



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
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June 19, 2019

**MEMORANDUM TO:** Pham Bo, Deputy Director  
Division of Decommissioning, Uranium Recovery  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

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

**SUBJECT:** ONSITE OBSERVATION GUIDANCE FOR JULY 16, 2019,  
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 July 16, 2019, 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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**DATE: June 19, 2019**

**ADAMS Accession No.ML 19154A372**

<b>OFFICE</b>	DUWP	DUWP	DUWP	DUWP
<b>NAME</b>	MHeath	CBarr	CMcKenney	SKoenick
<b>DATE</b>	5/29/19	5/29/19	6/19/2019	6/17/19

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## **ONSITE OBSERVATION GUIDANCE FOR THE JULY 2019 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 July 16, 2017, 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 below.

### **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. In June 2017, the NRC conducted an onsite observation to obtain additional information and observe, as appropriate, disposal actions related to closure activities. During the 2017 OOV, DOE provided NRC staff a tour of the INL INTEC facilities and participated in technical discussions. The technical discussions focused on: (i) the operating status; (ii) the radiation protection program; (iii) the environmental sampling program; and (iv) the engineered surface barrier construction program. During the 2017 OOV, the DOE also discussed a potential Calcine Retrieval Project (CRP). If the DOE sends the draft INL CRP WD to the NRC, the NRC will start consulting with the DOE under NDAA Section 3116(a). The NRC requested that the DOE keep the NRC informed of CRP status, including schedule. The NRC staff indicated in its onsite observation visit report (ADAMS Accession No. ML17265A574) that it had no findings of noncompliance as a result of this observation.

## **OBSERVATION REQUIREMENTS:**

During the July 2019 onsite observation of the disposal actions 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 JULY 16, 2019  
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