

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 27, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: Matthew Duncan and Brandon Weathers, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending August 27, 2021

DNFSB Staff Activity: Members of the technical staff had a teleconference with NPO and DOE Headquarters personnel to discuss the results of a complex-wide DOE oversight review (see 10/9/20 report).

Building 9212: CNS completed the eighth out-of-service system isolation for fiscal year 2021. With this isolation, CNS met their DOE milestone and exceeded the number of permanent system isolations that were performed last year (see 10/2/20 report). As a result of recognizing that several out-of-service systems lacked a current basis for criticality safety in 2019, CNS began considering nuclear criticality safety priorities as a factor in determining the schedule for permanent system isolations and adding material cleanout to the work scope, if applicable (see 10/25/19 report). Consequently, CNS moved some systems forward in the schedule to be worked in fiscal year 2021 based on nuclear criticality safety considerations.

CNS recently performed an activity to open and visually identify the contents of several unlabeled drums that were identified in February 2020. After CNS recognized that the contents were unknown, they placed the drums under administrative control. Markings on one drum suggested that it was last opened in 1993. Last year, CNS performed non-destructive assay measurements from the exterior of the drums and those results indicated that the drums did not contain fissile material. However, CNS was not successful in finding evidence to specifically identify the contents of the drums. CNS subsequently entered the condition into the potential inadequacy in the safety analysis evaluation process, but it remained in a non-mature status for an extended period of time due to challenges with developing an implementable plan to evaluate the contents. CNS convened a Management Review Board to discuss the inspection activity, which involved pumping argon into the drums and using a HEPA unit. CNS subject matter experts were able to confidently identify the contents of the drums and confirm the non-fissile material determination.

The Enriched Uranium Operations organization exceeded its fiscal year 2021 goal of processing briquettes. CNS projected that the entire briquette inventory should be processed in 2022.

Highly Enriched Uranium Materials Facility: Last Thursday, a trouble signal was generated at the fire alarm control panel for a credited smoke detector of the secondary confinement system. The shift manager entered the applicable limiting condition for operation and completed the required actions. Personnel executed a surveillance requirement to function test the smoke detector and it failed. Two smoke detectors are required to be operable in each secondary confinement system smoke detection zone. Since this zone only has two smoke detectors, the failure resulted in smoke detection not being operable. As a result, CNS reported the event in DOE's Occurrence Reporting and Processing System for performance degradation of a safety significant system. The smoke detector had passed its annual surveillance requirement two days before the failure.