

BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE

www.BREDL.org ~ PO Box 88 Glendale Springs, North Carolina 28629 ~ Phone (336) 982-2691 ~ Fax (336) 982-2954 ~ BREDL@skybest.com

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Robert Meisenheimer, WM Committee Chair
Savannah River Site Citizens Advisory Board
46 Haul Away Road
Hilton Head, SC 29928

Dear Mr. Meisenheimer:

Thank you for the opportunity to address this committee today. As you may recall, at your March 29th meeting in North Augusta, members of the CAB expressed skepticism at the League's contention that DOE provided falsified data to Congress regarding waste tank clean up at SRS. At that meeting I said, "We at BREDL are convinced that the DOE provided falsified data to gain an exemption so it could add cement to the waste, leave it underground, and reduce costs." On May 23rd I presented supportive data at the CAB's regular meeting in Savannah. Today I will revisit the facts of the matter and suggest recommendations for consideration by this committee and by the full board.

We recommend that the Savannah River Site Citizens Advisory Board take immediate steps to implement the following measures for the protection of residents of the Central Savannah River Area:

1. Block the U.S. Department of Energy from disposing high-level radioactive waste in South Carolina, a precedent which also threatens communities with contaminated DOE sites in Idaho, Washington and other states.
2. Direct DOE to immediately implement an open, transparent and public review process on high-level nuclear waste tank closures.
3. Grant EPA direct regulatory authority over the disposal of DOE's high-level radioactive waste.
4. Ensure that the external regulator of high-level waste have the discretion to set an appropriate cleanup standard for the waste that protects public health and the environment.

Department of Energy Provided False and Misleading Information

In 2004 the Department of Energy presented detailed information to members of Congress on residual waste estimates at SRS. I have attached to this statement a DOE table which purports to show waste volumes and radioactivity before and after clean up; this document was provided to Senator Lindsey Graham's office during legislative debate in May of 2004^a (Attachment 1). But this table is factually incorrect and very misleading. The estimates are false because the "original radioactivity" data listed in column 5 is not what was actually contained in tanks 17, 18, 19 and 20 prior to clean up but is based on a system-wide average. Note that the original radioactivity values for all four tanks are identical at 8,340,000 curies. As a result, the original radioactivity is overestimated by 2 to 3 orders of magnitude, thereby skewing bulk waste removal efficiency by a similar factor.

I have also included a second table with data from an earlier and more accurate 1999 DOE Waste Characterization spreadsheet of waste tank volumes and radioactivity levels in sludge, salt, and supernate^b (Attachment 2). These correct data were also used for the *Savannah River Site High-Level Waste Tank Closure Final Environmental Impact Statement* (DOE/EIS-0303) issued in May 2002. Please note that Tank 19 underwent additional measurements which would indicate that the original radioactivity was approximately 50,700 curies.^c

The following table compares data from of the DOE's 2004 table and the 1999 DOE Waste Characterization. The third column of figures (Actual %) shows the correct reductions of volumes and radioactivity which are wildly at odds with the results presented to Congress by DOE in 2004 (DOE%). It is evident that the residual radioactivity is virtually unchanged, over 90% remains in the so-called "emptied and cleaned" tanks 18 and 19.

DOE HLW Tank Data Comparison 1999-2004

		Residual ^a	Original ^b	Actual %	DOE % ^a
Tank 18	Volume (gal)	6,730	355,062	1.9	0.52
Tank 18	Radioactivity (Ci)	20,500	22,486	91.2	0.246
Tank 19	Volume (gal)	16,800	278,952	6.0	1.24
Tank 19	Radioactivity (Ci)	50,600	50,700 ^c	99.8	0.607

a. Values from *Estimates of Savannah River Site Tank Residual Wastes*, provided to Congress 2004

b. Values from *Savannah River High-Level Wastes as of 2/23/1999*

c. Value from *Characterization of Tank 19 Residual Wastes*, WSRC-TR-2002-00052, Revision 0, 15 March 2002

The failure to remove a significant amount of the radioactivity may be explained by the fact that the major portion of the radioactivity resides in the waste tank sludge. Observe that in the 1999 DOE waste characterization, the waste tank sludge (column 6) contains fully half of the total radioactivity but just 9% of the total volume (column 2).

The misleading DOE estimates of residual SRS tank waste certainly had an impact on legislation: The insertion of the troublesome Section 3116 in the 2005 Defense Authorization Act. One cannot explain this as mere oversight. The DOE is the principal agency in such matters; it is their job to get it right. On the contrary, the legislation was the final attempt by DOE to gain acceptance for the "incidental waste" plan. We understand that in legal proceedings, DOE attempted to mislead the District Court in Idaho by averaging the concentration of residual wastes with grout, making high-activity waste appear low-activity.

Regulatory Authority Should Be Removed from DOE

The U. S. Environmental Protection Agency would be a logical choice for regulatory authority. It is a permanent agency with the powers and perquisites of a federal bureau. Also, EPA has oversight of other waste problems at SRS; e.g., hazardous waste. The Resource Conservation and Recover Act (RCRA) requires EPA to regulate the management of hazardous wastes such as solvents, acids, heavy metals which are harmful to human health and the environment.

On March 28th, EPA sent a 19-page inspection report on RCRA compliance to DOE-Savannah River and to Westinghouse Savannah River Company (attached). The report documents the results of the inspection carried out in July 2004.^d EPA listed 15 separate violations of hazardous waste regulations at SRS; two were repeat violations noted at the last inspection in 2001. SRS personnel had a one week warning that the EPA RCRA inspectors would arrive. Nonetheless, the violations were recorded by Doug McCurry, Chief of the Enforcement and Compliance Section of EPA Region IV. Three examples:

Consolidated Incineration Facility

U.S. Department of Energy is in violation of SCHWMR R.61-79.265.15(d) for failing to include time of the inspection and the date and nature of any repair or remedial action on the inspection form. This is a repeat violation from the 2001 EPA inspection. (emphasis in the original)^d

Solvent tanks at the CIF contain 120,000 gallons of tributyl phosphate, a hazardous waste remaining from operations dissolving plutonium and uranium. The violation occurred in tank pressure relief valve inspections in which “SRS was unable to show the date and nature of repairs made in response to inspection observations.”^d According to the EPA, the waste tanks appear to be venting continuously to the atmosphere because the tank pressures are higher than the set points of the pressure relief valves.

Building 643-29E

U.S. Department of Energy is in violation of Permit Condition VA.F. for failing to maintain the secondary containment system free of gaps or cracks in Building 643-29E.^d

This facility stores 78 thousand gallons of mixed hazardous and radioactive waste stored on a concrete floor. As a result of poor maintenance, expansion joints have deteriorated which would allow leaks or spills to escape to the environment.

Building 643-43E

U.S. Department of Energy has failed to comply with SCHWMR R.61-79.262.34(a)(2) and (3). This regulation requires hazardous waste generators to clearly mark each container to identify the date which each period of accumulation begins and to label each container with the words: “Hazardous Waste - federal law prohibits improper disposal” for all containers in Building 643-43E with illegible, overlapping, and incomplete labels.^d

U.S. Department of Energy Savannah River Site is in violation of Permit Condition VA.G. for failing to inspect containers in Building 643-43E. Containers on the third tier with labels turned to the interior of the stack of drums were not inspected.^d

This structure stores 280 thousand gallons of mixed hazardous and radioactive wastes including transuranics in steel drums stacked three high. EPA noted that the inspection log kept by SRS personnel showed that all waste drums had been inspected. However, EPA inspectors found waste drums with torn, overlapping and illegible labels, and some not facing the aisle where they could be read. Upon questioning, facility personnel said that the waste barrels had not been moved. EPA concluded, “the drums with labels facing inward had not been inspected for some time.”^d Both state regulations and permit conditions were violated in Building 643-43-E.

Ongoing Waste Emissions Threaten SRS Workers and the Public

Since 1951, SRS has generated over 140 million gallons of liquid radioactive waste. Through the use of evaporators, 104 million gallons of this liquid waste was emitted into the air, leaving 36.4 million gallons of liquid and solid wastes in the SRS tank farm today. Of this total, 45% of the radioactivity, 223 million curies, and 93% of the volume, 33.8 million gallons, is in the form of salt waste containing a mixture of Cesium-137 and Strontium-90 and other dangerous radionuclides.

According to the Department of Energy's proposed salt waste processing plan, detailed in draft Section 3116 Determination for Salt Waste Disposal at SRS, at least 3 million curies of this waste is to be stored indefinitely at the Saltstone Disposal Facility at SRS.

An additional 41.3 million gallons of salt waste would be generated by the SRS Defense Waste Processing Facility by 2020. This waste is to be stored in the F-Area and H-Area Tank Farms and sent to the Salt Waste Processing Facility.^e The processing of salt wastes involves the evaporation of water and volatile liquids from the high-level nuclear waste tanks. The DOE's salt waste plan includes the emission of 32.2 million gallons of radioactive waste to the air over the next 15 years.

Airborne waste emissions are already too high; radioactive releases from SRS to the air during 2003 totaled 113,800 Curies. The airborne dosage of radionuclides was primarily from Tritium, Iodine-129, Plutonium-239, Cesium-137, Plutonium-238, and Uranium-238.^f According to the Centers for Disease Control SRS Health Effect Subcommittee, the most important pathways of ingestion for airborne contamination are through the eating of beef and milk.^g

The airborne emission of dangerous radionuclides has had and will continue have a negative impact on the health of people living in the Central Savannah River Area, especially children and the unborn who are particularly vulnerable to radiation. Additional exposure to the region must be reduced and eliminated.

Conclusion

Mr. Meisenheimer, the DOE's end run around the law, re-classifying the high-level radioactive waste remaining in the tanks as "waste incidental to processing," cannot and must not stand. Further, processing of salt waste from these tanks must not be allowed to increase the radiation dose to the public. Finally, new regulatory control would be the most practicable way to reign in the excesses of the DOE. We call upon you to support better public health protection. Our four proposals are presented as a way for this committee to provide "advice and recommendations" which may lead to a better outcome at SRS for the residents of the Central Savannah River Area.

Respectfully,

Louis Zeller
Campaign Coordinator
Blue Ridge Environmental Defense League

Cc:
SRS CAB WM Committee

- a. *Estimates of Savannah River Site Tank Residual Wastes* (Attachment 1)
- b. *Savannah River High-Level Wastes as of 2/23/1999* (Attachment 2)
- c. P.D. d'Entremont and J. L Thomas, *Characterization of Tank 19 Residual Wastes*, WSRC-TR-2002-00052, Revision 0, 15 March 2002, available at <http://www.srs.gov/general/pubs/fulltext/tr2002052/tr2002052.html>
- d. RCRA Compliance Evaluation Inspection Report, US EPA Region 4, Atlanta, GA, March 25, 2005
- e. Draft Section 3116 Determination, Salt Waste Disposal, SRS, DOE-WD-2005-001, Figure 2.2
- f. Westinghouse Savannah River Company Annual Report, 2003
- g. *Executive Summary*, SRS Health Effects Subcommittee, Centers for Disease Control and Prevention, Dept of Health and Human Services, 25 August 2004