UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 31, 2022

MEMORANDUM TO: Stephen Koenick, Chief
Low-Level Waste Branch
Division of Decommissioning, Uranium Recovery,
and Waste Programs
Office of Nuclear Material Safety
and Safeguards

FROM: Maurice Heath, Project Manager //RA//
Low-Level Waste Branch
Division of Decommissioning, Uranium Recovery,
and Waste Programs
Office of Nuclear Material Safety
and Safeguards

SUBJECT: ONSITE OBSERVATION GUIDANCE FOR JUNE 22, 2022, MONITORING VISIT TO THE IDAHO NATIONAL LABORATORY IDAHO NUCLEAR TECHNOLOGY AND ENGINEERING CENTER TANK FARM FACILITY (DOCKET NO. PROJ0735)

The U.S. Nuclear Regulatory Commission (NRC) staff is planning an onsite observation visit for June 22, 2022, to the U.S. Department of Energy Idaho National Laboratory Idaho Nuclear Technology and Engineering Center Tank Farm 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 summary will be included in the onsite observation visit report.

Enclosures:
1. Onsite Observation Visit Guidance
2. Agenda

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ONSITE OBSERVATION GUIDANCE FOR THE JUNE 2022 INCIDENTAL WASTE MONITORING VISIT AT THE IDAHO NUCLEAR TECHNOLOGY AND ENGINEERING CENTER TANK FARM FACILITY

PURPOSE:

The purpose of this document is to provide onsite observation guidance for a planned visit on June 22, 2022, to the U.S. Department of Energy (DOE) Idaho National Laboratory (INL) Idaho Nuclear Technology and Engineering Center (INTEC) Tank Farm Facility (TFF) 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:

The objective of this onsite observation visit is to observe the waste disposal actions taken by DOE at the INTEC TFF for the purpose of assessing compliance with the performance objectives set out in 10 CFR Part 61, Subpart C.

This OOV will focus on the Radiation Protection Program and Environmental Sampling Program. The NRC may have technical discussions on status of closure activities on the final four tanks WM 187-190, related to KMA's as identified in INL Monitoring Plan (ML070650222).

Dependent on progress of closure activities of the final four large tanks WM 187-190 at the time of the OOV, NRC may also like to participate in technical discussions related to the following KMAs: KMA 1 – Residual Waste Sampling; KMA 2 – Grout Formulation and Performance; and KMA 5 – Engineered Surface Barrier/Infiltration Reduction.

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. 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 conducted onsite observations approximately every two years starting in 2007 to 2019. NRC observation reports can be found on the NRC public website, https://www.nrc.gov/waste/incidental-waste/wir-process/wir-locations/idaho-national-lab.html.

OBSERVATION REQUIREMENTS:

During the June 2022 onsite observation of tank closure activities taken by DOE at INL, the NRC staff will evaluate DOE's compliance with the performance objectives in 10 CFR Part 61, Subpart C with regards to its radiation protection measures and environmental sampling program related to DOE Idaho's INTEC TFF tank closure operations. The onsite observation will be primarily focused on the protection of individuals during operations (10 CFR 61.43).

The NRC plans to conduct the following activities during this onsite observation visit to the INTEC TFF, which are organized within their respective areas and with their associated KMAs from the monitoring plan.

Radiation Protection Program (KMA 4 – Monitoring During Operations)

The NRC staff will observe aspects of DOE's radiation protection program. Onsite observation activities may include the following:

- Review DOE's radiation protection program in order to validate various reports and records related to protection of individuals during its waste disposal operations.
- Interview DOE's site radiation protection personnel and discuss its onsite implementation of the radiation protection program.
- Verify that personnel who are involved in the waste disposal operations are provided with personal dosimetry and/or other adequate personal monitoring devices.
- Discuss DOE's efforts to maintain worker exposures ALARA
- Tour the site to verify DOE's access-control program is in place.
- Verify the programs and policies presented in the DOE's INTEC TFF waste determination are in effect during the operational period.
- Discuss with DOE and/or DOE contractor personnel the effectiveness of DOE's radiation protection program governing its waste disposal operations.

Environmental Sampling Program (KMA 4 – Monitoring During Operations)

The NRC staff will observe aspects of DOE's environmental sampling program. Onsite observation activities may include the following:

- Observe environmental monitoring activities that occur during the time that the NRC staff is onsite (if applicable).
- Obtain data and reports and discuss results of monitoring activities at the site.
- Review environmental monitoring plans and quality assurance procedures for environmental sampling.

Dependent on progress of closure activities of the final four large tanks WM 187-190 at the time of the OOV, NRC may also like to participate in technical discussions related to the following KMAs:

KMA 1 – Residual Waste Sampling
o The NRC monitoring of the DOE activities related to residual waste sampling and volume estimation is important because those DOE activities are pertinent to the final waste inventory,

which is risk-significant because it is directly related to the projected long-term dose to members of the public and inadvertent intruders.

KMA 2 – Grout Formulation and Performance
o The NRC monitoring of the DOE activities related to grout formulation and performance is important because those DOE activities help to retain key radionuclides in the engineered system and fill void space to ensure site stability.

NRC staff would also like to discuss any changes to plans on design and construction of interim or final infiltration reducing barriers at the INTEC TFF.

KMA 5 – Engineered Surface Barrier/Infiltration Reduction
o The NRC monitoring of the DOE activities related to design, installation, and maintenance of the engineered cover is important because those DOE activities are pertinent to the infiltration rates, which are important to the radionuclide release rates and those infiltration rates should be consistent with or lower than those assumed in the DOE performance assessment.

Completion of observations 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.

ONSITE OBSERVATION GUIDANCE FOR JUNE 22, 2022 INCIDENTAL WASTE MONITORING VISIT AT THE IDAHO NATIONAL LABORATORY

Agenda

Arrival to Idaho National Laboratory	0930
Site Entrance Meeting	1000
Site Tour	1100
Lunch	1200
NRC Discussion on INL Activities	1330
Question and Answer Period	1430
Adjourn	1600