

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 6, 2023

TO: Timothy J. Dwyer, Acting Technical Director
FROM: Erin A. McCullough, Cognizant Engineer
SUBJECT: Idaho National Laboratory (INL) Report for September 2023

DNFSB Staff Activity. The Board's INL cognizant engineer held weekly meetings to maintain awareness of site activities. Mr. Mark Wright, one of the Board's fire protection engineering subject matter experts, assumed responsibilities as the INL cognizant engineer on October 1, 2023.

Integrated Waste Treatment Unit (IWTU) Shuts Down for Unplanned Outage. On September 16, 2023, IWTU completed an orderly transition from waste operations into an unplanned outage. The primary purpose of the outage is to replace the media in both granular activated carbon beds, which captures mercury and prevents it from being released into the environment through the IWTU emissions stack. During this outage, investigations into other operational challenges with the plant will continue, such as for the ongoing issue with differential temperature across the Denitration Mineralization Reformer fluidized bed (see May through July 2023 reports). At the time of the shutdown, IWTU processed approximately eight percent of the mission's total waste from the Idaho Nuclear Technology and Engineering Center Tank Farms.

Further Update on Occurrence Reporting and Processing System (ORPS) Entry for Potential Electrical Exposure to an Uncontrolled Hazardous Energy Source at IWTU. On April 3, 2023, Idaho Environmental Coalition, LLC (IEC) personnel submitted an ORPS entry titled EM-ID--IEC-IWTU-2023-0003 - *Potential Electrical Exposure to an Uncontrolled Hazardous Energy Source*. The Board's staff identified that this entry did not capture the entire sequence of events and omitted several facts that are necessary to accurately describe the potential issues (See March 2023 report). IEC personnel, through their event investigation process, conducted an internal documented causal analysis in an effort to address the remaining factual issues. Department of Energy Idaho Operations Office (DOE-ID) staff provided the Board's staff a copy of the contractor's submission. The Board's staff assessed that the document offered an incomplete event reconstruction and timeline, and unsubstantiated conclusions (See June 2023 report). On September 11, 2023, the IWTU facility representative issued two findings to IEC. The first finding identified "Contrary to Safety Requirements of 29 CFR 1910.335, PPE requirements for electrical shock hazards are not fully met in JSA-2150 'Electrical Work on Instrumentation and Control Systems of 50 to 240 Volts AC or Step Up Voltage in Instrumentation above 100 VDC.'" The second finding stated, "Contrary to JSA-2150 Revision 8 section 1 'Preparing the work area' and section 2 'Opening/closing electrical enclosure that contains exposed energized parts,' operators did not wear the required PPE while in the process of performing work." As part of the issue resolution process, IEC personnel will respond to the findings by creating a corrective action plan. The Board's staff views the formal direction from DOE-ID as a positive step and plans to review the resultant corrective action plan.

Waste Drum Shipping Status from Advanced Mixed Waste Treatment Project (AMWTP). The Waste Isolation Pilot Plant (WIPP) receives waste drums from INL for permanent disposal. INL will now send WIPP seven shipments per week versus the previously scheduled 12 shipments per week due to 2024 budget changes affecting overtime pay and work schedules at the AMWTP.