May 21, 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, Branch Chief **/RA/**
Low-Level Waste Branch
Environmental Protection and Performance
Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

FROM: Maurice Heath, Project Manager **/RA/**
Low-Level Waste Branch
Environmental Protection and Performance
Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
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SUBJECT: ONSITE OBSERVATION GUIDANCE FOR JUNE 2014 INCIDENTAL WASTE MONITORING VISIT AT THE IDAHO NATIONAL LABORATORY (PROJ0734)

The U.S. Nuclear Regulatory Commission (NRC) staff is planning an onsite observation visit in June 2014 to the U.S. Department of Energy's Idaho National Laboratory site to monitor activities related to the disposal of incidental waste, per NRC's responsibilities under the National Defense Authorization Act for Fiscal Year 2005. The onsite observation guidance is enclosed for your use.

Enclosure: Onsite Observation Guidance

CONTACT: Maurice Heath, FSME/DWMEP
(301) 415-3137

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OFC	FSME/DWMEP	FSME/DWMEP	FSME/DWMEP	FSME/DWMEP
NAME	MHeath	AWalker-Smith	GSuber	MHeath
DATE	5/16/14	5/16/14	5/20/14	5/21/14

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ONSITE OBSERVATION GUIDANCE FOR JUNE 2014 INCIDENTAL WASTE MONITORING VISIT AT THE IDAHO NATIONAL LABORATORY

PURPOSE

To provide onsite observation guidance for a planned visit in June 2014 to the U.S. Department of Energy's (DOE's) Idaho National Laboratory (INL) site to monitor activities related to the disposal of incidental waste, per the U.S. Nuclear Regulatory Commission's (NRC's) responsibilities under the National Defense Authorization Act for Fiscal Year 2005 (NDAA).

OBJECTIVES

To observe the waste disposal actions taken by DOE at the Idaho Nuclear Technology and Engineering Center (INTEC) Tank Farm Facility (TFF) for the purpose of assessing compliance with the performance objectives set out in 10 CFR Part 61, Subpart C.

BACKGROUND

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. The NDAA also requires NRC to monitor DOE disposal actions to assess compliance with 10 CFR Part 61, Subpart C, performance objectives for low-level waste.

On September 7, 2005, DOE submitted a draft waste determination for residual waste incidental to reprocessing, including sodium bearing waste, stored in the INTEC TFF to demonstrate compliance with the NDAA criteria including demonstration of 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 the NDAA criteria could be met for residual waste stored in the INTEC TFF. The NRC documented the results of its review in a technical evaluation report (TER) issued in October 2006. DOE issued a final waste determination in November 2006 taking into consideration the assumptions, conclusions, and recommendations documented in NRC's TER.

To carry out its monitoring responsibilities under the NDAA, NRC developed a monitoring plan for the INTEC TFF facility in April 2007 (ML070650066). The NRC conducted two onsite observations in 2007 to observe tank grouting operations (7 of 11 large tanks and 4 smaller tanks) at the INTEC TFF. All open items identified in the first onsite observation conducted in April 2007 (ML071300222) were closed in the August 2007 onsite observation (ML072570173). In August 2008, the NRC staff participated in a third onsite observation to observe pipe grouting operations, radiation protection controls, and the environmental sampling program (ML082050071). No findings resulted from the three onsite observations. No tank farm closure activities occurred in calendar year 2009; therefore, the NRC staff elected to forego an onsite observation. In August 2010, the NRC staff participated in an onsite observation focused on radiation protection and environmental monitoring. The NRC staff had no findings as a result of this observation, however the NRC staff had two recommendations. The NRC staff had two recommendations for DOE to consider in its decision to update the Performance Assessment

(ML102770022). DOE has begun to grout the remaining tanks at INTEC TFF therefore, during the June 2012, visit, the NRC staff will obtain and verify closure activities and schedules, meet with state officials, and collect routine information related to several monitoring factors listed in NRC's monitoring plan for the INTEC TFF (ML070650066), such as radiation protection, environmental monitoring programs and grouting formulation. In June 2012, the NRC decided to conduct another onsite observation to obtain additional information and observe, as appropriate, disposal actions related to closure of the remaining 4 large tanks. During the visit, the NRC staff obtained updates on closure activities and schedules, and collected routine information related to several monitoring factors listed in the NRC's monitoring plan for the INTEC TFF (ML070650222), such as radiation protection and environmental monitoring programs.

OBSERVATION REQUIREMENTS

The NRC's onsite observation of the disposal actions taken by DOE is to focus on the performance objectives set out in 10 CFR Part 61, Subpart C. These performance objectives include: (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).

The NRC's June 2014, onsite observation at INL will be primarily focused on the performance objective 10 CFR 61.43. The main focus is to verify DOE's radiation protection measures, grout formulation and environmental sampling in its INTEC TFF tank closure operations.

Radiation Protection Program

For 10 CFR Part 61.43, protection of individuals during operations, the NRC staff will verify that DOE's radiation protection program is in place for its process line grouting operations. Onsite observations will include, as appropriate, but not limited to 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.

- 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

- Observe environmental monitoring activities that occur during the time that the NRC staff is onsite (if applicable).
- Obtain data, reports, state monitoring activities at the site.

Review environmental monitoring plans and quality assurance procedures for environmental sampling.

Grout Formulation

- The NRC staff will evaluate DOE's grout formulation, sampling, and placement activities to assess whether they are consistent with DOE's final waste determination and the assumptions and analyses documented in the NRC's TER. Onsite observations will include, as appropriate, but not limited to the following:
    - Verify that there are no significant final grout formulation deviations from the design specifications provided in DOE's final waste determination.
    - Evaluate DOE's program for sampling, testing, and accepting grout materials to ensure the materials conform to DOE specifications and national standards (i.e. American Society for Testing & Materials standards).

Attachment: Agenda

ONSITE OBSERVATION GUIDANCE FOR JUNE 2014
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	1430
Adjourn	1600

Attachment