SRS Citizen's Advisory Board

Recommendation No. 69

November 17, 1998

Selection of HLW Salt Disposition Alternatives

Background:

The High Level Waste (HLW) tanks at SRS contain highly radioactive wastes from the chemical processing facilities at SRS. Most of the radioactive nuclides are contained in a sludge at the bottom of the tank and the remaining, mostly Cesium-137, is in the salt solution in the upper part of the tank. The sludge is removed from the tanks and then is incorporated into glass and poured into stainless steel canisters in the Defense Waste Processing Facility (DWPF). The Cesium-137 was to be chemically removed from the salt solution and added to the sludge prior to vitrification in the DWPF. The decontaminated salt solution (the majority of the volume of material in the HLW tanks) is incorporated into cement and disposed in the SRS Saltstone Facility.

The In Tank Precipitation (ITP) process for removing the Cesium-137 from the salt solution has not worked as expected. The operation of ITP has been suspended and SRS has been identifying and evaluating alternatives over the last few months. At the April 27, 1998, Environmental Remediation and Waste Management Subcommittee meeting of the SRS Citizen Advisory Board, a Focus Group was formed to evaluate the process used by SRS to select alternatives for the ITP process and to examine in more detail the final four alternatives. The Focus Group has prepared a report on their review. In summary, the Focus Group was very pleased with the process used to identify a possible 130 alternatives, to select 18 candidates and then to select the top four alternatives. Each stage of the selection process involved increasing amounts of detailed information. For each of the four alternate technologies, the Focus Group identified concerns/observations which have been discussed with the SRS Team.

Recommendations:

The SRS Citizens Advisory Board has reviewed the Stakeholders Report on the review of the replacement process for the ITP process and agrees with its recommendations and observations. The CAB concludes that the process developed and used by the Salt Disposition Team for evaluating the alternatives was well developed, comprehensive and detailed, and that it was fairly and consistently used.

Utilization of this process should lead to a satisfactory selection for the preferred alternative. The CAB supports a dual track approach and continued work on the primary alternative, Small Tank TPB Precipitation - DWPF Vitrification, and on the secondary alternative, Crystalline Silicotitanate Ion Exchange - DWPF Vitrification, until one clearly becomes the preferred alternative.

The CAB commends the work done by the Focus Group.

Reference

Independent Review of WSRC Process for Selection of HLW Salt Disposition Alternatives, Poe, W. Lee, et. al., October 1998.

Agency Responses

Department of Energy-SR