



Department of Energy

Washington, DC 20585

September 10, 2025

Dr. Thomas Burns, Jr.
President and Program Manager
Savannah River Mission Completion, LLC
Savannah River Site
Building 766-H
Aiken, South Carolina 29808

NEL-2025-01

Dear Dr. Burns:

The Office of Enforcement has completed an evaluation into a safety incident that occurred on February 10, 2024. The incident involved Savannah River Mission Completion, LLC (SRMC) processing a batch from the Defense Waste Processing Facility (DWPF) Recycle Collection Tank (RCT) without following approved procedures as reported into the U.S. Department of Energy (DOE) Noncompliance Tracking System under NTS-EM-SRFO-SRMC-WVIT-2024-0010880, dated March 29, 2024. Based on this evaluation, the Office of Enforcement identified concerns that warrant management attention by SRMC.

The specific concerns relate to an SRMC employee knowingly adding chemicals to the RCT without adhering to procedural requirements that implement the DWPF Waste Compliance Plan specific administrative control (SAC). This SAC, which is established in WSRC-SA-6, *Defense Waste Processing Facility Safety Basis*, Revision 41, dated January 2023, ensures that the chemical composition of the waste is adequately controlled to protect workers and the public from radiological consequences.

Following the addition of chemicals, the employee completed the associated documentation as if they had followed the procedure correctly. However, there were discrepancies between the operator logbook, the completed procedures, and the data captured in the distributed control system (DCS) (the electronic system used to control process equipment, monitor facility equipment status, and report operational data). Operational personnel did not detect these discrepancies through established process controls. During a thorough review of the DCS process trends and the RCT transfer documentation, DWPF engineering identified the discrepancies four days later on February 14, 2024.

SRMC investigated this incident and determined that “the primary problem” involved the employee “knowingly failing to adhere to company policies and requirements” when the employee added the chemicals. SRMC’s investigation also identified that the employee’s

supervisor “failed to meet management expectations” when authorizing the equipment operation. The Office of Enforcement agrees the direct cause of the incident was the willful action of the employee and recognizes the incident was revealed through the diligence of DWPF engineering. However, the investigation did not fully address gaps in the implementation of the Conduct of Operations program and its controls for detecting such operational discrepancies. These factors included:

- Inadequate formulation and conduct of the independent verifications (IV)¹ required by WSRC-SA.6 to “minimize the potential for human error” when implementing the DWPF Waste Compliance Plan SAC. SRMC’s Manual 2S, *Conduct of Operations*, Procedure 5.7, *Verification Methodologies*, revision 9, dated March 23, 2017, section 5.5 states that “[t]here must be no doubt as to the determination of the actual position of a component...The individual performing the verification must not rely upon the observed actions of the individual performing the initial alignment, installation, or verification to determine the correct component identification, position, or condition. Verifier independence must be maintained to ensure the integrity of the verification by minimizing interactions between individuals.”

However, three procedural steps that were marked as implementing the SAC, and required verification from another qualified employee, either lacked verification of actual plant conditions, as required by DOE O 422.1 and Manual 2S, or were performed incorrectly. Consequently, the IV process, intended as a barrier to minimize the risk of human error and confirm correct configurations, was ineffective at detecting the incorrect operational state and documentation from the actions taken. For example:

- One step, marked as directly implementing the SAC, required the time of the chemical transfer to be recorded and verified by a second person. In this instance, the recorded time was inaccurate, as the transfer had been authorized by the employee’s supervisor and completed 3.5 hours earlier, and the verifier relied solely on the information provided by the requesting employee. Had the verifier utilized readily available information, such as the DCS data (the same information later used by DWPF engineering to identify the issue), they could have identified this discrepancy. This ineffective verification process delayed the detection of incorrect operational data and diminished the intended effectiveness of IV as a safeguard against errors related to the SAC.
- Similarly, three verification steps related to chemical quantities and tank levels (including one marked as specifically implementing the DWPF Waste Compliance Plan SAC), implied that the verification was based solely on checking quantities of chemicals entered into the procedure, rather than verifying

¹ DOE Order 422.1, *Conduct of Operations*, attachment 2, appendix A, *Detailed Conduct of Operations Matrix*, states that independent verification involves “having each check include identification of the component and determining both its required and actual position, and minimizing interactions between operators.”

actual plant conditions or confirming amounts reflected in the DCS. Had the verifier checked actual tank levels or the tank level graphs in the DCS, (the same information used by DWPF engineering to find the issue), they would have identified the 3.5 hour discrepancy between the documented verification time and when the tank level change actually occurred. This demonstrates a gap in effectively applying IV to confirm critical equipment configurations and data against actual conditions or reliable system data.

- Manual 2S, *Conduct of Operations*, Procedure 2.4, *Operating Logs*, Revision 12, dated January 24, 2019, requires supervisors to review logs to ensure accuracy and adequacy, and that no adverse trends are developing². The supervisor's review, however, failed to identify the inaccuracies and discrepancies between the documented information (in the logs and procedures) and the actual operational sequence and conditions (as shown by authorization times, IV sign-offs, and DCS data comparison). Identifying such discrepancies is a key part of the supervisory review process to detect procedural lapses and to ensure accuracy. The failure to do so further delayed the identification of the incorrect operational state related to the DWPF Waste Compliance Plan SAC.
- The facility was in a state of "deliberate operations," a heightened mode focusing on strict procedural adherence with additional oversight measures to address prior operational concerns. Despite this increased focus, the operational environment and oversight measures were ineffective at identifying that the employee performed the actions without the required procedure physically in hand at the time or that the subsequent detailed procedure entries and logbook data were falsified and did not reflect the actual sequence and timing of events. In this instance, deliberate operations did not provide an effective additional barrier for detecting fundamental non-adherence or falsification of records related to a nuclear safety related activity.

While DOE agrees that employee willfulness was a significant factor in this event, the resulting incorrect operational data and documentation (e.g., recorded inaccurate tank levels or transfer completion times) appear indistinguishable from those that could arise from unintentional errors. Conduct of Operations programs, including their associated controls like IV and supervisory review, are designed to anticipate and mitigate the consequences of such errors by ensuring their timely detection and correction, especially in cases where operating outside of an approved safety basis could violate an SAC essential for public protection.

The Office of Enforcement has elected to issue this Enforcement Letter to convey concerns regarding: (1) weaknesses in the effectiveness of SRMC's implementation of elements of the conduct of operations program designed to mitigate the nuclear safety impacts of operator error, specifically the program's ability to detect and correct operational deviations and inaccuracies; (2) the limited effectiveness of deliberate

² DOE Order 422.1, *Conduct of Operations*, attachment 2, appendix A, *Detailed Conduct of Operations Matrix*, states that the periodic supervisory review of logs is for "accuracy, completeness, timeliness, trends, and conformance with management direction".

operations in reducing the likelihood of such errors; (3) gaps in the independent verification process intended to confirm that critical equipment configurations match procedural requirements; and (4) deficiencies in SRMC's program for identifying and correcting procedural lapses, including deliberate operations, supervisory control, and the identification, implementation, performance, and documentation of independent verifications.

Issuance of this Enforcement Letter reflects DOE's decision to not pursue further enforcement activity against SRMC at this time. In coordination with DOE's Office of Environmental Management, the Office of Enforcement will continue to monitor SRMC's efforts to improve nuclear safety performance.

This letter imposes no requirements on SRMC, and no response is required. If you have any questions, please contact me or your staff may contact Mr. Jacob M. Miller, Director, Office of Nuclear Safety Enforcement, at (301) 903-7707.

Sincerely,

A handwritten signature in black ink, appearing to read "Robin M. Keeler". The signature is fluid and cursive, with the first name "Robin" being more prominent.

Robin M. Keeler
Acting Director
Office of Enforcement
Office of Enterprise Assessments

cc: Paul Shedd, Savannah River Mission Completion, LLC
Edwin Deshong, SR