

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 8, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: Timothy L. Hunt, Cognizant Engineer
SUBJECT: Idaho National Laboratory (INL) Report for December 2020

DNFSB Staff Activity: No staff members were on site during December 2020.

COVID-19 Update. INL entered Phase 2 of its Reconstitution Plan on June 3, 2020, and remained in Phase 2 throughout December 2020. The state of Idaho rolled back into a modified Stage 2 of the Idaho Rebounds plan on November 13, 2020, and remains there. Fluor Idaho reported two employee deaths due to COVID-19 during this reporting period.

Calcine Retrieval Project Testing. Fluor Idaho engineers have been working with Idaho State University physicists at the Idaho Accelerator Center Imaging Laboratory (IACIL) on radiation testing of electronic components and other materials that will be used in systems to remove calcined waste from the storage bins at Idaho Nuclear Technology and Engineering Center. The IACIL's high-powered x-ray generators and accelerators can produce radiation levels similar to those generated by calcined waste. During the early testing, a dose of more than 65,000 roentgen (R) was applied to the test items (e.g., video cameras, various rubber seals, and a proximity sensor that is a key component in the system for cutting holes in the calcine storage bin top) at a dose rate of 4,000 R per hour. Additional component testing is planned at IACIL.

Idaho Cleanup Project (ICP) Goals and Accomplishments in 2020. Fluor Idaho, as the Environmental Management contractor at INL, executed the following clean-up and waste disposal activities during 2020. The non-exhaustive list includes:

- Fluor Idaho sent 98 shipments of transuranic waste to the Waste Isolation Pilot Plant (WIPP). INL accounted for ~51 percent of the 2020 shipments to WIPP, less than the 55 percent goal, but meeting the 3-year average required by the Idaho Settlement Agreement Supplement.
- The Accelerated Retrieval Project (ARP) V facility, where four drums of radioactive waste overpressurized in 2018, finished cleaning up the material that spilled during that event and received regulatory approval to close the facility and proceed to demolition.
- Fluor Idaho processed 87 drums of sludge waste in the Advanced Mixed Waste Treatment Facility boxlines (167 planned) and 214 drums of sludge waste in ARP VII (458 planned).
- Fluor Idaho exhumed roughly 0.42 acres of the 0.69-acre ARP IX footprint (60.8 percent). An overall total of 5.42 acres of the required 5.69 acres have been exhumed from the subsurface disposal area, with 0.27 acres remaining. This equates to 95.3 percent complete overall.
- The Advanced Mixed Waste Treatment Project's Transuranic Storage Area–Retrieval Enclosure is now cleared and ready for characterization, regulatory closure, and demolition.
- At the Idaho Waste Treatment Unit, Fluor Idaho's goal was to complete Outage J facility modifications according to the schedule and conduct a confirmatory run in preparation for radiological operations in 2020. Outage J activities were significantly impacted by a number of COVID-19 pandemic factors, including local restrictions, vendor availability, and impacts to the workforce. Ongoing activities include installation of a robotic decontamination system and modifications to fix issues with the clogging of process gas filters.