Department of Energy
Savannah River Operations Office
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September 14, 2026

Ms. Susan B. Fulmer, P. G., Manager
Federal Remediation Section
Division of Site Assessment, Remediation and Revitalization
Bureau of Land and Waste Management
South Carolina Department of Environmental Services
2600 Bull Street
Columbia, South Carolina 29201

Mr. Jon Richards
Savannah River Site Remedial Project Manager
Superfund and Emergency Management Division
U. S. Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Dear Ms. Fulmer and Mr. Richards:

SUBJECT: Revised Action Memorandum and Responsiveness Summary for the Non-Time Critical Removal Action for the F-Area Material Storage Building (235-F)

Pursuant to the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations [CFR] Section 300.415) and the Savannah River Site (SRS) Federal Facility Agreement (FFA) (Appendix K.1: D&D Facilities to be Decommissioned), the United States Department of Energy (USDOE) prepared a Removal Site Evaluation Report/Engineering Evaluation/Cost Analysis (RSER/EE/CA) for the F-Area Material Storage Building (235-F) (SRNS-RP-2021-00001, Revision 1, February 2022). Elevated levels of plutonium-238 and neptunium-237 contamination within the facility meet the criteria in 40 CFR Section 300.415(b)(2)(i): *Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants.* In addition, a risk evaluation for polychlorinated biphenyls (PCBs) and lead, based on maximum detected concentrations in building paint, was conducted to demonstrate that risk from non-radiological hazardous substances is negligible when compared to the primary radiological risk drivers. Risk from exposure to hazardous substances is well bounded by the risk from exposure to plutonium-238 and neptunium-237 in the process areas. The USDOE, United States Environmental Protection Agency (USEPA), and South Carolina Department of Environmental Services (SCDES) reached agreement in 2019 that a Non-Time Critical (NTC) removal action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) is an appropriate regulatory mechanism to decommission Building 235-F. The regulatory review of the Revision 0 RSER/EE/CA occurred from September 2021 to January 2022.

The SRS received comments from the SCDES and USEPA on October 25, 2021 and November 8, 2021, respectively. SRS received additional comments from the USEPA on January 13, 2022. SRS responses to the USEPA and SCDES comments were incorporated into the Revision 1 RSER/EE/CA, and the document was made available for public review and comment from April 5, 2022 through May 4, 2022.

No comments were received on the Revision 1 RSER/EE/CA during the 30-day public comment period. The Action Memorandum documenting the selection of Alternative A-2, In-situ Decommissioning of First and Second Level Process Areas/Engineered Roof, was submitted to the regulators on May 19, 2022, and issued to the public on June 1, 2022.

As discussed with your agencies on June 29, 2026 via Microsoft Teams, the preliminary design process determined that Alternative A-2 cannot be implemented in a way that satisfies the effectiveness criteria. This is due to the risk of differential settlement and structural failure caused by partial grouting leading to an inability to achieve the removal action objectives. In lieu of Alternative A-2, this revised Action Memorandum documents the selection of Alternative A-3, In-situ Decommissioning of Entire Building/Engineered Roof. The revised action memorandum will be made available to the public through the publication of an Environmental Bulletin and will be made part of the SRS Administrative Record File/Information Repository File (ARF/IRF).

Building 235-F is a windowless, two-story, reinforced-concrete structure located in F Area near the center of SRS. The building is approximately 68 meters (222 feet) long, 33 meters (109 feet) wide, and 8.5 meters (28 feet) high. Building 235-F was constructed in the 1950s as part of the original SRS project and used for a variety of missions, primarily processing, storage, and distribution of radioactive materials in support of SRS and the USDOE complex. Building 235-F and support facilities are currently in a reduced surveillance and maintenance state while design for decommissioning is being conducted. Building 235-F is designated a Hazard Category 2 non-reactor nuclear facility according to DOE STD-1027-92 due to the radiological contamination within the building, consisting primarily of neptunium-237 in the Actinide Billet Line and plutonium-238 in the Plutonium Fuel Form Facility, Old Metallurgical Laboratory, and the Plutonium Experimental Facility.

Two additional structures exterior to Building 235-F are also included in the scope of this NTC removal action. They include an abandoned capped stack (293-F) located on the east side of the building and an underground storage tank connected by a pipe trench on the north side of the building. The underground storage tank previously contained radionuclide contamination (plutonium and tritium) and hazardous waste constituents (cadmium and chromium). The tank was emptied in 1991 by pumping out the liquid and sludge and cleaned by scraping and mopping the walls and bottom of the tank and flushing the tank. The tank inlet pipe has been capped.

A human health risk assessment and fate and transport modeling were conducted for contamination that will remain in the building following deactivation. Potential exposure to residual radiological contamination exceeds the hypothetical future industrial worker risk threshold of one excess cancer in an exposed population of one million (risk greater than 1E-06) and principal threat source material levels that exceed the risk threshold of one excess cancer in an exposed population of one thousand (risk greater than 1E-03). ln addition, residual radiological contamination has the potential to leach to groundwater at levels that would exceed maximum contaminant levels in groundwater. Therefore, the objectives of the NTC removal action are to protect human health and the environment as follows:

- Prevent exposure of the hypothetical future industrial worker to radiological contaminants present in Building 235-F that exceed 1E-06 risk thresholds (including principal threat source material); and
- Prevent the migration of radionuclide contamination from Building 235-F to groundwater at concentrations that exceed maximum contaminant levels to the extent practicable.

Alternative A-3, In-situ Decommissioning of Entire Building/Engineered Roof, includes the grouting of all rooms within Building 235-F, the installation of an engineered roof (sloped concrete reinforced roof slab with integral crystalline waterproofing) designed to last 1,000 years, grouting/capping of the underground storage tank, and permanent sealing of the abandoned capped stack (293-F). The major difference between Alternative A-2 and Alternative A-3 is that in addition to all process areas, all non-process areas will be grouted in Alternative A-3. This full grouting of Building 235-F results in a more uniform settlement; therefore, preserving the integrity of the building and ensuring effective confinement of the radiological holdup. Alternative A-3 meets the effectiveness criteria by preventing access to radiological and hazardous contamination in the process areas as well as preventing access to slightly contaminated and all non-contaminated areas.

Entombing the contamination within the building and grouting the underground storage tank will prevent release of contamination. Constructing a sloped reinforced concrete roof on Building 235-F will prevent rainwater infiltration and delay contaminant transport to groundwater. PCBs may be present in sealants and paints in a non-liquid form and will remain inside the building. The in-situ entombment described within this action will prevent direct contact of any receptors to the PCBs and mitigate the risk of any leaching to the groundwater through multiple layers of concrete and approximately 50 feet of soil. The technical, environmental, and waste-specific information contained within the RSER/EE/CA indicate that this alternative will not pose an unreasonable risk or injury to health or the environment as required by 40 CFR 761.62(c).

Administratively, Alternative A-3 is similar to Alternative A-2 in that they both provide flexibility in implementation because it is possible to grout one area at a time should a phased approach to implementing the NTC removal action be needed due to funding or resource limitations. Building 235-F is situated within the industrial F Area which contains multiple other facilities and units yet to be addressed. Land use in F Area is reasonably assumed to remain industrial. In the future, a final CERCLA remedial decision for F Area will include a baseline risk assessment that considers all facilities and actual and potential releases in the area. Land use controls implemented as part of a future decision for F Area will include the permanently decommissioned Building 235-F. The preferred NTC removal alternative, Alternative A-3, is expected to comply with the applicable or relevant and appropriate requirements (ARARs) identified by the USDOE and USEPA Region 4 in the RSER/EE/CA, Appendix C-Potential ARARS and To Be Considered (TBC) Criteria for Building 235-F.

Upon conclusion of the NTC removal action, a completion report (e.g., Removal Action Report) that summarizes the work and describes the end-state condition of Building 235-F will be prepared and submitted to USEPA and SCDES to document the completion of the removal action, and placed in the SRS ARF/IRF.

Questions from you or your staff may be directed to me at (803) 952-7556 or Matthew Baker, Acting SRS FFA Remedial Project Manager, at (803) 952-6211

Sincerely,

KAREN MORROW Digitally signed by KAREN MORROW
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Karen D. Morrow
Office Director for Closure and Project Management
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