

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 1, 2018

TO: Steven A. Stokes, Technical Director
FROM: Bradford V. Sharpless, Cognizant Engineer
SUBJECT: Idaho National Laboratory (INL) Report for May 2018

DNFSB Staff Activity. Board's staff member R. Quirk was on site at INL during May 7–11, 2018, and May 14 – 18, 2018. He observed activities associated with the recovery from an event in which material was ejected from repackaged waste storage drums at the Radioactive Waste Management Complex's (RWMC) Accelerated Retrieval Project (ARP)-V facility in April 2018. He also observed operations at the Integrated Waste Treatment Unit (IWTU) and conducted general safety oversight. The Board's staff provided an average of 1.25 person-weeks per month of on-site oversight for the first eight months of fiscal year 2018.

Accelerated Retrieval Project-V. During April 11–12, 2018, [an event occurred](#) at RWMC's ARP-V facility in which a total of four drums containing repackaged radioactive waste ruptured, ejecting waste material. Since this event, workers have conducted several re-entries into ARP-V to perform maintenance on the facility's ventilation system, install a camera to monitor the waste drums, collect waste material samples, and perform clean-up work. Fluor Idaho, LLC, investigation team personnel continue to analyze information to determine the causes of the event and to identify a recovery path.

Accelerated Retrieval Project-II. On May 8, 2018, a worker at RWMC's ARP-II facility received a small, potentially contaminated puncture wound through his glove into his right palm. The worker sustained the wound while handling cutting tools using an unprotected rubber glove in a Drum Packaging Station (DPS) glovebox. He was evaluated at the Central Facilities Area on-site medical facility where his wound appeared to contain barely detectable contamination. The worker was subsequently transported to the Radiological and Environmental Sciences Laboratory in Idaho Falls, ID, where a higher-precision wound counter detected no measurable contamination in the wound.

Following a fact finding meeting conducted on May 9, 2018, RWMC's managers directed corrective actions. These corrective actions included the placement of gauntlet-style protective gloves on all DPS ports and the revision of the governing technical procedure to highlight the need for using cut/puncture resistant gloves.

Integrated Waste Treatment Unit. On May 9, 2018, while conducting a process system heat-up at IWTU to perform non-radioactive waste simulant testing, a low oxygen alarm sounded in the vicinity of IWTU's superheater. Industrial hygienists identified nitrogen leakage from fluidizing gas line flanges at the connections with two pressure safety valves that had been installed during the most recent facility maintenance outage. Engineers noted inconsistencies between the fasteners specified on facility drawings and the actual fasteners installed in the flanges. An extent of condition review revealed a similar situation on a Carbon Reduction Reformer (CRR) nozzle. On May 17, 2018, IWTU's Nuclear Facility Manager declared a management concern regarding the incorrect fasteners installed in the gas line flanges and the CRR nozzle.