

**Recommendation #248**

**P Reactor End State Options**

**Background**

P Reactor, the second reactor completed at the Savannah River Site (SRS), went critical (operational) February 20, 1954 and operated with relatively few interruptions until 1988. Similar to the other SRS reactors, P Reactor produced primarily tritium and plutonium and was initially designed to operate at low temperatures and pressure using heavy water to moderate and cool the reactor. In February 1991, it was placed in cold standby and was to be used to provide spare parts for L Reactor and K Reactor. This potential use was eliminated by the subsequent permanent shutdown of those Reactors and P-Reactor was shut down permanently.

Currently P Reactor is undergoing hazard removal and habitability activities such as utility isolations, mold and asbestos abatement and draining of residual liquids in piping and tanks. The Department of Energy (DOE) – Savannah River Operations Office (SR) has decided that certain facilities, especially the primary nuclear production facilities such as the canyons and reactors, will be decommissioned as Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) remedial actions to ensure even greater regulatory and public participation.

The first major facility scheduled for decommissioning is P Reactor to support P-Area Closure in fiscal year (FY) 2013. In preparation for that project, appropriate end state alternatives that are protective, reasonable, compliant with appropriate regulations, and consistent with the planned future use and end state for its area is being planned. Current “End State Visions” point toward some type of in-situ decommissioning option in which some portion of the facility would remain. To meet the CERCLA remedial actions, this in-situ concept must prevent human and ecological exposure to unacceptable risk and must prevent/reduce migration of radiological and chemical contamination from remaining structures to the groundwater (Ref. 1).

**Comment**

The SRS Citizens Advisory Board (CAB) is highly interested in the ultimate end state of P Reactor. As stated before (Ref. 2), this decision will set the example for other hardened facilities at SRS. As stated in Recommendation #233, for stakeholder input to truly be part of the decision-making process, public involvement needs to be ongoing and stakeholders need to be kept abreast of all alternatives being considered. As a result, the SRS CAB recommended a series of public workshops on the P Reactor End State process and presentations on the performance assessment modeling strategy. In DOE’s response to this recommendation, a commitment was made to provide both of these early public involvement opportunities (Ref. 3). However, in its most recent update, a definitive schedule and agenda topics for the workshops have yet to be provided to the SRS CAB.

## **Recommendation**

To ensure early public involvement concerning the P Reactor End State process, the SRS CAB offers the following recommendations:

1. DOE-SR host, with participation from the South Carolina Department of Health and Environmental Control and the Environmental Protection Agency several well-publicized public workshops on the P Reactor End State process. The first workshop should be conducted between September and October 2007 and discuss the topic of the P Reactor performance assessment modeling. Additional workshops should occur every two to three months and discuss topics such as End State Options under Consideration, the In-Situ Decommissioning Concept, the Cost/Benefit Evaluation, and funding n needs.
2. DOE-SR provides a definitive schedule and agenda topics for each workshop discussed above by August 15, 2007.

## **References**

1. P Reactor End State Options, presentation to the FD&SR Committee by Ray Hannah, DOE-SR, June 26, 2007.
2. Citizens Advisory Board Recommendation No. 233 (adopted May 23, 2006), "P-Area Operable Units".
3. Letter from Jeffrey Allison, Manager DOE-SR, to Karen Patterson, Chairperson SRS CAB, June 28, 2006.

## **Agency Responses**

Department of Energy-SR