

June 9, 2014

Mr. Robert M. Shaw  
Project Manager, Tank Farm Closure Project  
U.S. Department of Energy,  
Idaho Operations Office  
1955 Freemont Avenue, MS-1222  
Idaho Falls, ID 83415

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION CLOSURE OF KEY  
MONITORING AREA 3, IN THE IDAHO NATIONAL LABORATORY IDAHO  
NUCLEAR TECHNOLOGY AND ENGINEERING CENTER TANK FARM  
FACILITY MONITORING PLAN (PROJECT NO. PROJ0735)

Dear Mr. Shaw:

The Ronald Reagan National Defense Authorization Act for Fiscal Year 2005 (NDAA) authorizes the U.S. Department of Energy (DOE) in consultation with the U.S. Nuclear Regulatory Commission (NRC) to determine whether certain radioactive waste related to reprocessing of spent nuclear fuel is not high-level waste, provided certain criteria are met. The NDAA also requires NRC to coordinate with the covered state (i.e., South Carolina or Idaho) 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 and supporting performance assessment for residual waste incidental to reprocessing stored in the Idaho Nuclear Technology And Engineering Center Tank Farm Facility (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).

The NRC identified key attributes of the disposal facility, or key monitoring areas (KMAs), in its TER that are important to mitigating releases of radioactivity to the environment or that are otherwise important to DOE's demonstration of compliance with 10 CFR Part 61, performance objectives. The NRC developed a plan for monitoring the INTEC TFF in 2007 focusing on the KMAs listed in NRC's TER.

Since 2007, the NRC staff has performed a number of technical review activities and onsite observation visits that address KMA 3, "Hydrological Uncertainties", as detailed in the NRC staff's plan for monitoring the Idaho National Laboratory. The NRC staff developed KMA 3 to address a number of technical uncertainties associated with the DOE's representation of the hydrological system at the INTEC TFF, as it impacts the level of natural system performance assumed in DOE's groundwater model.

In 2011, DOE prepared a supplementary analysis to address many of the NRC staff's key technical issues associated with DOE's groundwater model, including concerns regarding the influence of Big Lost River seepage on attenuating releases from the INTEC TFF. The supplemental analysis showed that while the projected doses could be a factor of 2 higher, the 10 CFR 61.41 performance objective could still be met.

The NRC staff has reviewed a number of hydrological studies and environmental monitoring reports, since it began monitoring the INTEC TFF in 2007. While review of this additional information has increased the NRC staff's understanding of the hydrological system at the INTEC TFF, the information has not fundamentally changed the NRC staff's understanding of the technical uncertainties, nor has it changed the NRC staff's TER conclusions. Therefore, the NRC staff has decided to close KMA 3, "Hydrological Uncertainties", at this time. Should technical issues arise in the future, the NRC staff may reopen KMA 3, or create a new monitoring area. The NRC staff will also continue to review environmental monitoring reports routinely under KMA 4 "Monitoring During Operations", in conjunction with future onsite observation visits.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions or need additional information regarding this report, please call me at 301-415-7479, or call Mr. Maurice Heath, Project Manager of my staff, at 301-415-3137.

Sincerely,

**/RA/**

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

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**/RA/**

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

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