

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 7, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: Mark T. Wright, Cognizant Engineer
SUBJECT: Idaho National Laboratory (INL) Report for May 2024

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. Vice Chair Summers and a staff team travelled to the site to observe an emergency exercise on May 21, 2024. The exercise was generally well executed with a thorough after-exercise critique, though the team noted some inconsistencies in establishing on-scene command and communication. The Board member and staff team also toured and received operational updates on the Integrated Waste Treatment Unit (IWTU), Calcine Retrieval Project (CRP), Liquid Effluent Treatment and Disposal (LET&D) facilities, Radioactive Mixed Waste Storage Facility (RMWSF), Irradiated Materials Characterization Laboratory (IMCL), and Hot Fuel Examination Facility (HFEF).

Integrated Waste Treatment Unit (IWTU) Process Gas Filter (PGF) Outage. As noted in the March and April 2024 reports, IWTU is currently shut down to determine the cause of material bypassing the PGF. To limit personnel radiation exposure and contamination spread, Idaho Environmental Coalition (IEC) personnel designed a single-filter bundle containment box made of steel, plywood, and polycarbonate for removing filter bundles. Polycarbonate was incorporated to allow visual inspection. The containment box is seated on the PGF tube sheet platform which is over the PGF tube sheet, and the filter bundle is lifted into it using the overhead crane. IEC personnel created mockups and practiced removal of filter bundles to gain proficiency in the operation, then successfully removed four filter bundles. So far, three damaged filter elements have been discovered, though more may be found as the investigation continues. Based on the observations to date, IEC is planning to replace all filter bundles, though results of the investigation could change this approach.

Advanced Mixed Waste Treatment Project (AMWTP) Aging Infrastructure. In mid-late 2023, some air handling units at the AMWTP treatment facility were periodically tripping, resulting in the ventilation systems temporarily going offline. In October 2023, IEC personnel determined that five power supplies for the air handling units were at the end of their service life and required replacement. In the interim, the system was operated under a temporary physical change (TPC). The replacement of the defective power supplies was completed during a planned outage in May 2024. However, the previous ventilation issue is still occurring, and IEC is again operating the system under a TPC while investigation of the issue continues.

Accelerated Retrieval Project (ARP) Decontamination and Demolition (D&D) Update. Over the last several months, IEC personnel have continued to advance D&D activities as part of an ongoing reclamation effort for the ARP facilities. The final demolition of storage building WMF-698 has begun. IEC personnel have completed the burial of all 14 pieces of contaminated heavy equipment in ARP IX. The ARP VIII facility has been decontaminated and fixative application is nearly complete. A hazards review board (HRB) will discuss the final demolition of ARP VIII June 10, 2024, followed by the initiation of final demolition. In ARP VII and ARP IX, IEC personnel completed decontamination and removal of the inner liners and false ceilings. HRBs for these facilities are projected to occur in mid-summer, followed by initiation of final demolition. Currently, IEC is poised to complete all demolition activities for the ARP site by the end of the calendar year.