

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 3, 2017

TO: Steven Stokes, Technical Director
FROM: Bradford Sharpless, Idaho Cleanup Project Cognizant Engineer
SUBJECT: Idaho National Laboratory (INL) Report for February 2017

DNFSB Staff Activity: Board's staff member B. Sharpless was on site at INL during February 13–17, to observe operations at the Integrated Waste Treatment Unit (IWTU) and to conduct general safety oversight. In addition to observing activities at IWTU, the staff member walked down facilities at the Idaho Nuclear Technology and Engineering Center (INTEC) with the Department of Energy Idaho Operations Office's (DOE-ID) Facility Representative (FR), including the Waste Management Facility (CPP-1617), the Remote Analytical Laboratory (CPP-684), and the Process Equipment Waste System (CPP-604). He observed processing of squeezeant bottles (containing contaminated liquid) from the Advanced Mixed Waste Treatment Facility's supercompactor. The staff member attended Quarterly Continuing Technical Training for the DOE-ID FRs.

Board's staff member B. Quirk was on site at INL during February 21–24, to conduct general safety oversight. He observed activities at IWTU, INTEC, and the Radioactive Waste Management Complex, including a fact-finding meeting regarding a partial loss of plant air at INTEC. The Board's staff provided an average of 2 person-weeks per month of on-site oversight for the first five months of fiscal year 2017.

Integrated Waste Treatment Unit. Operators at IWTU are conducting facility testing as part of its long-term startup plan. Near the end of the week of February 5, while heating up IWTU's processing system as part of this testing, operators noted that the thermocouple on the Denitration Mineralization Reformer's auger/grinder was not providing proper temperature readings and that the heater for the auger/grinder purge gas had failed (unrelated events). Corrective actions for the thermocouple problem required a cell entry, thus the operators had to shut down and cool down the plant. Operators discovered an inadequate electrical connection associated with the thermocouple. The purge gas heater suffered a failure of electrical components. Operators corrected both of these problems.

The heat up at IWTU resumed on the afternoon of February 16. The heat up was stopped again on February 22 due to an inability to sufficiently increase the temperature inside the Carbon Reduction Reformer. Operators subsequently cooled down the plant to investigate the cause and identified two fluidizing gas rails with Vector couplings that were not properly installed, resulting in the leakage of hot gas from the processing system. The flanges and rails were inspected, no damage was identified, and the flanges were properly installed and tightened.

Advanced Mixed Waste Treatment Project (AMWTP). On February 21, operators at AMWTP's Transuranic Storage Area-Retrieval Enclosure completed the retrieval of all waste containers that had been stored in the facility. The retrieval process began in 2003. The retrieved waste, primarily stored in drums and boxes, will be characterized and processed for long-term disposal, as required under the terms of the Idaho Settlement Agreement.