DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 23, 2018

TO: Christopher J. Roscetti, Technical Director
FROM: Matthew Duncan and Brandon Weathers, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending November 23, 2018

DNFSB Staff Activity: Brandon Weathers reported to Oak Ridge on Tuesday.

Building 9720-5: CNS has been performing extent of conditions reviews of materials received under the auspices of the Central Scrap Management Office after unanalyzed materials were discovered in the Highly Enriched Uranium Materials Facility, as previously reported (see 3/2/18 and 10/12/18 reports). Those reviews have been completed for materials in the Highly Enriched Uranium Materials Facility and are ongoing for other locations. CNS recently discovered two additional containers containing unanalyzed material in Building 9720-5 after a careful review of the shipping paperwork. CNS convened an Operational Safety Board to discuss the path forward. CNS moved the material out of the building, overpacked the containers, and sent them to Building 9212 for ultimate disposition. This condition was not considered a potential inadequacy of the documented safety analysis as CNS corrected the condition within 72 hours per the local implementing procedure.

Building 9212: Last week, approximately five liters of uranium organic solution spilled onto the floor from a safe bottle. Upon discovery, personnel appropriately backed off and established a fifteen foot administrative boundary. The safe bottle had apparently failed at a seam on the bottom.

There was another nuclear criticality safety back-off when CNS personnel discovered liquid on the floor under the special processing tray dissolvers. The cause was reportedly due to overpressurization of the steam system.

Maintenance: CNS issued a standing order to require the system engineering manager review and approve all system engineer-developed post maintenance tests prior to the tests being provided to the maintenance planner. This was put in place due to a series of recent events where the post maintenance test did not prove operability of the system, structure, or component and demonstrate it will operate according to design specifications after intrusive maintenance. In addition, the standing order is intended to ensure appropriate hazard controls are implemented.

Building 9212: An operator erroneously positioned a valve for a C-1 wing wet vacuum system trap during system restoration activities. In response, CNS intends to provide training regarding how to position various types of valves.

Building 9995: CNS decided to temporarily reinforce Stack 7 using 16 half inch threaded rods oriented evenly around the stack's circumference, attached with nuts to the top and bottom flanges on each section, instead of using the carbon fiber wrap (see 11/9/18 report). In addition, they plan to drill another relief hole at the end of the termination point of the crack and monitor any further propagation on a weekly basis. Structural engineering personnel initiated the process to replace the stack and intends to get it replaced as soon as possible.