

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 15, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: Frank Harshman, Clinton Jones, and Brandon Weathers, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending July 15, 2022

DNFSB Staff Activity: Matthew Duncan completed his service as an Oak Ridge resident inspector and returned to DNFSB Headquarters, where he continues his current detail assignment (see 6/3/22 report). Oak Ridge was his third assignment as a resident inspector. He previously served at the Savannah River Site and Pantex Plant.

Nuclear Criticality Safety: Last week, CNS performed passive non-destructive assay measurements on the Raschig ring filled drum in Building 9212 (see 1/21/22 report). CNS requested to perform this measurement in the Justification for Continued Operation that NPO approved last month (see 6/3/22 report). CNS is investigating additional methods to further characterize the material in the drum. If CNS determines that those additional methods are viable, then CNS will request approval via a revision to the Justification for Continued Operation. CNS recently performed a test on an x-ray generating device in a Y-12 development facility to determine if that device would affect the Building 9212 criticality accident alarm system. X-ray measurements would help CNS determine the distribution of material within the drum. After CNS is able to obtain additional characterization information and incorporate that information into the nuclear criticality safety analysis, CNS will determine a path forward to ultimately disposition the drum contents.

Separately, CNS is finalizing the development of a new training course on production uses of nuclear material control and accountability (NMC&A) material form codes. The goal of the training course is for production personnel to have an improved understanding of the background of material form codes and how the nuclear criticality safety organization has adopted their use for nuclear criticality safety-related operations decisions. Last year, a resident inspector began discussing with CNS and NPO his observations about potential challenges related to how material form codes were being used and managed for purposes beyond their primary NMC&A purpose (see 4/29/22 report). After CNS considered the resident inspector's observations and recent material form code-related nuclear criticality safety events, the Enriched Uranium Operations Production Director led the development of this training course as one method to help prevent reoccurrence of material form code-related nuclear criticality safety events. He also initiated a revision to the Y-12 material form code manual to incorporate visual examples of many of the material forms. The training course will stress the need to seek consultation from both NMC&A and nuclear criticality safety personnel when operations personnel have questions about the material form. The training course will also cover the use of nuclear criticality safety subform codes, which can provide additional information on distinguishing material types that are important for nuclear criticality safety.

Aging Infrastructure: A resident inspector attended a briefing on the Development and Status of the Y-12 Aging Management Program that Y-12 NPO and CNS provided to NNSA personnel from NNSA NA-50 (Safety, Infrastructure and Operations).