DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 1, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: Timothy L. Hunt, Acting Cognizant Engineer
SUBJECT: Idaho National Laboratory (INL) Report for January 2019

DNFSB Staff Activity. Board's staff member T.L. Hunt was on site from January 29 – 31, 2019, becoming familiar with INL activities, facilities, and key personnel. The Board's staff has provided an average of 1.25 person-weeks per month of on-site oversight for the first four months of fiscal year 2019.

Small Fires in Nuclear Facilities. On January 24, while preparing for real-time radiography (RTR) operations in the WMF-634 Characterization Facility at the Advanced Mixed Waste Treatment Project (AMWTP), an operator turned on a portable fan that is used to assist in keeping RTR equipment cool. After turning on the fan, the operator pulled the fan speed adjustment chain to lower the speed. Upon pulling the chain, it broke from the unit and flames were observed coming from the motor housing. The operator immediately unplugged the fan, which stopped the observed flame, notified personnel in the area to evacuate, and pulled the fire alarm. Fans like this one are used to provide additional cooling to both RTR and assay units in WMF-634. No preventive maintenance is performed on these fans. Fluor Idaho will conduct an extent of condition review of all nuclear facilities to identify and inspect similar equipment.

On January 27, a failed electrical heater in ARP VIII at the Radioactive Waste Management Complex (RWMC) caused thermal damage to a non-radiological trash can and water supply hose that were located below the heater. The back shift workers who discovered the event could not locate the breaker/disconnect to isolate the heater so they instead turned down the thermostats on all heaters in the room. The INL fire department was called as a precaution and declared no emergency. The Fluor Idaho fire protection engineer, INL fire chief, and DOE-ID fire protection subject matter experts consulted and classified the event as a fire. Similar to the small fire at AMWTP noted in the paragraph above, there are no regular maintenance or inspection requirements for the subject heaters. Since these units are used in all ARP structures, an extent-of-conditions review is underway.

Integrated Waste Treatment Unit (IWTU) Process Gas Filter (PGF). Fluor Idaho continues to test and gather data to determine causes and solutions for PGF issues. The final set of coupons and the sintered powdered metal filter elements were removed in mid-January from the PGF at an independent research laboratory's IWTU model pilot plant for analysis. The research laboratory is supporting startup of the facility for the PGF filter element high temperature testing. Fluor Idaho is evaluating potential plant modifications (e.g., off-gas cooling) and use of alternate filter media if the sintered powdered metal filter elements do not prove to function as designed.

Idaho Cleanup Project (ICP) Updated Fiscal Year (FY) 2019 Drill and Exercise Schedule. The January 7, 2019, drill schedule identifies two exercises for the remainder of FY19; one covering INL in May and the other specific to the Idaho Nuclear Technology and Engineering Center (INTEC) in August. Seven ICP functional drills encompass INTEC and RWMC, and INTEC and RWMC each have one evaluated drill planned through September 2019.