

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 7, 2025

**TO:** R.T. Davis, Acting Technical Director  
**FROM:** Mark T. Wright, Cognizant Engineer  
**SUBJECT:** Idaho National Laboratory (INL) Report for January 2025

**DNFSB Staff Activity.** The Board's INL cognizant engineer held weekly meetings to maintain awareness of site activities, including attending event fact findings, management reviews, integrated project team reviews, and facility plan of the day meetings. The cognizant engineer also visited INL on January 13–15, 2025 to support a review of the DOE Facility Representative program and hold a follow-up discussion on the Advanced Mixed Waste Treatment Project (AMWTP) north boxline drum fire event (see September and October 2024 reports).

**Integrated Waste Treatment Unit (IWTU) Updates.** On January 4, 2025, a clog occurred in the Denitration Mineralization Reformer additive feed line. IWTU operators could not clear the clog with normal methods available during plant operation; therefore, the plant was shut down to clear the clog manually. After implementing radiological controls, IWTU personnel vacuumed the additive feed line, removing the clog that was caused by a bolt from the IWTU coal conveyor, and some wire and a nail that were evidently in the coal supply. IWTU personnel returned the plant to operational status and resumed processing sodium-bearing waste on January 23. On January 28, results from routine sampling indicated that granular activated carbon (GAC) bed Bravo had reached its mercury saturation limit. IWTU personnel began preparations for plant shutdown for a planned outage to replace the GAC bed material and complete other outage activities. Normal IWTU operation is expected to resume in June 2025.

**AMWTP Drum Corrosion Issues.** Over the past couple of months, DOE Facility Representatives and radiological protection subject matter experts have noted an increase in drum corrosion and leak events at AMWTP Type II storage facilities both in-situ and during drum movement. This is in addition to the corrosion around drum vents noted in the November 2024 report. DOE personnel discussed with Idaho Environmental Coalition (IEC) management the potential safety concern to workers, should a larger breach occur. The most recent events include Sludge Repackaging Project drum leaks via corrosion pinholes (12/8/2024, 1/8/2025 (x2), 1/30/2025); another corrosion crack near a drum vent (1/31/2025); and corrosion observed on the bottom of BN510 product drums (1/9/2025 and 1/13/2025). The corrosion on the BN510 product drums was not associated with product drums containing criticality clean out puck drums. In all cases, AMWTP personnel appropriately responded to these events, evacuating the facility, securing its ventilation, surveying for contamination, and overpacking the container. IEC is evaluating the situation and whether additional action is warranted, which IEC has suggested could include use of waste management move crews, and pre-staging of spill pallets for planned drum moves.

**AMWTP Contamination Found Inside Bubble Suit.** On January 8, 2025, an AMWTP worker exited a cell at the treatment facility and found contamination inside the bubble suit on the inner layer of personal protective equipment. Further radiological personnel survey found no contamination in the respirator or nasal passage, or on the skin. After investigating, AMWTP personnel found that the bubble suit exhaust hose had failed, allowing contamination to enter the outer bubble suit layer. Corrective actions to prevent recurrence include replacing all exhaust hoses and quarterly replacement thereafter, and specific inspection of hoses as a standard practice when donning a bubble suit.