DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 15, 2025

TO: Technical Director
FROM: Oak Ridge Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending August 15, 2025

Building 9215: Prior to the start of machining operations late last week, chemical operators discovered an excessive amount of liquid in the base of a large filter housing that supports ventilation for enriched uranium machining operations. At the time of discovery, chemical operators entered the abnormal operating procedure for an abnormal condition involving fissile material and established an administrative boundary. This boundary was initially collapsed to the filter housing by the shift manager. After further observation of the liquid, criticality safety engineers observed a blue tint, assumed it was machine coolant, and re-established the previous administrative boundary. Operators perform rounds that include an internal visual inspection of this housing through a window several times a shift and had noted this area as being dry at the end of the previous day. CNS is currently waiting on the results of sampling the liquid but is confident it contains machine coolant. During a preliminary visual inspection of ductwork leading to the filter housing, chemical operators identified an area where it appeared that machine coolant had leaked into part of the ductwork that did not contain a low-point drain path but lead to the roughing filter house floor. The shift manager suspended machining operations after the initial discovery of the liquid. As part of the sampling effort, deficient lighting and a dirty viewing window have been corrected within the filter housing. These actions will enable better characterization of any liquid and estimation of quantity without the need to shut the system down. CNS performed an event investigation early in the week but postponed a critique so they could gather more information on the potential source of the coolant.

Also in Building 9215, YFO completed the Federal Readiness Assessment (FRA) of the new electrorefining process with three post-start findings and twelve observations. The post-start findings are summarized as: 1) Several technical procedures lacked the appropriate use category, expected alarm responses, clarity, and notes; 2) Excessive failure rates for moisture and oxygen analyzer systems are inadequate to support safe conduct of work or reliable operation of the electrorefining process; and 3) Deficient emergency notification system in the electrorefining work area. The FRA team recommended to the startup authorization authority that electrorefining startup authorization be granted once corrective action plans for the post-start findings are approved by YFO. In addition to the corrective action plans, the FRA team concluded that several of the observations would have constituted higher-level issues if identified through routine YFO oversight processes. Based on this, YFO required a response regarding actions taken to address the observations.

Building 9204-2E: CNS completed the follow-on Implementation Verification Review (IVR) for the new Criticality Accident Alarm System (CAAS) in the building. As part of the final demonstration to the IVR reviewer, facility operations management removed the temporary modification that connected the legacy CAAS to the operational portion of the system. CNS personnel subsequently took actions to ensure all documentation related to the new CAAS was fully implemented and effective in the official document management system.