

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 2, 2018

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

DNFSB Staff Activity. Board's staff members did not conduct any on-site activities during January 2018. The Board's staff provided an average of 1.25 person-weeks per month of on-site oversight for the first four months of fiscal year 2018.

Advanced Mixed Waste Treatment Project (AMWTP). On December 21, 2017, a fire occurred in AMWTP's Advanced Mixed Waste Treatment Facility (AMWTF) north boxline's (NBL) east trough (see [INL Report for December 2017](#)). The fire ignited when workers opened a waste drum that unexpectedly contained unreacted pyrophoric metal.

Fluor Idaho, LLC (Fluor Idaho), managers conducted a fact finding meeting about the event on December 22, 2017. After the meeting, Fluor Idaho suspended all operations in AMWTF and directed the NBL's robotic manipulator to be locked out to prevent disturbance of the debris in the east trough. Fluor Idaho personnel developed a recovery plan to return AMWTF to normal operations. The recovery plan consisted of three phases: 1) an extent of condition review to ensure that any waste containers potentially holding unreacted pyrophoric metals were issued non-conformance reports prohibiting their processing, 2) resumption of operations in areas of AMWTF not effected by the fire, and 3) recovery of the NBL east trough.

On January 3, 2018, Fluor Idaho personnel completed the extent of condition review. AMWTP's Nuclear Facility Manager authorized a return to normal operations in the AMWTF with the exception of the NBL's east trough. To recover the east trough, Fluor Idaho personnel developed a detailed work order (WO) that accounted for the potential that unreacted pyrophoric metal might remain in the debris. Fluor Idaho personnel executed the WO on January 16, 2018, with no additional reactions noted in the debris material. The waste in the east trough was subsequently processed through the AMWTF in accordance with approved operating procedures.

Integrated Waste Treatment Unit (IWTU). Workers at IWTU continue to make facility modifications that must be finished before the next non-radioactive waste simulant test run begins. Modifications that have been completed or are in progress include:

- Replacement of castable refractory in the Carbon Reduction Reformer's fluidized bed zone with brick refractory due to extensive cracking and spalling of the castable refractory.
- Installation of an 18-inch manway in the Denitration Mineralization Reformer (DMR).
- Installation of a cone-shaped dual plenum bottom in the DMR to improve bed fluidization.
- Installation of a redesigned auger grinder in the bottom of the DMR.

IWTU's managers plan to conduct a Contractor Readiness Assessment after all modifications have been completed, in advance of the waste simulant test.