

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 21, 2023

TO: Timothy J. Dwyer, Acting Technical Director
FROM: A.Z. Kline, L. Lin, Z.C. McCabe, and E.P. Richardson, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending July 21, 2023

Staff Activity: Members of the Board's staff, B. Broderick, R. Eul, D. Minnema, and B. Saltus, were onsite to conduct a review on the criticality safety of Accelerated Basin De-inventory operations. The staff team discussed lines of inquiry with federal and contractor staff. Hanford site resident inspector (RI) N. Huntington was onsite for RI augmentation and cross-pollination.

K-Area: SRNS personnel conducted an issue investigation when operations personnel on night shift unnecessarily entered a Limiting Condition of Operation (LCO) and stopped glovebox operations due to inadequate turnover and status control of a safety credited fire panel. Day shift operations personnel installed a lockout on a non-safety fire panel that triggered a trouble alarm on the safety significant fire panel for loss of communication to the locked-out panel. The trouble alarm was an expected alarm that was communicated from the fire protection coordinator (FPC) via email to the Shift Operations Manager (SOM). However, the impact was not included in the lockout, fire impairment, or work package, and not discussed at shift turnover. When an operator conducted rounds on the night shift and saw the alarm on the safety credited fire panel, the SOM could not determine if the alarm was expected and subsequently entered the LCO. The issue investigation did not have personnel directly involved with the event present, and thus struggled to determine the conversations that took place at turnover and the thought process of the SOM that resulted in the error.

H-Canyon: On July 8, a radiological protection inspector (RPI) found suspect yellow material on the floor in a contamination area on the third floor in section 9 of H-Canyon. The contamination probed 6,000 dpm/100 cm² alpha and 700,000 dpm/100 cm² beta-gamma. The RPI barricaded the area, notified the SOM, and then upgraded the location to a high contamination area/airborne radioactivity area. H-Canyon personnel believe the yellow powder was from a leaking depleted uranium drum that they found five months prior. When personnel originally discovered the leak, they pumped the contents into a new drum and bagged the failed drum but did not label it as waste. During the issue investigation, it became evident that personnel did not adequately communicate the need to dispose of the failed drum nor did they fully understand where, when, or by whom the bagged drum was moved. However, it is evident that the bagged drum was moved at least once. The generator certification official (GCO) only became aware of the bagged drum on June 14, when Material Control and Accountability personnel asked the GCO when it would be dispositioned. On June 22, an FPC requested the relocation of drums in front of the firewater header (where the suspect material was later found). However, the operators who moved two empty drums in front of the firewater header said they had not moved the bagged drum. The bag with the failed drum had holes in it, and RPD found <200 dpm/100 cm² alpha and 40,000 dpm/100cm² beta-gamma on the outside of bag. Operations double bagged the drum and tagged it to contact RPD prior to handling or movement. As an extent of condition, RPIs inspected all drums on the third level. The bagged drum was in an area that personnel regularly walk down, including for rounds. However, no operators, first line managers, RPIs, or the FPC were at the issue investigation.