

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 2, 2022

TO: Katherine R. Herrera, Acting Technical Director
FROM: Frank Harshman and Clinton Jones, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for the Week Ending December 2, 2022

Building 9212: The accountable steam condensate (ASC) system failed its semiannual surveillance requirement (SR) for the leak test of a credited flow isolation valve. This isolation valve is credited to prevent fissile solutions, which have the possibility of leaking into the system, from accumulating in an unfavorable criticality geometry. Operations personnel placed the system in warm standby mode and properly isolated the system using alternate valves. This SR is performed by isolating a section of the ASC system, pressurizing that portion of the system, and then monitoring for a pressure drop over a period of time. By virtue of this SR method, multiple components in the system are tested concurrently, however only one valve is specifically credited in the Building 9212 safety basis to provide isolation. As a result, CNS will have to perform additional testing to determine if the cause of the failure is the credited valve or another component within the boundary of the test. The Building 9212 Facilities Operations Management declared an occurrence for the performance degradation of a safety significant structure, system, or component based on the failure of the SR, and the fact that the credited valve could not be excluded.

Raschig Ring Drum: NPO approved a revision of the Justification for Continued Operation (JCO) for a Raschig ring filled drum that allows CNS to further characterize the drum contents (see 5/27/22 and 9/02/22 reports). This drum contains legacy waste of a unique nature and is under nuclear criticality safety administrative control awaiting disposition. In accordance with this JCO, workers attempted to further characterize the drum's contents using X-ray imaging. However, the drum contents were too dense to allow enough photons to pass through to the X-ray imaging panel to produce an image due to equipment limitations. CNS intends to reassess its path forward for the drum's ultimate disposition given these events.

NPO Oversight: The NNSA Production Office has finalized their plan for a Reactive Assessment examining the recent nuclear criticality safety infractions related to birdcage loading and movement (see 10/28/2022, 11/4/2022, and 11/11/2022 reports). NPO management is conducting the assessment to provide reasonable assurance that recent corrective actions taken to address those issues were appropriate, adequately scoped, and properly implemented. In addition, NPO will assess if current NCS controls are being properly implemented. The assessment will also examine if CNS has adequately considered potential analysis updates, procedure changes, and/or structure, system, or components modifications that could simplify implementation for the end user. The NPO Office of the Assistant Manager for Nuclear Safety and Engineering will be leading the assessment and will be utilizing the Nuclear Criticality Safety General Requirements (NCSGR) Criteria and Review Approach Document to perform this assessment. NPO plans to utilize document reviews, interviews, lines of inquiry, and walkdowns to review the adequacy of NCSGR control implementation in all nuclear facilities, in particular Buildings 9204-2E, 9212, and 9215.