

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 7, 2025

TO: Technical Director
FROM: Idaho National Laboratory (INL) Cognizant Engineer
SUBJECT: INL Report for October 2025

DNFSB Staff Activity. The DNFSB INL site 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.

On October 14, 2025, the cognizant engineer attended the Integrated Waste Treatment Unit (IWTU) Hazard Review Board meeting supporting replacement of the Granular Activated Carbon (GAC) bed inlet valve, which is part of the safety-significant off-gas system. This valve controls the flow of process off-gas into the GAC beds, which provide the function of removing mercury from the off-gas stream before discharge to the environment. Inlet valve replacement will be performed as preventive maintenance, the periodicity of which was determined by a third-party vendor analysis of the valve integrity. IWTU management, engineers, and operators appropriately discussed the planned evolution and protective measures needed to safely accomplish this task, including the type of waste anticipated, work area conditions, and other safety-related considerations identified by the integrated work control process (e.g. radiological controls).

The cognizant engineer visited INL during October 20–23, 2025, for routine oversight to conduct facility walkdowns and discuss the status of key activities with site personnel. Walkdowns included the Radioactive Waste Management Complex, Advanced Mixed Waste Treatment Project (AMWTP), Calcine Retrieval/Disposition Project, Integrated Waste Treatment Unit, and the facilities at the Idaho Nuclear Technical and Engineering Center.

AMWTP – Potential Inadequacy of the Safety Analysis (PISA) for Drum Overpack Declared. A PISA was declared at AMWTP on September 16, 2025, due to the presence of unexpected gas in a certified Sludge Repackaging Project (SRP) container. The results from flammable gas analysis of the SRP container indicated the presence of dichloroacetylene, a shock-sensitive, highly reactive, and carcinogenic chemical. The results were negative in 2016 for this gas, and it was not identified in the Acceptable Knowledge for the Rocky Flats waste, which was the origination site for the waste. The presence of this chemical potentially increases the likelihood of accidents involving incompatible chemicals, as evaluated in the documented safety analysis, and could be a new initiator of an accident (e.g., fires, deflagrations, etc.). Lid restraints were installed on all suspect containers in addition to other corrective measures. Additionally, SRP waste shipments to the Waste Isolation Pilot Plant (WIPP) were suspended pending additional evaluation (see WIPP Monthly for October 2025).

Advanced Mixed Waste Treatment Project (AMWTP) – Boot Contamination Following Cell Exit. An operator made a cell entry on October 29, 2025, to perform maintenance, general cleanup, and to remedy accumulated hydraulic oil leakage in the South Box Line. Upon exiting the cell, contamination was detected on the operator's boot following a sharp object puncture through the anti-contamination clothing. A survey of the boot indicated contamination levels of 11,323 disintegrations per minute (DPM) alpha (i.e., over 10 times the free release limit of 500 DPM). A radiation protection technician bagged the personal protective equipment, removed the boot, and surveyed the worker to confirm no further contamination was present. Actions taken by the operators and radiation protection personnel were appropriate and controls worked as intended. The event was categorized as Operation Occurrence Reporting and Processing System reportable under Group 6, subgroup D, sequence 3, reporting level L (6D(3)L).