

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 17, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: L. Lin, Z.C. McCabe, and E.P. Richardson, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending May 17, 2024

Tank Farms: Tank Farms personnel resumed an issue investigation on the unexpected contamination and radiation levels at H-Area Diversion Box #8 (see 5/3/24 report). Radiological protection department (RPD) personnel performed additional radiological surveys and found no detectable radiation past the two valves closest to the flush water valve box. Operations flushed the line to try and decrease dose rates at the two valves. Operations looked at previous transfers, leak tests, and other activities that may have opened those valves, but could not determine the original source of the contamination and dose rates. Personnel are preparing a work package to remove insulation from, inspect, and replace the valves. RPD personnel installed a portable area radiation monitor near the flush water piping in addition to continuing the more frequent surveys of the flush water line.

The facility recalled the declaration of a Technical Safety Requirement violation due to a Tank 9 water addition that inadvertently added water to Tank 11 while the purge ventilation system was out of service (see 4/19/24 report). The facility declared the time of discovery to be during the camera inspection in Tank 11, which occurred after the ventilation had been restored. In addition, they determined that this was not a reportable event for an inadvertent process liquid transfer since it did not result in any impacts to safety. However, the facility did identify this issue as a management concern in DOE's occurrence reporting and processing system.

Savannah River National Laboratory (SRNL): BSRA management continue efforts to implement revision 3 of the safety basis. Last week's interviews included many personnel who do not perform safety basis impacting tasks. As a result, BSRA management scheduled additional personnel interviews following the supplemental training to verify resolution of the previously identified safety basis knowledge gaps (see 5/10/24 report). BSRA management still have no plans to perform field demonstrations for dozens of the new specific administrative controls (SACs) as part of implementation verification efforts, contrary to guidance in DOE Guide 423.1-1B (see 4/5/24 report). The guidance states that Implementation Verification Reviews should either include observations of the execution of SAC procedures or a walkdown with the personnel responsible for executing the procedures. In fact, BSRA management stated that unless the personnel were involved in the development of some of the SAC implementing procedures, the personnel executing them will likely not have reviewed the procedures until they are required to perform them after implementation.

Enterprise Assessments (EA): EA-34 conducted a review of the Melter Off-Gas and Emergency Electrical Power systems at the Defense Waste Processing Facility. They identified a potential inadequacy in the safety analysis (PISA) associated with the Safety Grade Nitrogen (SGN) system. Specifically, DWPF personnel did not consider the effects of boiling liquid expanding vapor explosions in the SGN system that could impact nearby safety systems. As part of an extent of condition review, SRMC personnel evaluated similar PISAs at the Tank Farms and the Salt Waste Processing Facility and declared for the latter.