

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 3, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: Matthew Duncan, Frank Harshman, Clinton Jones, and Brandon Weathers,
Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending June 3, 2022

On January 5, M. Duncan temporarily ceased resident inspector duties to begin a detail as the acting Associate Technical Director for the Nuclear Facilities Infrastructure and Projects group. He recently assisted with resident inspector duties and will resume his detail next week.

Nuclear Criticality Safety: NPO approved the Justification for Continued Operation and Evaluation of the Safety of the Situation for the drum that contains Raschig rings and an unknown uranium-bearing material (see 4/22/22 and 5/27/22 reports). There were no conditions of approval. This allows CNS to perform additional characterization and analysis to determine an appropriate set of actions to disposition the drum and its contents.

NPO personnel recently reviewed enriched uranium sample storage locations in Building 9995—the Analytical Laboratory—and discovered that some storage locations were not in compliance with a requirement in the criticality safety evaluation. The immediate response by facility personnel was appropriate. The requirement from the criticality safety evaluation limits the number of sample bottles or vials to six per bin. Six of the bins violated the requirement as they contained up to eight bottles or vials each. The Corrective Action Review Board for nuclear criticality safety will review and approve causes and any actions deemed necessary.

This process is separate from the enterprise-wide event recovery and notification process. The resident inspector reviewed criticality safety evaluation and reference use procedure and found the requirement was included verbatim in the procedure, though it could be clearer in another section. One of the screening questions for requiring an investigation and critique using the enterprise-wide process is “[d]id a failure to comply with a procedure...result in...abnormal or unexpected safety conditions...?”. This criticality safety infraction appears to meet that criterion, but CNS did not use the enterprise-wide process. NPO staff have been evaluating both processes, including documenting an operational awareness report covering six months of oversight that concluded that the nuclear criticality safety noncompliance investigation, critique, and Corrective Action Review Board processes appear to be robust and self-critical. The report had two noteworthy practices and four observations.

Building 9215: The resident inspectors walked down the enriched uranium and depleted uranium areas of the facility. There has been a significant effort to remove antiquated machinery and replace those capabilities with modern equipment. In addition, installation of the electrorefining gloveboxes and associated major equipment in Building 9215 continues and is scheduled to start up next year. CNS plans to submit a safety basis supplement to NPO for approval to bound this new process until the safety basis revision associated with the extended life program is approved and implemented. Once placed into service, this new system will reduce or eliminate the need for several processes in Building 9212.