

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 13, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: Matthew Duncan and Brandon Weathers, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending August 13, 2021

Building 9204-2E: Operators performed a surveillance of chip dolly cylinders to check for indications of solvent leakage and found that 5 of the 16 cylinders had a liquid sheen along the welds at the base of the cylinder. Operators also checked the solvent level of the cylinders and had to add solvent to two of the cylinders to ensure that the metal chips were covered. Building 9204-2E personnel previously increased the surveillance frequency for inspecting the chip dolly cylinders for signs of leakage and checking the solvent level based on prior events related to leakage and low solvent levels (see 6/18/21 report). CNS also stores loaded chip dolly cylinders in Building 9215. There is not a periodic surveillance to check the solvent level of the Building 9215 chip dolly cylinders if they remain in storage for an extended period. Rather, Building 9215 operators check the solvent level prior to shipment from the facility. Over the past several years, different issues have resulted in loaded chip dolly cylinders being stored in Building 9215 longer than they typically would under normal chip processing operations (see 6/21/18, 12/14/18, 10/30/20, and 7/16/21 reports). It is plausible that those cylinders may have also lost solvent.

Building 9212: Last week, operators noticed that a piece of cast uranium was sparking after it had been oiled and placed into a storage device (bird cage). CNS established administrative control of the area and applicable subject matter experts responded (including nuclear criticality safety). Following the subject matter experts' guidance, operators recast the item after it stopped sparking. The recast item did not spark. CNS screened the event to determine whether an event investigation was required; an investigation was not required. CNS does not know the cause of the sparking behavior, but screening the event ensured that a record of it is visible in an electronic database so that it can be referenced if a similar event occurs in the future.

Nuclear Criticality Safety: Nuclear criticality safety engineers revised an outstanding deficiency to provide guidance for handling an out-of-service centrifuge that was found in Building 9212 (see 3/19/21 report). The new guidance will enable CNS to perform decontamination operations and inspection of the centrifuge to determine any uranium holdup.

NPO Oversight: NPO issued an assessment report of criticality safety evaluation updates that contained two observations. The observations related to CNS not having a method to formally track criticality safety evaluation updates for a 5-year update cycle and not having a defined method for establishing annual commitments. NPO also found that CNS did not consistently approve and implement criticality safety evaluations in a timely manner. NPO expects CNS' nuclear criticality safety integrated schedule to lead to consistent improvements in timeliness of approval and implementation of criticality safety evaluations. However, if CNS' performance does not improve, NPO will revisit the issue.

Startup Activity: NPO approved the fourth quarter fiscal year 2021 startup notification report, which changed the projected startup dates of the Uranium Processing Facility (Oct. 2024 to Aug. 2025) and the direct chip melt horizontal furnace project (Dec. 2021 to Jun. 2022). The former was an adjustment within the schedule contingency.