



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
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April 20, 2018

MEMORANDUM TO: Maria Arribas-Colon, Acting Chief  
Low Level Waste Branch  
Division of Decommissioning, Uranium  
Recovery, and Waste Programs  
Office of Nuclear Material  
Safety and Safeguards

THRU: Christopher A. McKenney, Chief */RA/*  
Performance Assessment Branch  
Division of Decommissioning, Uranium  
Recovery, and Waste Programs  
Office of Nuclear Material  
Safety and Safeguards

FROM: Cynthia S. Barr, Sr. Systems Performance Analyst */RA/*  
Performance Assessment Branch  
Division of Decommissioning, Uranium  
Recovery, and Waste Programs  
Office of Nuclear Material  
Safety and Safeguards

SUBJECT: TECHNICAL REVIEW OF ENVIRONMENTAL MONITORING  
REPORTS FOR F-AREA AND H-AREA TANK FARM  
FACILITIES (PROJ0734)

The U.S. Nuclear Regulatory Commission (NRC) staff has performed technical reviews of environmental monitoring reports prepared by the U.S. Department of Energy (DOE) to support F-Area and H-Area Tank Farm Facilities (FTF and HTF) closure at Savannah River Site. This technical review report is related to Monitoring Factor 4.3, "Environmental Monitoring," listed in NRC staff's Monitoring Plan for the Tank Farm Facilities (Agencywide Documents Access and Management System Accession No. ML15238A761). The NRC staff concludes the following:

1. DOE has performed environmental monitoring that provides useful information on the hydrogeological systems at FTF and HTF. This information can also be used to better understand contaminant flow and transport at the tank farm facilities (TFFs) and provide support for DOE Performance Assessment models.

CONTACT: Cynthia Barr, NMSS/DUWP  
(301) 415-4015

2. Uncertainty exists in the source of contaminant plumes detected via the FTF and HTF monitoring well networks. A better understanding of contaminant flow and transport processes at the TFFs, and more extensive data analysis and interpretation could help reduce this uncertainty.
  
3. Performance assessment modeling and analysis should be better integrated with the groundwater monitoring program at the TFFs. For example, FTF and HTF monitoring well placement could be better optimized to detect releases from the tank farm facilities should releases occur in the future. PORFLOW groundwater transport models are currently available but do not appear to be fully utilized to establish the monitoring well network, particularly to inform vertical placement of wells. Performance assessment modeling assumptions and results could be used to determine key constituents and field monitoring data which would provide the most useful information to evaluating performance of and detect early releases from the TFFs.

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cc: James Folk, Assistant Manager  
Waste Disposition  
U.S. Department of Energy  
Savannah River Operations Office  
P.O. Box A  
Aiken, SC 29802

S. Wilson  
Federal Facilities Liaison  
Environmental Quality Control Administration  
South Carolina Department of Health  
and Environmental Control  
2600 Bull Street  
Columbia, SC 29201-1708

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