

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 3, 2018

TO: Christopher J. Roscetti, Technical Director
FROM: Bradford V. Sharpless, Cognizant Engineer
SUBJECT: Idaho National Laboratory (INL) Report for July 2018

DNFSB Staff Activity. The Board's Acting Chairman, J.B. Hamilton, and Board's staff members K.R. Herrera, R.G. Quirk, and B.V. Sharpless were on site at INL during July 16–17, 2018. The purpose of the visit was to provide the Acting Chairman and Ms. Herrera, the Board's Deputy Technical Director, with a comprehensive status update of facilities and activities for which the Board provides safety oversight at INL. Facilities toured included the Advanced Mixed Waste Treatment Project, Radioactive Waste Management Complex (RWMC), Idaho Nuclear Technology and Engineering Center, and Integrated Waste Treatment Unit (IWTU). Board's staff members R.G. Quirk, B.V. Sharpless, D. Shrestha, S. Sircar, and S.G. Thangavelu were on site during July 17–20, 2018. The staff review team discussed its lines of inquiry related to the April 2018 drum over-pressurization event at RWMC's Accelerated Retrieval Project (ARP) V facility with Department of Energy Idaho Operations Office (DOE-ID) and Fluor Idaho, LLC (Fluor Idaho), personnel. During this period, Board's staff member R.G. Quirk also provided Resident Inspector-like safety oversight and observed facility testing activities at IWTU. The Board's staff provided an average of 1.7 person-weeks per month of on-site oversight for the first ten months of fiscal year 2018.

Integrated Waste Treatment Unit. During July 2018, personnel at IWTU commenced a heat up of the facility's processing systems to conduct operational testing. On July 20, 2018, operators initiated feed of non-radioactive waste simulant into IWTU's Denitration Mineralization Reformer, a key milestone in the testing process. IWTU's managers intend to conduct 30 days of testing with simulant feed applied. This testing period will be followed by a 50-day simulant run to perform various system performance and optimization tests. After completion of the simulant runs, Fluor Idaho managers plan to conduct a facility outage, nominally scheduled to last six months, to perform required maintenance. Longer term plans include a readiness assessment prior to the start of radioactive, sodium-bearing liquid waste processing. Based on a projected efficiency rate of 30%, processing the sodium-bearing waste could last as long as seven years.

Update on Drum Over-Pressurization Event at Accelerated Retrieval Project V. Fluor Idaho personnel continue to perform activities related to the recovery from the waste drum over-pressurization event that occurred during April 11–12, 2018. Decontamination efforts in ARP V, including removal of debris from the floor and walls, significantly improved the facility's cleanliness compared to the conditions that the Board's staff members observed in April 2018. Despite the clean-up efforts, the ARP V airlock remains a high contamination area and an airborne radioactivity area. Waste exhumation and repackaging operations at ARP VIII are still suspended as a result of the event that occurred at ARP V. To allow resumption of ARP VIII operations, Fluor Idaho personnel prepared an evaluation of the safety of the situation (ESS) that outlines new controls for waste-handling during exhumation and drum packaging station operations. The ESS is pending approval by DOE-ID.