

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 5, 2024

**TO:** Katherine R. Herrera, Acting Technical Director  
**FROM:** Mark T. Wright, Cognizant Engineer  
**SUBJECT:** Idaho National Laboratory (INL) Report for December 2023

**DNFSB Staff Activity.** The Board's INL cognizant engineer held weekly meetings to maintain awareness of site activities, including attendance at fact finding and management review meetings for events that occurred on-site. A Board's staff team also visited the site during December 19-20 for cognizant engineer familiarization with operations at the Radioactive Waste Management Complex (RWMC) and walkdown of outage activities at the Integrated Waste Treatment Unit. During the last week of December, the site entered a holiday curtailment period.

**Update on the Integrated Waste Treatment Unit (IWTU) Outage.** As noted in the September and November 2023 reports, Idaho Environmental Coalition (IEC) personnel shutdown IWTU due to the granulated activated carbon (GAC) bed media becoming saturated with mercury sooner than expected, as evidenced by, elevated mercury concentrations in the output of the GAC beds. Laboratory testing of 22 samples from the exhausted GAC beds is complete and the laboratory is finalizing the analysis report. IEC completed two mitigation test runs at an off-site, scaled replica of the Denitration Mineralization Reformer (DMR). These test runs showed improvement in the operation of the DMR with introduction of carbon dioxide and aluminum hydroxide into the process. IEC process engineering is evaluating these changes for potential integration into the operating facility. To further condition the GAC bed media which may increase the GAC bed media life, IEC personnel submitted a revision of the IWTU safety basis and fire hazards analysis to DOE that would permit pre-heating of the GAC beds during startup. DOE approved these revisions and IEC personnel expect to issue a revised safety basis and fire hazards analysis by the end of February.

**Accelerated Retrieval Project Waste Storage.** Waste management facility (WMF) building WMF-698 previously held approximately 3,300 drums of waste. During the month of December, the last drums stored in this facility were moved to the Advanced Mixed Waste Treatment Project. As a result, WMF-698 is being downgraded from hazard category 2 to less than hazard category 3, and DOE is reviewing a revised safety basis for RWMC that reflects this change in operating status.

**Truck Contact with Waste Drum.** On December 12, 2023, a truck was maneuvering inside storage facility WMF-629 in preparation for waste drum movement. The side of the truck bed inadvertently contacted a waste drum in a stack during this operation. Work was immediately stopped, the scene preserved for investigation, and timely notifications made to DOE. Fortunately, only cosmetic damage to the paint and label on the drum occurred, and no contamination was found. Had the truck been positioned a few inches closer to the drum stack, more severe damage to the drum or toppling of drums in the stack could have occurred. Given the potential impact to waste, a Board's staff team plans to review the corrective actions that were developed based on this event.