DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 2, 2017

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

DNFSB Staff Activity: Board's staff member B. Sharpless was on site at INL during May 2–5 in support of a site visit by the Board's Chairman. The Board's staff provided an average of 1.5 person-weeks per month of on-site oversight for the first eight months of fiscal year 2017.

Advanced Mixed Waste Treatment Project (AMWTP). On May 1, an AMWTP worker reported symptoms of headache, dizziness, tightening of the throat, and weakness in the legs. He reported that he thought the symptoms may be caused by exposure to chemical vapors in the workplace. During the previous week, he had handled Sludge Repackaged (SRP) drums in AMWTP's building WMF-628. The following day, another worker complained of similar symptoms. When appraised of the second worker's concern, Fluor's managers called a step back to work on SRP drums. The step back involved activities in buildings WMF-628, -635 and -636.

Both employees were evaluated by medical personnel who determined there was nothing physically wrong with either employee and that the symptoms described could not be tied to the organic vapors emitted by the sludge in the drums. An analysis of volatile organic compound (VOC) passive measurement badges worn by forklift drivers who worked with SRP drums during April 25 and 26 (the period during which the workers could have been exposed) indicated that all VOCs present were less than 20% of established exposure limits.

Because of the duration of the step back (i.e., greater than one shift), Fluor's managers initiated a stop work and met with workers to discuss their concerns and to receive suggestions on resolving the situation. Additionally, engineers evaluated ways of increasing facility exhaust ventilation and industrial hygiene personnel significantly expanded their atmospheric monitoring efforts in the affected buildings. The step back/stop work concluded on the afternoon of May 4.

Radioactive Waste Management Complex (RWMC). On May 11, during waste exhumation operations inside RWMC's building WMF-1621 (Accelerated Retrieval Project-VIII), a Gradall excavator slid into the pit from which waste items were being retrieved when the soil at the edge of the pit underneath the excavator collapsed. When the excavator was initially positioned by the Equipment Operator (EO), a visual check was performed to ensure that the excavator was outside of a minimum two-foot distance from the edge of the pit, per procedural requirements.

The EO retrieved approximately 16 drums from the pit over a 30-minute period, then moved the excavator another two- to three-feet away from the pit to commence opening the drums. It was during this activity that the soil at the edge of the pit sloughed away from the dig face and caused the excavator to slide into the pit. The EO was retrieved from the excavator and suffered no injuries. Following careful planning, the excavator was successfully driven out of the excavation pit on May 22. A team of Fluor personnel evaluated and implemented measures to prevent a recurrence of this event under similar conditions.