

May 14, 2009

MEMORANDUM TO: Patrice Bubar, Deputy Director
Environmental Protection and Performance
Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

THRU: Gregory Suber, Chief **/RA/**
Low-Level Waste Branch
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FROM: Nishka Devaser, Project Manager **/RA/**
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Office of Federal and State Materials
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SUBJECT: ONSITE OBSERVATION GUIDANCE FOR JUNE 3, 2009,
WASTE MONITORING VISIT AT THE SAVANNAH RIVER SITE,
SALTSTONE FACILITY

The Nuclear Regulatory Commission (NRC) staff is planning an onsite observation visit on June 3, 2009, to the U.S. Department of Energy's Savannah River Site, Saltstone Facility to monitor activities related to the disposal of non-high-level waste, per NRC's responsibilities under the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005. The onsite observation guidance is attached for your information.

Enclosure: As stated

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ONSITE OBSERVATION GUIDANCE FOR JUNE 3, 2009, MONITORING VISIT AT THE SAVANNAH RIVER SITE SALTSTONE FACILITY

PURPOSE:

To provide onsite observation guidance for a planned visit on June 3, 2009, to the U.S. Department of Energy's (DOE's) Savannah River Site (SRS) Saltstone Facility to monitor activities related to the disposal of non-high-level waste, per the U.S. Nuclear Regulatory Commission's (NRC's) responsibilities under Section 3116(b) of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005 (NDAA).

OBJECTIVE:

To observe ongoing construction of new disposal cells at the Saltstone Disposal Facility (SDF)

BACKGROUND:

Section 3116(a) of the NDAA authorizes DOE, in consultation with the NRC, to determine whether certain radioactive waste related to the reprocessing of spent nuclear fuel is not high-level waste, provided certain criteria are met. Section 3116(b) of the NDAA requires NRC to monitor DOE disposal actions to assess compliance with Title 10 of the Code of Federal Regulations (10 CFR), Part 61, Subpart C, performance objectives for low-level waste.

On March 31, 2005, DOE submitted to the NRC a draft waste determination titled, "Draft Section 3116 Determination, Salt Waste Disposal, Savannah River Site." The purpose of the draft waste determination was to demonstrate compliance with the criteria in Section 3116(a) of the NDAA, including compliance with the performance objectives in 10 CFR Part 61, Subpart C. In its consultation role, the NRC staff reviewed the draft waste determination and concluded that there was reasonable assurance that the applicable criteria of the NDAA could be met, provided certain assumptions made in DOE's analyses were verified via monitoring. In December 2005, NRC staff documented the results of its review in a technical evaluation report (TER). DOE issued a final waste determination in January 2006 taking into consideration the assumptions, conclusions, and recommendations documented in NRC's TER. On May 3, 2007, NRC staff, pursuant to its monitoring responsibility under the NDAA, completed a monitoring plan for the SRS Saltstone Facility. This onsite observation guidance has been developed in accordance with the May 2007 monitoring plan to ensure consistency in NRC staff's monitoring activities. The May 2007 monitoring plan is available in NRC's Agency wide Document Access and Management System (ADAMS) at accession number ML070730363.

On March 25, 2009, NRC staff first observed ongoing construction of new disposal cells at the SDF. During the March 2009 visit, staff observed the base mud mat, geosynthetic clay and high-density polyethylene liners, and Type V mud mat and concrete floor being poured for both cells 2A and 2B. Concrete pours for construction of 32 wall panels for each of the new cells had not begun, but were scheduled to begin late April 2009. Given that the relatively large number of joints inherent to this type of construction is likely to factor in future performance of the disposal cells, the NRC staff believes it is important to observe the installation of these wall panels.

Enclosure

OBSERVATION REQUIREMENTS:

NRC's onsite observation of the disposal actions taken by DOE focuses on the performance objectives set out in 10 CFR Part 61, Subpart C. These performance objectives are, (i) protection of the general population from releases of radioactivity (10 CFR 61.41), (ii) protection of individuals against inadvertent intrusion (10 CFR 61.42), (iii) protection of individuals during operations (10 CFR 61.43), and (iv) stability of the disposal site after closure (10 CFR 61.44).

This onsite observation will be primarily focused on the performance objective set forth in 10 CFR 61.41. Since the salt waste processing operations will impact the long-term stability of the SDF after its closure, this observation will also partially assess the performance objective in 10 CFR 61.44. Staff will use the following topic to guide the observations and actions while visiting the SRS facility.

Construction of the New SDF Disposal Cell

The NRC staff plans to visit the construction site of the new disposal cells 2A and 2B (Vault 2). At the time of the observation, staff anticipates that installation of the pre-cast concrete wall panels will be underway. These construction milestones are listed in a schedule provided by DOE (ADAMS accession number ML090150170). As noted in Section 3.2.3, "Vault Construction," of the May 2007 monitoring plan, NRC staff will be focused on penetrations and joints through which water could infiltrate, and any changes to the conceptual design discussed with DOE on May 15, 2008, (see Meeting Summary at ADAMS accession number ML081540288).