

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 5, 2023

TO: Christopher J. Roscetti, Technical Director
FROM: Erin A. McCullough, Cognizant Engineer
SUBJECT: Idaho National Laboratory (INL) Report for April 2023

DNFSB Staff Activity. The Board's INL cognizant engineer held weekly meetings to maintain awareness of site activities. Three staff members visited INL to observe an emergency exercise at the Idaho Nuclear Technology and Engineering Center (INTEC) and to perform facility walkdowns at the Integrated Waste Treatment Unit (IWTU) and Advanced Mixed Waste Treatment Project (AMWTP).

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, contractor personnel submitted an ORPS entry titled EM-ID--IEC-IWTU-2023-0003 - *Potential Electrical Exposure to an Uncontrolled Hazardous Energy Source*. The Board's *INL Report for March 2023* explained the fact that this entry does not capture the entire sequence of events and omits several facts that are necessary to accurately describe the potential issues. Although Department of Energy Idaho Operations Office (DOE-ID) leadership agreed that revisions to this ORPS entry are necessary, communications suggest that substantive edits to the ORPS entry for factual accuracy and issue identification will be modest, based on the draft shared with Board's staff management. DOE-ID leadership intends to further address these matters using an internal causal analysis report.

IWTU Transitions into Radiological Operations. On April 11, 2023, operators at the New Waste Calcining Facility (NWCF) at INTEC transferred liquid sodium-bearing radiological waste (SBW) blended with simulant material to be processed at the IWTU. The blended waste consists of 90% simulant and 10% SBW. As of April 30, 2023, the facility processed 22 canisters of treated blended waste and transferred one filled vault to the Product Storage Building. Since commencing radiological operations at IWTU, one of the feed nozzles (Nozzle C) became clogged. No efforts to clear the obstruction have succeeded. Site personnel told the staff team during their walkdowns at IWTU that if attempts to remotely unclog the nozzle are unsuccessful, the nozzle would need to be replaced, requiring the facility to shutdown. The facility can process waste at its current rate as long as two of the three feed nozzles operate as designed.

Oversight of Evaluated INTEC Full-Scale Emergency Exercise. Three Board's staff members observed an evaluated full-scale emergency exercise at INTEC on April 18, 2023. The exercise scenario was an INTEC facility-specific event with no off-site participation. A hypothetical scenario developed at the NWCF in which 1,800 gallons of SBW leaked from a process vessel, followed by a loss of ventilation. Furthermore, pursuant to the exercise scenario, the INTEC Facility Medical Response Team (MRT), a team of first aid trained employee volunteers, needed to assist a seriously injured operator with significant steam burns and contamination on the body. From vantage points at the scene of the event and emergency control center (ECC), the Board's staff noticed that some exercise objectives appeared unmet, such as timely providing medical assistance to the injured worker. Controllers evaluating the exercise gave it a passing score but will outline areas for improvement in an after-action report.