

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

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:	Christepher 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.

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- 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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