

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 14, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: Matthew Duncan and Brandon Weathers, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending June 14, 2019

DNFSB Staff Activity: M. Helfrich, A. Hutain and D. Shrestha were at Y-12 to observe an emergency management site exercise. D. Shrestha also completed site training and augmented resident inspector coverage.

Emergency Management: On Wednesday, four members of the Board's staff observed a full scale, full participation emergency exercise at Y-12. The exercise scenario involved a severe weather event, consisting of high winds and thunderstorms, affecting the entire site and resulting in a general emergency declaration with off-site consequences. As part of the scenario, lightning struck Building 9204-2E, resulting in a fire involving uranium with multiple smoke inhalation victims, a spilled container of lithium hydride at another building, two severe injuries due to flying debris at the Uranium Processing Facility construction site, and various other minor injuries and damage to facilities. The staff observed the exercise at the incident command post, the plant shift superintendent's office, and the technical support center. The exercise involved extensive off-site participation, including the state of Tennessee, Oak Ridge National Laboratory, and all of the surrounding counties.

Continued Safe Operability Oversight Team (CSOOT): The resident inspectors observed an annual CSOOT walkdown of portions of the 9215 Complex. The walkdown was an opportunity for the CSOOT to evaluate facilities that are part of the scope of the Extended Life Program. Current work to prepare for installation of the electrorefining project equipment involves welding the seams of new metal flooring in that area. Preparatory work has also been performed for the first direct chip melt furnace (see 5/17/19 report). Unused equipment near the area designated for the direct chip melt furnaces is planned to be removed to free additional floor space that could be used for storage. The workload in the enriched uranium areas of Building 9215 has decreased over the past several months. As a result, delays in the startup of the Building 9212 ultrasonic chip cleaning system has not impacted operations despite a concern that the limited number of chip dollies might be filled faster than chips can be processed. Depleted uranium areas were also walked down to highlight infrastructure and equipment necessary to support enriched uranium operations. The depleted uranium areas walked down included the metalworking area where the salt bath transformer fire occurred (see 5/24/19 report).

Building 9215: On Saturday morning, a failure of electrical equipment powering the criticality accident alarm system detector stations for Building 9215 and Building 9998 made the criticality accident alarm system inoperable. The limiting conditions for operation required notifications to a nearby affected building, suspension of any fissile material handling activity, and establishment of restricted access areas where personnel remaining or entering the area must have alternative coverage. It also required restoration of operability of at least one detector station within 72 hours. Maintenance electricians determined the cause of the issue. A cable between a switchgear and a backup generator had failed and caused a ground fault. CNS successfully restored the system's operability and avoided having to go to warm standby mode.