

April 16, 2014

MEMORANDUM TO: Aby Mohseni, 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: Harry Felsher, Sr. Project Manager /RA/
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Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
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SUBJECT: ONSITE OBSERVATION GUIDANCE FOR MAY 27 – 29, 2014,
MONITORING VISIT TO THE SAVANNAH RIVER SITE, SALTSTONE
DISPOSAL FACILITY (DOCKET NO. PROJ0734)

The U.S. Nuclear Regulatory Commission staff is planning an onsite observation visit on May 27 – 29, 2014, to the U.S. Department of Energy Savannah River Site, Saltstone Disposal Facility to monitor activities related to the disposal of non-high-level waste, per the NRC responsibilities under the National Defense Authorization Act for Fiscal Year 2005.

Enclosure: Onsite Observation Guidance

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ONSITE OBSERVATION GUIDANCE FOR MAY 27 – 29, 2014, MONITORING VISIT AT THE SAVANNAH RIVER SITE SALTSTONE DISPOSAL FACILITY

PURPOSE:

The purpose of this document is to provide onsite observation guidance for a planned visit on May 27 – 29, 2014, to the U.S. Department of Energy (DOE) Savannah River Site (SRS) Saltstone Disposal Facility (SDF) to monitor activities related to the disposal of non-high-level waste, per the U.S. Nuclear Regulatory Commission (NRC) responsibilities under Section 3116(b) of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005 (NDAA).

OBJECTIVES:

1. Observation and technical review of activities and documentation; and
2. Follow-on activities from previous onsite observation visits or teleconference calls.

BACKGROUND:

NDAA Section 3116(a) 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. NDAA Section 3116(b) requires the NRC to monitor DOE disposal actions to assess compliance with Title 10, *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 (WD), "Draft Section 3116 Determination, Salt Waste Disposal, Savannah River Site." The purpose of the draft WD was to demonstrate compliance with the criteria in NDAA Section 3116(a), including compliance with the performance objectives in 10 CFR Part 61, Subpart C. Per NRC's NDAA consultation role, the NRC staff reviewed the draft WD. In December 2005, the NRC staff documented the results of its review in a Technical Evaluation Report (TER), where NRC concluded that there was reasonable assurance that the applicable NDAA criteria could be met, provided that certain assumptions made in the DOE analysis were verified during monitoring. DOE issued a final WD in January 2006, which took into consideration the assumptions, conclusions, and recommendations documented in the NRC TER.

Per NRC's NDAA Section 3116(b) monitoring role, NRC finalized Revision 0 of the SDF monitoring plan in May 2007. In November 2009, DOE submitted an updated performance assessment (PA), "2009 Performance Assessment for the Saltstone Disposal Facility at the Savannah River Site" for NRC review per NRC's NDAA monitoring role. Following extensive discussions with DOE, the NRC staff completed its review and documented the NRC conclusions in a TER dated April 30, 2012 (ADAMS Accession No. ML121020140). In that TER, the NRC concluded that it did not have reasonable assurance that the performance objective in §61.41 would be met. However, the NRC concluded that the §61.42, §61.43, and §61.44 performance objectives were met. Per NRC's NDAA monitoring role, the NRC finalized Revision 1 of the SDF monitoring plan in September 2013. This onsite observation guidance was developed in accordance with the September 2013 SDF monitoring plan to ensure consistency in NRC staff monitoring activities. The September 2013 SDF monitoring plan is available in ADAMS at Accession No. ML13100A113.

Enclosure

OBSERVATION REQUIREMENTS:

The NRC onsite observation of the disposal actions taken by DOE focuses on the performance objectives set out in 10 CFR Part 61, Subpart C. Those performance objectives are:

(i) protection of the general population from releases of radioactivity (§61.41), (ii) protection of individuals against inadvertent intrusion (§61.42), (iii) protection of individuals during operations (§61.43), and (iv) stability of the disposal site after closure (§61.44). The NRC staff will use the following guidance to direct the observation while visiting the SRS SDF.

Observation and Technical Review of Activities and Documentation:

The NRC plans to conduct the following activities during this onsite observation visit (and next to each activity is the associated Monitoring Factor(s) (MFs) from the September 2013 SDF monitoring plan):

1. Discuss the main topics of the future NRC's Request for Additional Information Questions on the DOE 2013 Saltstone Special Analysis (SRR-CWDA-2013-00062, Rev. 2) (ADAMS Accession No. ML14002A069) (to be determined multiple MFs).
2. Discuss SRR-CWDA-2014-00002, Rev. 1, "Crosswalk of Select Documents Related to the Monitoring Programs for the Saltstone Disposal Facility" (ADAMS Accession No. ML14071A184 (all MFs).
3. Discuss recent operations, including saltstone disposal volumes and inventory, the leak detection system, and worker dose (MFs 1.01, 1.02, 8.01, and 11.01).
4. Discuss the results of the first year of the lysimeter experiment (SRR-CWDA-2013-00121, Rev. 0) (ADAMS Accession No. ML14079A613) (MFs 5.01, 5.02, and 5.05).
5. Discuss groundwater sampling results (SRNS-TR-2013-00275, Rev. 0) (ADAMS Accession No. ML14035A441) and any new Saltstone Disposal Structure 4 retention pond data (MF 8.02).
6. Observe site status and location of groundwater wells and Saltstone Disposal Structure 4 retention pond sampler (MF 8.02 and new MF in future Monitoring Plan).

Follow-On Activities from Previous Onsite Observation Visits or Teleconference Calls:

1. Discuss the 2013 Saltstone Special Analysis representation of the effects of mechanical degradation mechanisms with linear degradation rates (MFs 3.01 and 4.02).
2. Discuss information regarding Technetium oxidation and mobility, which DOE was to provide to NRC in the near-term, as indicated in the Summary of the February 10, 2014, NRC Public Meeting (ADAMS Accession No. ML14057A578) (MF 5.02).

Completion of any item is dependent on either DOE performing the activity and/or the availability of the documentation during the onsite observation visit.