

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 26, 2021

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Matthew Duncan and Brandon Weathers, Resident Inspectors  
**SUBJECT:** Oak Ridge Activity Report for Week Ending March 26, 2021

**Transuranic Waste Processing Center:** OREM approved a revision to the documented safety analysis and technical safety requirements for the Transuranic Waste Processing Center. Changes included new work scope for handling lithium hydride waste, processing of a non-standard overpack cask/shield containing a radium-boron source, ending the use of foaming chemicals as a method for filling container void spaces, and processing of potentially pressurized containers. The revision removed several credited controls associated with the foaming chemicals that will no longer be present, added a new specific administrative control prohibiting opening containers with lithium hydride, clarified a specific administrative control regarding unvented containers which are usually required to be overpacked, and modified two safety management programs. The Safety Evaluation Report had no conditions of approval or directed changes.

**Nuclear Criticality Safety:** A Building 9212 shift manager initiated a nuclear criticality safety backoff due to discovering a used pump and other suspect items in the same area of the facility where personnel found the out-of-service centrifuge and vacuums last week (see 3/19/21). The pump had a film of yellow residue and could not be visually confirmed to be non-fissile. Additional walkdowns in the area identified numerous other items that were placed under administrative control. As noted in previous DNFSB weekly reports, CNS continues to find items in Building 9212 that are no longer used for production operations and are not compliant with the nuclear criticality safety program (see 8/16/19, 6/19/20, 2/26/21, and 3/5/21 reports). Many of these items have been in their current state for years or decades. Over the past year, CNS conducted walkdowns of Building 9212 fissile processing areas and is currently completing walkdowns of non-fissile processing areas to identify similar non-compliant items. CNS plans to expand these walkdowns to Buildings 9215 and 9204-2E. The current walkdowns have been ongoing for months and are the latest in a series of nuclear criticality safety focused walkdowns that have occurred with evolving scopes since 2017 due to CNS identifying additional conditions that are not compliant with the nuclear criticality safety program.

**Y-12 Utilities:** Last Monday, a CNS subcontractor struck and breached a ten inch main water line while excavating. Soon after the breach, the Building 9212 sprinkler pressure monitoring system alarmed due to a drop in the water supply pressure. Personnel checked the pressure gauges and declared two credited fire suppression systems inoperable because of pressure readings below the minimum water supply pressure. The shift manager entered the appropriate limiting condition of operation. The Highly Enriched Uranium Materials Facility also entered a limiting condition of operation due to a low pressure indication on the diesel fire pump suction pressure monitor. Personnel in both facilities restored operability of the affected fire suppression systems and exited their limiting condition of operation that afternoon. CNS filed a combined occurrence report under DOE Order 232.2A that covered the safety significant system degradations for both facilities. The water line breach released approximately 200,000 gallons of chlorinated water and resulted in the third fish kill event this year.