

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 17, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: Matthew Duncan and Brandon Weathers, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending September 17, 2021

Building 9212: While executing a work package to isolate five out-of-service tanks from the portion of the system that is still used, personnel found the tanks contained a large quantity of liquid. They had assumed the tanks were empty other than potentially containing some residual liquid. The Enriched Uranium Operations Production Director responded to assess the condition and based on the advice of a nuclear criticality safety engineer, placed the area under administrative control. Personnel drained approximately 308 liters of liquid from the tanks into safe bottles. The liquid was almost clear with a pale yellow discoloration. Y-12 historically stored precipitator filtrate in the tanks, which typically has a cloudy appearance. CNS plans to sample the liquid to determine if it is precipitator filtrate. A multi-disciplinary team walked down the area. Afterwards, nuclear criticality safety personnel provided guidance to collapse the administrative boundary to the affected tanks. At the fact finding meeting, personnel discussed whether the walkdowns that were conducted prior to the activity were adequate and involved all of the proper personnel. Those walkdowns occurred before CNS developed a corrective action aimed at improving walkdowns as a result of an event in July (see 7/30/21 report). CNS also created an action to assess if other out-of-service tanks have residual liquid in them, but that action only applies to tanks that are amenable to visual inspection.

Fire Protection: Previous weekly reports have noted instances of low fluid levels in chip cylinders that are used to store metal turnings from uranium machining activities (see 4/10/20 and 6/18/21 reports). The resident inspectors noted inconsistencies between Y-12 facilities regarding if and when CNS checks the fluid levels (see 8/13/21 report). NPO recently requested that CNS consider whether a periodic surveillance of the fluid level should apply after a storage time threshold is reached. CNS fire protection engineers recommended checking the fluid level if the storage time exceeded 6 months. Based on that recommendation, CNS production and engineering management plan to establish a periodic surveillance to inspect and if needed, add additional fluid to the chip cylinders.

Uranium Processing Facility: Last Thursday, CNS submitted revision A of the documented safety analysis and technical safety requirements to NPO for review and approval. CNS plans to submit revision 0 in 2023. NPO's approved review plan for revision A targets an approved safety evaluation report by May 2022. The safety basis review team consists of more than 20 people. At a high level, the submittal proposes some changes to credited controls, adding two, removing four, and modifying seven.

Y-12 Excess Facilities: CNS successfully drained the remaining brine from Building 9204-4 (an excess production facility). The legacy facilities section manager discussed that upcoming project with a resident inspector earlier this summer during a walkdown of the facility (see 7/23/21 report).