SRS Citizen's Advisory Board

Recommendation No. 86

May 25, 1999

Corrective Measures Study/Feasibility Study For The Old Radioactive Waste Burial Ground

Background:

The Corrective Measures Study/Feasibility Study (CMS/FS) is a report that evaluates various alternatives for final remedial action at the Old Radioactive Waste Burial Ground (ORWBG) including 22 Old Solvent Tanks (OSTs) at the Savannah River Site (SRS) (Ref. 1). The preferred alternative will be detailed in a Statement of Basis/Proposed Plan (SB/PP) that follows the CMS/FS. The final remedial action is being pursued under a regulatory framework that integrates the corrective measure process of the Resource Conservation and Recovery Act (RCRA) and the remedial action process of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The ORWBG CMS/FS was issued by the SRS to Region IV of the U. S. Environmental Protection Agency (EPA-IV) and South Carolina Department of Health and Environmental Control (SCDHEC) for review and comment. Typically, the CMS/FS does not undergo a public review and comment period and therefore was not made available for public comment. However, the ORWBG Public Focus Group, established for the purpose of providing public input on the remediation, has reviewed the CMS/FS. Through the SRS Citizens Advisory Board (CAB) by which the ORWBG Public Focus Group was chartered, this motion presents comments on the CMS/FS.

The ORWBG is a 76-acre facility in the SRS Burial Ground Complex (BGC) that was used from 1952 to 1974. Solid radioactive waste from SRS and other Department of Energy and Department of Defense sites was placed in open trenches and then covered with at least four feet of soil. In 1997 – 1998 another 2 to 8 feet of low permeability clean soil was placed over most of the ORWBG. The CAB supported this action and stressed that the three agencies select a final remedy that includes the use of this soil cover (Ref. 2). Contaminated groundwater, emanating from the ORWBG and moving southwest towards Four Mile Branch (a creek), is being managed as an Interim Corrective Measure and was the subject of CAB Recommendation 75 (Ref. 3). The site's BGC groundwater remediation program is currently being managed under a post-closure RCRA permit for the Mixed Waste Management Facility. It will soon be covered under the existing SRS RCRA permit as a new module (Module III.E) to the permit (Ref. 4).

As stated previously, 22 underground Old Storage Tanks (OSTs) remain in place and are a part of the ORWBG. The tanks held spent Plutonium-Uranium Extraction solvent from the reprocessing plants and smaller amounts of tritiated pump oil. The OSTs have not been used since 1977. They have been emptied so that only a small residual of liquids and sludge remain. The residue contains radionuclides and other chemical contaminants.

The CMS/FS evaluated a variety of remedial alternatives to satisfy a set of remedial action goals that were determined collectively by SRS, EPA-IV and SCDHEC. A total of 25 remedial alternatives for the ORWBG and its associated mercury and radioactive hot spots were evaluated. Five alternatives were evaluated for the OSTs. Costs estimates for the ORWBG remedial alternatives range from about $2 to $105 million dollars and for the OSTs range from about $3 to $188 million dollars

Recommendation: The CAB ORWBG Public Focus Group has reviewed the CMS/FS report and they believe that it provides a good basis for decision making. The Savannah River Site CAB provides the following recommendations to further improve the CMS/FS report:

1. Before sending a report, perform a detailed, internal technical and editorial review to ensure that the report is internally consistent and lays out the supporting data for concluding statements.

2. Evaluate the benefit of remedial alternatives on the exposure of the public.

3. Add qualitative discussions of concentrations (measured and calculated) of contaminants in the groundwater and possible clean up standards and identify those contaminants that clearly do not present a threat to groundwater quality.

4. Never use the groundwater modeling calculations of concentrations for quantitative comparison to a clean up standard. The modeling is biased to give unrealistically high concentrations. Such calculations should only be used for a qualitative comparison between remedial alternatives.

5. Include a qualitative discussion of uncertainties and how they will affect the modeling results.

6. Add an alternative for the OSTs of filling with a stable material like grout without a low permeability cap.

7. Continue to develop a time-phased strategy for implementing the final remedial action. Natural radioactive decay and monitoring natural attenuation are responsible remedial responses that should be integrated as key components of the final remedy. Natural decay and degradation of contaminants over time if managed safely and properly, can yield the same protective effect yet be much more cost-effective.

8. 8. Provide the CAB ORWBG Public Focus Group the opportunity to review the ORWBG SB/PP at the same time as the regulators.

References:

1. Corrective Measures Study/Feasibility Study for the Old Radioactive Waste Burial Ground, 643-E (U), Westinghouse Savannah River Company Report, WSRC-RP-98-4012, Rev. 0, March 1999.

2. SRS Citizens Advisory Board Recommendation 19, Endorsement of Interim Remedial Action at the Old Radioactive Waste Burial Ground, adopted March 26, 1996.

3. Interim Corrective Measures Southwest Plume from Old Radioactive Waste Burial Ground, CAB Recommendation 75, adopted January 26, 1999.

4. Public Notice of Proposed Permit Decision, South Carolina Department of Health and Environmental Control, Proposed Modification to the Hazardous Waste Permit for the Postclosure Care of the Mixed Waste Management Facility (MWMF) at Savannah River Site (SRS), Facility Number SC1 890 008 989, comments due by May 27, 1999.

Agency Responses

Department of Energy-SR
U.S. Environmental Protection Agency