

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 29, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: Brandon Weathers, Resident Inspector
SUBJECT: Oak Ridge Activity Report for Week Ending April 29, 2022

DNFSB Staff Activity: J. Heath, R. Oberreuter, D. Shrestha, and M. Wright were at Y-12 to perform walkdowns for a fire protection programmatic review. The staff visited the Highly Enriched Uranium Materials Facility, Building 9212, Building 9720-5, and Building 9215.

Nuclear Criticality Safety: Since 2019, NPO has expressed a concern to CNS due to the number of nuclear criticality safety infractions that were attributed to personnel errors (see 6/7/19 report). NPO has tracked this issue as a management concern since 2020 and has regularly discussed the status of corrective actions with CNS. CNS issued a plan this month that documented completed actions and defined the in-progress actions that are intended to address the NPO management concern. Some of those actions are described below.

From a review of nuclear criticality safety infractions in 2020, CNS found that many of the infractions that were categorized as personnel errors were associated with a procedure for containers and material handling (see 8/28/20 report). CNS has made several revisions to that procedure, including a significant revision in 2021. Under the recently issued plan, CNS will perform a follow-up assessment of the revised containers and material handling procedure.

CNS also issued a procedure to formalize a material review board process for Building 9212. This procedure replaced a standing order that had been in place since an event occurred last fall where operators found an unexpected material form (see 10/1/21 and 12/3/21 reports). The material review board will review a broad set of information to check that the material composition is compliant with the Building 9212 safety basis. This review includes verifying that the material meets all applicable nuclear criticality safety loading and material limits.

Following several nuclear criticality safety backoffs where operators identified material forms that did not correspond with the most specific material form code, the resident inspector met with multiple CNS organizations last year. The resident inspector discussed the use of material form codes by organizations other than the nuclear material control and accountability organization. CNS has undertaken actions to address the resident inspector's observations and included those actions in the plan for addressing personnel errors. The enriched uranium operations and nuclear material control and accountability organizations are collaborating to develop and pilot a material form code training course that is focused on production supervisors and operators. CNS intends for the training to provide both an overview of material form codes and specific aspects regarding nuclear criticality safety related impacts during material processing and storage. The training will also include lessons learned from material form code related infractions.

Since the NPO management concern, CNS has restored the Y-12 operational drill program. In fiscal year 2022, CNS plans to conduct approximately 20 field drills. The resident inspector has noted positive engagement among the drill participants during the drills that have been observed (see 12/10/21 and 3/25/22 reports).