Savannah River Site

CITIZENS ADVISORY BOARD

Recommendation No. 47
November 18, 1997

Environmental Management Integration (EMI) and Some SRS Specific Recommendations

Background

The Department of Energy published a report known as the Complex-Wide Environmental Management Integration Plan[1] whose purpose is to improve the efficiency of the clean up of DOE sites across the complex by making optimum use of DOE facilities. This report was approved by senior contractor management of the affected DOE sites. The SRS Citizens Advisory Board has supported the intent of this plan while at the same time recommending that further opportunities be provided for stakeholder input[2]. The CAB recognizes that decisions of parity and equity must be made to realize the full potential of the EMI plan and encourages DOE to proceed with all haste to resolve issues among the individual states/sites.

Mixed Low-Level Waste

The SRS Consolidated Incinerator Facility (CIF) is burning solid and aqueous, Mixed Low-Level radioactive waste. Incineration destroys the hazardous component of some classes of low-level mixed waste so that the ash can be disposed of as Low-Level Waste at SRS. For other classes of mixed low-level waste, the resulting ash must be handled as mixed low-level waste. The CIF operation is absolutely necessary to support SRS missions but its capacity is larger than SRS now needs.

Recommendations for Mixed Low-Level and Low-Level Waste and CIF

The SRS Citizens Advisory Board recommends that DOE:

1. Continue CIF operations by the SRS M&O contractor as the CIF is essential to dispose of wastes generated by SRS facilities.

2. Permit use of the CIF excess capacity to treat Mixed Low-Level and Low-LevelWastes from other DOE sites when cost effective and when ultimate disposal of any residual (after treatment) hazardous waste is assured at a centralized facility at another site[1].

Low-Level Waste (LLW)

Background

SRS is currently disposing of LLW on site in the LLW Disposal Facilities. These facilities include expensive concrete vaults. Long Term Radionuclide Performance Assessments are performed to set limits for disposal in the facilities that are protective of the environment and human health. LLW that is appropriate for treatment is being compacted for volume reduction to save expensive vault space. Incineration of LLW in the CIF is planned. Some LLW (e.g., soil, rubble, wood, etc.) that meets Performance Assessment criteria are disposed in trenches. The EMI recommends that LLW be shipped to the DOE Nevada Test Site (NTS) LLW Disposal site for disposal. The LLW that would be shipped to Nevada must of course meet NTS Waste Acceptance Criteria.

Recommendations for Low-Level Waste

The SRS Citizens Advisory Board recommends that DOE:

3. Evaluate LLW disposal options at SRS (vaults and trenches) in terms of costs and technical viability and compare to disposal at NTS.

4. Implement expeditiously the most cost-effective method of LLW disposal.

Transuranic Waste

Background

The current SRS Transuranic Waste program is focused on safe storage and on providing facilities necessary to prepare the Transuranic Wastes for shipment to the Waste Isolation Pilot Plant (WIPP) near Carlsbad, NM. A portion of the Transuranic Wastes currently in storage (mostly Pu-239) could be shipped to WIPP with some assay, sorting, segregating and repackaging at SRS. The higher activity Transuranic Wastes (mostly Pu-238) may not be shipable under current transportation regulations without treatment to destroy the organics (paper, gloves, plastic, etc.). SRS Transuranic Waste has been the subject of previous CAB recommendations[3] and its treatment and disposition remains of concern to the CAB.

The WIPP is being established to dispose only of Transuranic Wastes defined as alpha contaminated waste with activity greater than 100 nanocuries/gram. The SRS also has stored alpha contaminated mixed waste with activity levels between 10 and 100 nanocuries/gram. SRS has also called this Transuranic Waste. Disposition of this latter lower activity alpha contaminated mixed waste is not resolved.

Additionally, DOE is required by the Site Treatment Plan to address a contingency plan for Transuranic Waste disposal in FY 1999 should WIPP fail to open.

Recommendations for Transuranic Waste

The SRS Citizens Advisory Board recommends that DOE:

5. Continue efforts to change the transportation regulations to permit the shipment of Pu-238 wastes in certified packaging without expensive pre-treatment to remove the organics.

6. Pursue funding for facilities for assaying, sorting and repackaging Pu-238 waste for shipment.

7. Provide, at SRS, the primary processing capability for Pu-238 wastes in the DOE complex. SRS has the greatest quantity of Pu-238 in the DOE complex and, if the transportation issue is resolved, could accept small amounts of Pu-238 wastes from other DOE sites for treatment prior to shipment to WIPP PROVIDED that a definite schedule is established for treatment and shipment to WIPP. Before the wastes can be shipped to SRS they must be certified to meet the WIPP Waste Acceptance Criteria after treatment at SRS and DOE must provide funding to handle this mission.

8. Move forward with the process to ship SRS alpha contaminated mixed waste (the 10 to 100 nanocuries/ gram alpha contaminated waste) to the Idaho National Engineering and Environmental Laboratory site for treatment and disposal.

The CAB recognizes that detailed cost estimates need to be developed prior to implementing some of these recommendations and that DOE will have to resolve political, local stakeholder, regulatory and state equity issues among the affected states but the CAB is convinced that the national long-term benefits and cost savings that will be realized outweigh the difficulty of resolving these issues.

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1. A Contractor Report to the Department of Energy on Environmental Management Baseline Programs and Integration Opportunities (Discussion Draft), May 1997

2. Savannah River Site Citizens Advisory Board Recommendation No. 45, July 22, 1997

3. CAB recommendations 4, 27 and 32.