



**UNITED STATES
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December 13, 2016

MEMORANDUM TO: Andrea Kock, Deputy Director
Division of Decommissioning, Uranium Recovery,
and Waste Programs
Office of Nuclear Material Safety
and Safeguards

THRU: Gregory Suber, Chief */RA/*
Low-Level Waste Branch
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FROM: Robert Gladney, Project Manager */RA/*
Low-Level Waste Branch
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Office of Nuclear Material Safety
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SUBJECT: ONSITE OBSERVATION GUIDANCE FOR JANUARY 25, 2017,
MONITORING VISIT TO THE SAVANNAH RIVER SITE, SALTSTONE
DISPOSAL FACILITY (DOCKET NO. PROJ0734)

The U.S. Nuclear Regulatory Commission (NRC) staff is planning an onsite observation visit on January 25, 2017, 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 Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005.

The enclosed guidance describes the areas of focus for the onsite observation visit. The detailed agenda and summary will be included in the onsite observation visit report.

Enclosure: Onsite Observation Visit Guidance

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ONSITE OBSERVATION GUIDANCE FOR JANUARY 25, 2017, MONITORING VISIT TO THE SAVANNAH RIVER SITE SALTSTONE DISPOSAL FACILITY

PURPOSE:

The purpose of this document is to provide onsite observation guidance for a planned visit on January 25, 2017, 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).

OBJECTIVE:

1. Observation and technical review of activities and documentation.

BACKGROUND:

The NDAA Section 3116(a) authorizes the 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. The NDAA Section 3116(b) requires the NRC to monitor the 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, the 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 the 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 the 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. The DOE issued the final WD in January 2006, which took into consideration the assumptions, conclusions, and recommendations documented in the NRC TER. The NRC monitoring role at SDF began when the DOE final WD was issued in January 2006.

Per the NRC's monitoring role under NDAA Section 3116(b), Revision 0 of the SDF monitoring plan was finalized in May 2007. NRC staff conducted its first onsite observation visit at SDF in October 2007 and the NRC issued that first onsite observation visit report on January 31, 2008. The NRC onsite observation of the disposal actions taken by the 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).

In November 2009 the DOE submitted an updated Performance Assessment (PA), "2009 Performance Assessment for the Saltstone Disposal Facility at the Savannah River Site" for the NRC review per the NRC's NDAA monitoring role. Following extensive discussions with the

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DOE, the NRC staff completed its review and documented the NRC conclusions in a TER dated April 30, 2012, (Agencywide Documents Access and Management System (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. Also on April 30, 2012, the NRC issued a Type-IV Letter of Concern (ADAMS Accession No. ML120650576) that formally communicated the NRC concerns to both the DOE and the South Carolina Department of Health and Environmental Control (i.e., South Carolina regulator of SRS). The NRC and the DOE continue to work within the NRC's NDAA monitoring process to resolve all outstanding concerns that led to the issuance of the NRC Type-IV Letter of Concern.

Per the NRC's NDAA monitoring role, the NRC finalized Revision 1 of the SDF monitoring plan in September 2013 (ADAMS Accession No. ML13100A113). This onsite observation visit guidance was developed in accordance with the September 2013 SDF monitoring plan to ensure consistency in the NRC staff monitoring activities.

OBSERVATION REQUIREMENTS:

The NRC staff will use the following guidance to direct the observation while visiting the SRS SDF. We are observing the hydrological and hydrogeological environment of the site.

Observation and Technical Review of Activities and Documentation

On April 19 – 21, 2016, the NRC conducted its eighteenth onsite observation visit to the SDF at the SRS (SDF Observation 2016-01). The NRC Report for SDF Observation 2016-01 is in ADAMS as Accession No. ML16147A197. Section 2.3.2 of that Report indicated that the NRC staff and DOE observed the Upper Three Runs and the McQueen Branch each at two locations near the SDF from a vehicle. In addition, Section 2.3.2 of that Report indicated that the NRC staff and DOE discussed a future walk-down by NRC staff of those streams, led by DOE. This onsite observation visit is being conducted to perform that walk-down, focusing on erosional and hydrogeological aspects at these locations.

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. Walk-down, from erosional perspective, to examine the steeper valley slopes and any left-bank tributaries for indications of gully growth. (MF 2.02 and MF 9.02)
2. Walk-down, from hydrogeological perspective, to: (i) examine any areas that have a higher potential for producing seeps (e.g., topographical low points of the top of Tan Clay Confining Zone (TCCZ) that outcrop at valley slopes); and (ii) observe outcroppings of the Santee Formation in Area A and the TCCZ. (MF 8.02 and MF 10.02)

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