



Recommendation No. 95

July 27, 1999

Contractor Replacement High Level Waste In-Tank Precipitation Process Replacement

Background

High Level Waste (HLW) consists of sludge at the bottom of a HLW tank and a supernate salt solution above the sludge. There are about 34 million gallons of highly radioactive HLW material in tanks that hold about one million gallons each. Most of the radionuclides are in the sludge but some, primarily Cesium-137, are in the supernate salt solution. Originally the salt solution was to be separated into a high-activity fraction that would be vitrified in the Defense Waste Processing Facility (DWPF) for eventual shipment to a geological repository, and a low-activity portion that would be disposed of as saltstone in the Z-Area vaults. The separation process would be done via In-Tank Precipitation (ITP) whereby strontium, uranium and plutonium were adsorbed to Monosodium Titanate and cesium was precipitated with Sodium Tetraphenylborate.

The ITP commenced operation in 1995 but was shut down in 1996 because of the production of a larger volume of flammable benzene than was expected. A chemistry research program was started to further develop a comprehensive understanding of the problem. In January 1998, SRS decided that the current ITP process could not cost effectively meet safety and production requirements and a systematic search for alternatives was initiated. The Citizens Advisory Board extensively reviewed the alternatives selection process with a public focus group and was very pleased with the process. This was reflected in Citizens Advisory Board Recommendation 69.

A review of the history of ITP was performed by the United States General Accounting Office (GAO) (Ref. 1). The GAO highlighted management problems. Subsequent to that report, the Department of Energy-Headquarters has decided to replace Westinghouse Savannah River Company as the contractor for the ITP process replacement (Ref. 2).

The Savannah River Site Citizens Advisory Board (CAB) is concerned that a change in contractors for this process will increase total costs and stretch out the schedule for emptying the SRS HLW tanks. The Board does not believe that improving project management is a compelling reason to replace the contractor, since the contractor remains at SRS and received fee awards last year. It remains a high priority to the CAB to empty and close the HLW tanks and to ship the vitrified HLW out of South Carolina as soon as possible. We are concerned that because of the complexity of the problem, it will be difficult to find a contractor with the expertise and experience to quickly and successfully develop and implement an alternative to the ITP process.

Recommendation

The SRS Citizens Advisory Board recommends that the Department of Energy provide the following:

1. The reasons DOE used in deciding to replace the current contractor to design, build, and operate the ITP replacement rather than continue to work with the existing contractor and to further improve project management and problem resolution.
2. The expected incremental cost increase and schedule delay associated with the major action to secure another qualified contractor, the turn-over in personnel that will ensue, and followed by the training of the new contractor personnel.
3. The information requested in items 1 and 2 above be provided to the CAB prior to selecting a new contractor.
4. The CAB recommends that DOE consider retaining the current contractor and devote its efforts to the improvement of project management.

5. If DOE proceeds with the search for a new contractor, we recommend that the current contractor, Westinghouse Savannah River Company (WSRC), be allowed to compete along with every other contractor to perform the mission to replace ITP and then to operate the replacement technology.

References

1. Nuclear Waste - Process to Remove Radioactive Waste from Savannah River Tanks Fails to Work, Report to the Ranking Minority Member, Committee on Commerce, House of Representatives, GAO/RCED-99-69, April 1999.
2. The Augusta Chronicle, June 2 & 3, 1999, The State, June 2, 1999 and The Aiken Standard, June 2 & 3, 1999.

Agency Responses