVESTMENT ACT

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

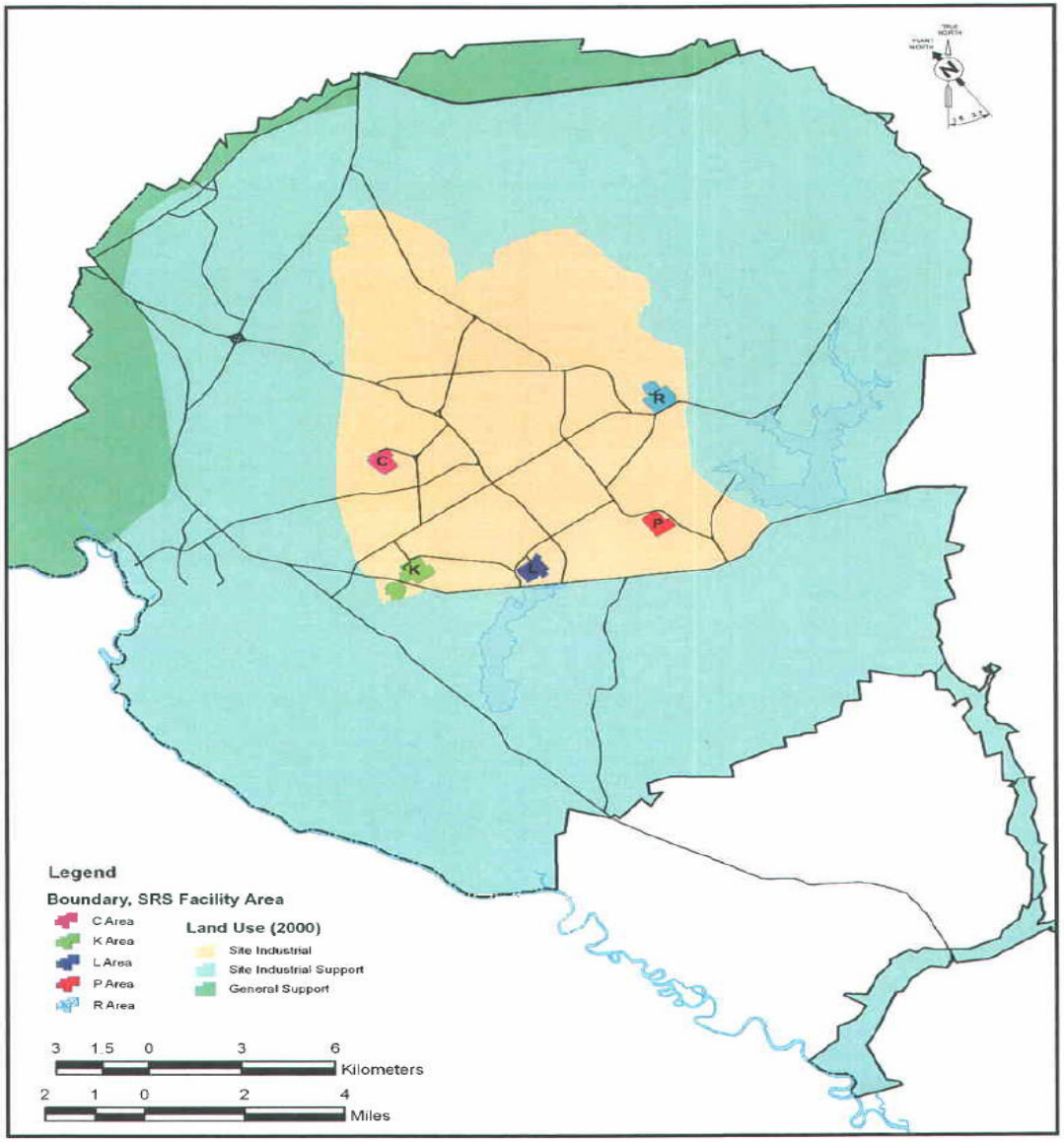
- Inform the Facility Disposition and Site Remediation (FD&SR) committee of the purpose, content and preferred alternative of the C, K, L, and R Reactor Complexes Early Action Proposed Plan (EAPP).
- Announce the EAPP is out for public review as of June 18, 2009.
- Department of Energy (DOE) plans to 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.

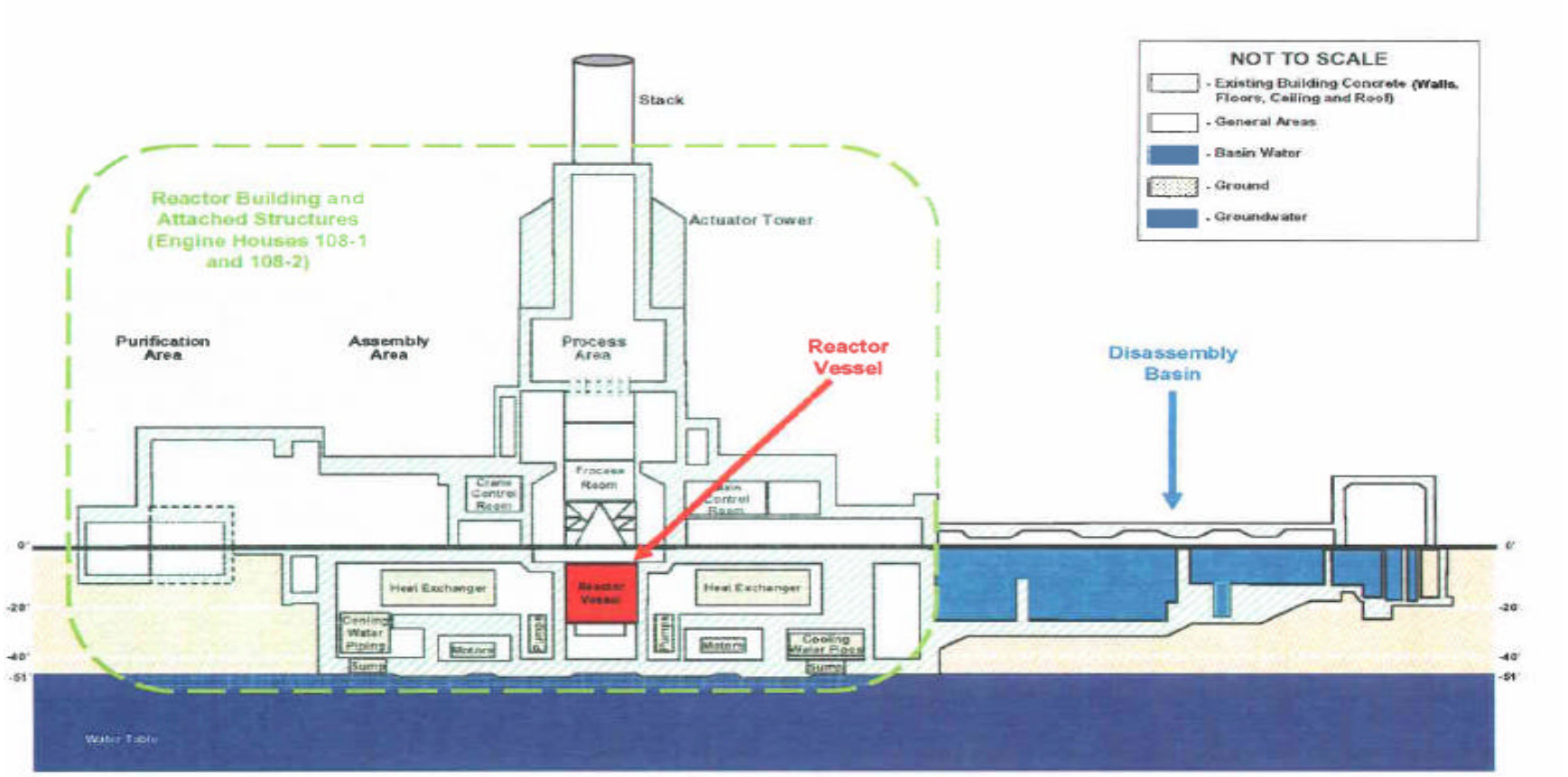
Reactor Complex History Review

- 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.

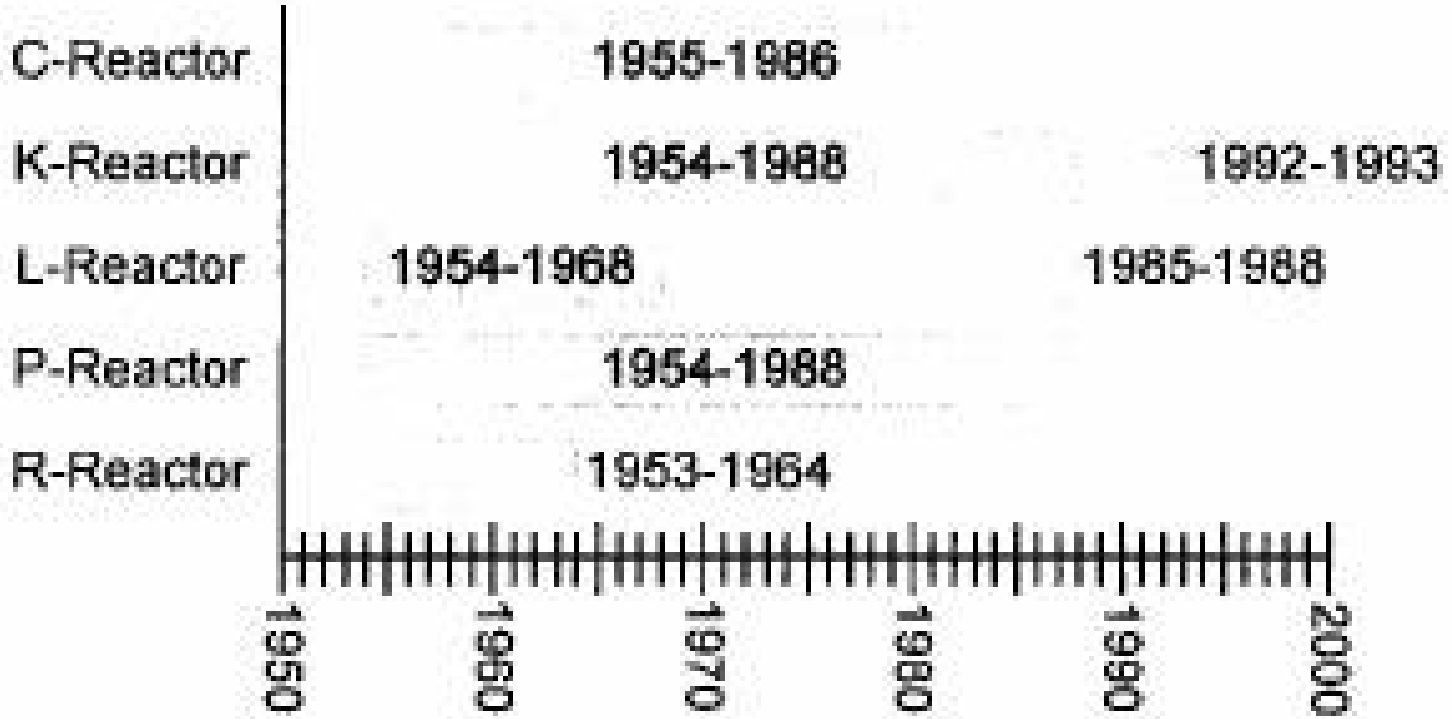

C
K
L
P
R
Legend
Boundary, SRS Facility Area
C Area
K Area
L Area
P Area
R Area
Land Use (2000)
Site Industrial
Site Industrial Support
General Support
3 1.5 0 3 6
Kilometers
2 1 0 2 4
Miles

Reactor

Generic Layout of Reactor



Reactor Operations Timeline



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

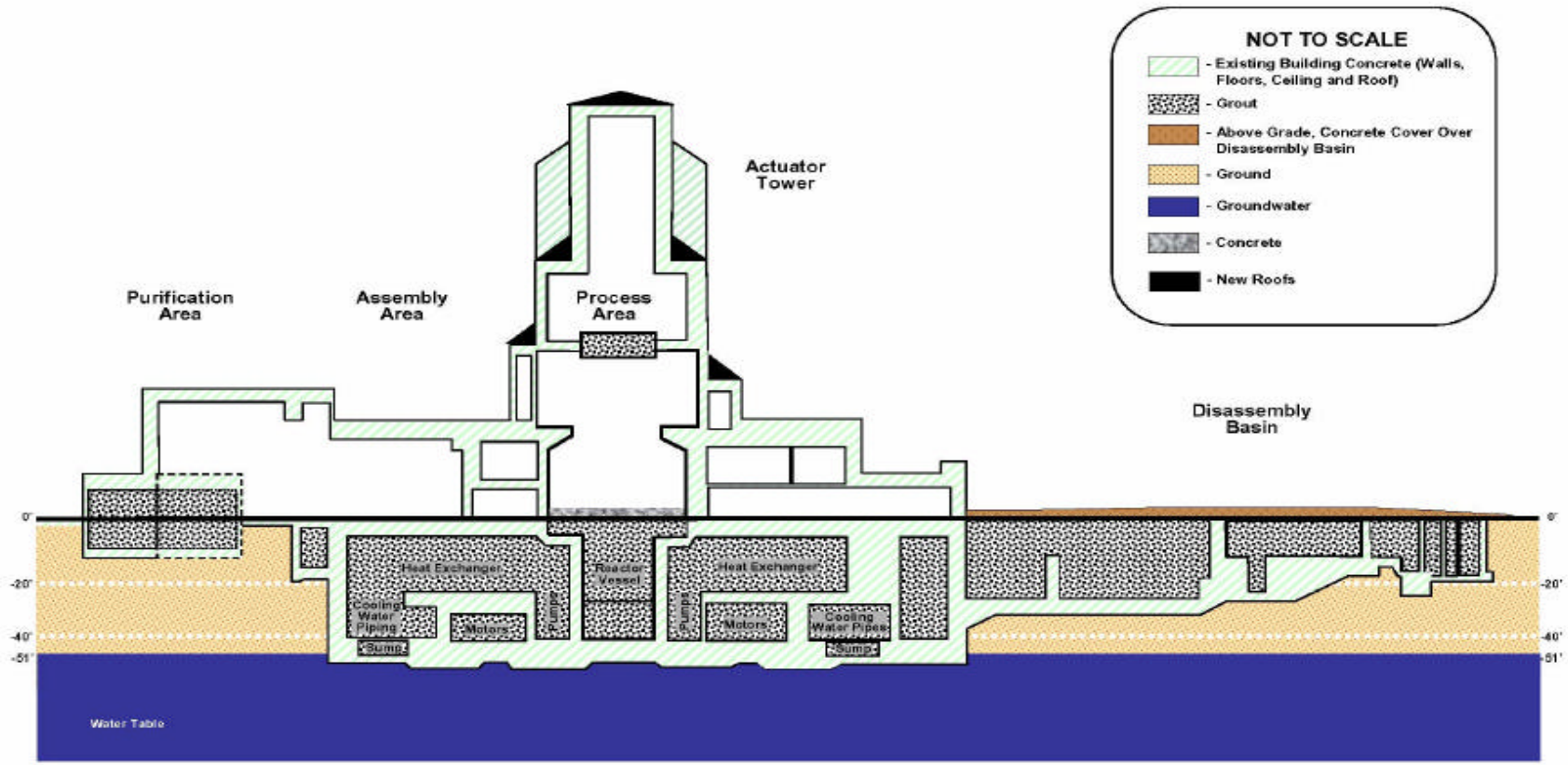
Remedial Alternatives

- **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

Alternative	Overall Protection of Human Health and Environment	Compliance with ARARs	Long-Term Effectiveness	Reduction of Toxicity, Mobility, or Volume	Short-Term Effectiveness	Implement-ability	Cost
No Action	No	No	Poor	Poor	None	N/A	$0
In Situ Decommissioning with LUCs	Yes	Yes	Good	Medium	High	Easy	$52,540,985 - $236,260,000
Complete Removal	Yes	Yes	Good	High	Low	Difficult	$366,491,010

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?**