

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 26, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: Frank Harshman, and Clinton Jones, resident inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending August 26, 2022

DNFSB Staff Activity: Mark Sautman, the Associate Technical Director for Field Operations (ATD-FO), traveled to Y-12 this week. Walkdowns were conducted in Buildings 9204-2E, 9212, 9215, 9720-82, and the new Uranium Processing Facility currently under construction. The resident inspectors and ATD-FO observed a weekly diesel fire pump surveillance at the Highly Enriched Uranium Materials Facility. The scope of the surveillance was enhanced due to the need for a packing adjustment following a recent replacement of the shaft and packing. The walkdown of Building 9215 included the area of the recent discovery of a water intrusion into an electrical panel. This panel was recently installed and was the main power supply for the new electrorefining process. Due to the water intrusion and supply chain difficulties in procuring a new main breaker, the electrorefining process will incur a significant delay.

Building 9212: When conducting the fact finding for a recent pressure event with the reduction operations process (see 8/19/22 report), CNS identified the material used to coat the bottom side of the liner cover had changed. On August 11, 2022 CNS entered the potential inadequacy of the safety analysis (PISA) process to see whether this difference represents an unanalyzed condition. The change in the coating was introduced over five years ago. Although it represents a lack of adherence to the change control process, CNS determined there were no safety implications from this change because the current design of the safety structures, systems and components credited in the documented safety analysis provide adequate protection for such variants.

The resident inspectors followed up on the issue in the metal reduction process area and walked the reduction area equipment down with the process engineer and several operators. The in-field configuration of the pressure relief system was consistent with the design analysis calculations that were reviewed previously by the resident inspectors. In addition to the in-field review of the configuration, the type of the material and condition of the system was also scrutinized. Both the type of material, and the condition of the system, appeared to be sufficient to adequately handle the overpressure event the system was designed for.

Building 9215: CNS continues to disposition six overloaded drums that have been stored in the facility for over a decade (see 1/28/22 and 7/22/22 reports). While CNS was packing the fourth overloaded drum, the material scan results indicated that a single pipe was identified to contain fissile material greater than the allowable drum limit. Operators allowed this pipe to remain on the floor in the area and compliantly repackaged the remaining piping into new drums. Operators then unloaded the fifth drum and completed Non-Destructive Assay (NDA) field measurement of the fifth drum's piping while the single pipe from fourth drum remained on the floor in the processing area. This violated a Condition of Approval for the Criticality Safety Evaluation that governs this process which limits containerization activities in the area to a single drum at a time. Once identified work was paused and the pipe from the fourth drum was dispositioned before finishing the processing of the fifth drum. The resident inspectors conducted a follow up in-field inspection of the area and observed that that the items of noncompliance had been resolved satisfactory.