November 21, 2008

Sherri Ross, Acting Director
Waste Disposition Programs Division
U.S. Department of Energy
Savannah River Operations Office
P.O. Box A
Aiken, S.C. 29802

SUBJECT: NUCLEAR REGULATORY COMMISSION REQUEST FOR INFORMATION ON THE SAVANNAH RIVER SITE SALTSTONE PRODUCTION AND DISPOSAL FACILITIES

Dear Ms. Ross:

On March 24-28, 2008, pursuant to Section 3116(b) of the Ronald W. Reagan Defense Authorization Act for Fiscal Year 2005, the U.S. Nuclear Regulatory Commission (NRC) staff performed onsite observation activities at the Savannah River Site (SRS) Saltstone Production Facility (SPF) and Saltstone Disposal Facility (SDF). These activities were performed in accordance with the "U.S. Nuclear Regulatory Commission Plan for Monitoring the U.S. Department of Energy Salt Waste Disposal at the Savannah River Site in Accordance with the National Defense Authorization Act for Fiscal Year 2005." A report on the staff's onsite observation is available on NRC's Agencywide Documents Access and Management System (ADAMS) at accession number ML081290367.

During the March 2008 monitoring visit, the Department of Energy (DOE) staff stated that sampling had been performed of the soil adjacent to known leak sites of the SDF Vault 4 in order to quantify the amount and extent of contamination. Results of this sampling program were not available at the time of the March 2008 visit. NRC staff were informed during the next observation visit on July 31, 2008, that sampling analysis results were available, but that additional time was needed to complete a data assessment (ADAMS Accession No. ML082530057). NRC staff requests the information described below to verify the assumptions that were made in an Unreviewed Disposal Question Evaluation (UDQE)[1] described in the NRC staff's onsite observation report for the March 2008 observation (ML081290367), to ensure that DOE is, and will likely remain, in compliance with the 10 CFR Part 61, Subpart C, performance objectives.

NRC staff requests:

1) A list of the radionuclides and chemicals (e.g., nitrate) for which characterization was performed on the soil samples.

2) The results of the soil characterization study, including the radiological concentrations of key radionuclides in the samples (i.e., Cs-137, Sr-90, I-129, Tc-99, H-3, U-isotopes, Pu-isotopes) as well as gross radiation measurements.

[1] Rosenberger, K. H., "Unreviewed Disposal Question Evaluation: Evaluation of Liquid Weeping from Saltstone Vault 4 Exterior Walls," SRS-REG-2007-00041, Revision 1, Westinghouse Savannah River Company, Aiken, South Carolina, 2008.

3) A description of the sample locations, including lateral and vertical distance from the vaults.

4) A description of engineered or natural features that may have enhanced or limited transport of the contamination.

5) A description of the analytical procedures used to characterize the samples, including the techniques used, any problems that were encountered, and a description of the method detection limits.

6) A comparison of observed transport to estimated transport in the UDQE cited above.

7) The results of additional analyses, if any, to characterize the physical or mineralogical properties of the samples.

If you have any questions or need additional information regarding this request, please contact me at (301) 415-6116.

Sincerely,

/RA/

David D. Brown, Sr. Project Manager
Low-Level Waste Branch
Environmental Protection
and Performance Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

cc:
S. Wilson
Federal Facilities Liaison
Environmental Quality Control Administration
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201-1708

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