

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 17, 2025

TO: R. T. Davis, Acting Technical Director
FROM: F. J. Harshman, L. Lin and E. P. Richardson, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending January 17, 2025

Staff Activity: An Oak Ridge resident inspector (RI), F. J. Harshman, was onsite this week to provide RI augmentation.

Defense Waste Processing Facility (DWPF): The Oak Ridge RI conducted a facility walkdown of DWPF. The RI and the shift operations manager (SOM) discussed status of the facility's current limiting conditions for operation (LCO), status of the safety significant diesel generators, and the upcoming facility outage. The outage scope includes the repair of the main process cell cameras that have had degraded functionality for an extended period (see 12/27/24 and 1/3/2025 reports). During the walkdown, the RI identified two separate areas that have combustible material stored in a manner that is not compliant with their respective fire protection storage permits. The RI provided their observations to the SOM for correction.

Surplus Plutonium Disposition (SPD): Construction is building new walls and an elevated slab that will join with the existing structure for the SPD project. An NNSA representative questioned the steel dowel lengths, which need to have certain lengths depending on factors such as bar size and positioning in the wall. Upon investigation, they discovered that many the dowels already embedded in concrete did not meet the length requirement specified in the design drawings. SPD stopped work and performed an extent of condition review, which found additional issues. Most of the issues stemmed from errors in interpretation of the lengths needed. The design drawings include a table with bar lengths, but it also contains numerous notes with factors to be applied depending on the situation. Due to how complicated the design drawings are, construction develops a cut sheet that is then used by the fabrication shop, which contained the incorrect lengths in this case. Quality control engineers review the design drawings but not the cut sheets. The project has initiated non-conformance reports which will have to be dispositioned, a causal analysis will be performed, and corrective actions developed.

Savannah River Tritium Enterprise (SRTE): While preparing for an activity in H-Area Old Manufacturing (HAOM) in which reservoirs containing hydrogen isotopes would be relocated, a fire protection engineer raised a question that initiated a flammable gas review for the activity. In the fire hazards analysis (FHA), the new room they wanted to relocate the reservoirs into is assumed to store less than 400 cubic feet of flammable gas, and the entire facility is assumed to have less than 2,000 cubic feet, the latter of which is also based on NFPA 55 requirements. The flammable gas calculations showed that they would exceed the 400 cubic feet limit for the room for this activity, but it also showed that the building currently exceeded the 2,000 cubic feet limit. SRTE entered the LCOs for their safety significant fire suppression systems (FSS) in all their process buildings and are conducting four -hour fire patrols. They also entered the Potential Inadequacy in the Safety Analysis process since this issue could impact the ability of the FSSs to mitigate a release of tritium. SRTE did not have procedures in place to account for flammable gas inventory to ensure that they are below the NFPA 55 thresholds and their FHA assumptions. SRTE will continue to evaluate their facilities and develop corrective actions.