

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 1, 2023

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

DNFSB Staff Activity. The Board's INL cognizant engineer held weekly meetings to maintain awareness of site activities. A staff fire protection engineering team visited INL to evaluate the Department of Energy (DOE) Idaho Operations Office's (DOE-ID) oversight structure for fire protection programs supporting Idaho Clean-up Project (ICP) Facilities.

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 subsequently revised the ORPS entry, but the revision did not include all of the facts the Board's staff considered relevant to the event. IEC personnel, as part of their event investigation process, conducted an internal documented causal analysis in an effort to address the remaining factual issues. DOE-ID 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). Although DOE-ID leadership expressed similar concerns about the document and stated an intent to work with the contractor to improve it, the Board's staff cannot identify any substantial progress toward producing a revised causal analysis. Discussions this month with DOE-ID leadership indicate that IEC personnel plan to improve the applicable job safety analysis to protect against inadvertent electrical exposure but a timeline for this task is not available.

Observations from Fire Protection Engineering Oversight Visit. At the Advanced Mixed Waste Treatment Project, the Board's staff observed in the WMF-628 sprinkler riser room that a sub-sprinkler system control valve was shut. Per the system engineer, the sub-system was installed during the initial construction of WMF-628, but never placed in-service. A fire system out-of-service tag was not installed on the closed sub-sprinkler supply control valve and IEC personnel did not enter the impairment into the fire system impairment tracking system. Although the sub-system was out-of-service, operation of the WMF-628 main sprinkler system was not affected. At the New Waste Calcining Facility within the Idaho Nuclear Technology and Engineering Center, an upright sprinkler head was improperly installed in a pendant orientation on the north side of the second level north side. The Board's staff discussed the deficiency with facility management and the fire marshal, who agreed with the observation.

Groundwater Sample Results from the Idaho CERCLA Disposal Facility (ICDF). The ICDF is a landfill at INL for waste generated through ICP clean-up efforts. In accordance with the *ICDF Complex Groundwater Monitoring Plan*, operators collected groundwater samples to assess the water quality of the aquifer underneath the facility. A July 13, 2023, *Limitations and Validation Report* states that all the uranium isotopic results met the applicable acceptance criteria.