

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 2, 2024

TO: Katherine R. Herrera, Acting Technical Director
FROM: Mark T. Wright, Cognizant Engineer
SUBJECT: Idaho National Laboratory (INL) Report for January 2024

DNFSB Staff Activity. The Board's INL cognizant engineer held weekly meetings to maintain awareness of site activities, including attendance at fact finding and management review meetings for events that occurred on-site.

Integrated Waste Treatment Unit (IWTU) Outage. Outage-related field work was completed and the maintenance outage was exited on January 18, approximately one week early. Idaho Environmental Coalition (IEC) personnel completed most high-priority work activities during the outage, including inspecting vessels; inspecting and replacement of waste feed nozzles; replacing valves; modifying process components; and replacing HEPA filters. Scheduled items that were not completed are not expected to impact operation of the plant and will be addressed during the next outage. Processing of sodium-bearing waste is scheduled to resume in early-March 2024. IEC personnel began preparing for startup activities, which includes ensuring that instruments and equipment required for the IWTU startup are functioning properly, valves and circuit breakers are in proper configuration, and the process is ready for operation. This check identified that one 3-way valve in the product receiver cooler system was found to be missing. After investigation, IEC personnel determined that the valve was removed during the execution of a change to one of the product purge lines, which was being updated to provide a continuous purge function to alleviate potential clogs. A similar system connection incident occurred in March 2023, when gas lines to waste feed nozzles were installed backwards after refurbishment and discovered during post maintenance testing. The Board's staff plans to review the corrective actions anticipated to be developed based on this event.

Waste Drum Shipping Status from Advanced Mixed Waste Treatment Project (AMWTP). As noted in the November 2023 report, IEC personnel were attempting to ship up to 380 drums from a targeted 2019 BN510 waste stream population prior to the end of calendar year 2023. After January 1, 2024, this waste would require overpacking for shipping. IEC personnel successfully shipped 90 of these drums to the Waste Isolation Pilot Plant (WIPP) prior the end of the year. On January 8, 2024, IEC personnel updated the AMWTP long term order such that any BN510 drums older than January 1, 2020, now require overpacking prior to shipping. Given the cost and availability of standard waste boxes used to overpack the BN510 waste, IEC has been investigating other overpacking options. One such option under consideration is flexible packaging manufactured by PacTec, Inc. PacTec personnel completed initial viability testing for transportation and safety requirements, and IEC personnel then discussed the results with WIPP and Salado Isolation Mining Contractors (SIMCO) personnel. WIPP and SIMCO personnel provided comments on the testing, and IEC developed a revised plan for additional testing. The new set of tests is scheduled to be conducted in mid-February at PacTec's facility in Clinton, LA. The Board's staff plans to follow the results of this testing.