DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 30, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: Matthew Duncan and Brandon Weathers, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending April 30, 2021

DNFSB Staff Activity: Staff review teams conducted teleconferences with CNS and NPO for a review of the CNS dosimetry program and an ongoing review of reactive hazards at Y-12 that discussed CNS improvement actions related to process drift.

Building 9212: CNS violated a technical safety requirement at the oxide conversion facility meant to ensure the scrubber has enough solution to neutralize the entire contents of a leaking hydrogen fluoride cylinder. Operations personnel partially drained a tank below the required minimum level after receiving a tank high level alarm. They later realized the level indicator had been reading artificially high.

Emergency Management: CNS and NPO performed a full participation exercise this week that was designated the annual exercise. The exercise scenario involved a severe thunderstorm with lighting striking the Uranium Chip Oxidation Facility and the West End Treatment Facility. As a result, fires developed in those facilities and several injuries occurred. The severe weather also caused a utility shop roof to collapse. CNS categorized the event as a general emergency. A resident inspector observed the exercise at the fire department and incident command post.

DOE's Office of Enterprise Assessments remotely performed an Emergency Preparedness Capability Assessment for Y-12 and published a report. The report concluded that CNS and NPO have "developed and maintain adequate emergency response capabilities that generally provide the emergency response organization (ERO) with significant depth and capability" and that there was a "mature emergency management program" at Y-12. There was one deficiency and two opportunities for improvement regarding the interfaces with the Army and DOE's Office of Secure Transportation.

This week, NPO and CNS held a groundbreaking event for construction of a new emergency operations center and a new fire station. The existing building that serves as the initial emergency response center for Y-12 emergencies was constructed in 1944 and the original portion of the fire station was constructed in 1945.

Building 9204-2E: Last week, operators found liquid around a weld near the base of a two-cylinder chip dolly and cleaned up the liquid per nuclear criticality safety guidance. This week, the same chip dolly had additional liquid around its weld. In December, operators found liquid in the same area of another 9204-2E chip dolly (see 1/15/22 report). After the December event, the resident inspectors questioned why CNS kept a quarterly surveillance for chip dollies in Building 9204-2E rather than the bi-weekly surveillance that was established for chip dollies in Buildings 9215 and 9212 due to multiple instances of similar small leaks (see 6/25/20 and 8/14/20 reports). At that time, CNS reported that the December leakage was the first leak found in 9204-2E since 2017. CNS' project to re-containerize material in a group of 9204-2E chip dollies has been ongoing since 2017 and has a projected startup date of December 2021.