

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 2, 2018

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

DNFSB Staff Activity. Board's staff members did not conduct any on-site activities during February 2018. The Board's staff provided an average of 1 person-week per month of on-site oversight for the first five months of fiscal year 2018.

Advanced Mixed Waste Treatment Project (AMWTP). On February 4, 2018, the AMWTP Nuclear Operations Manager notified the Department of Energy Idaho Operations Office's (DOE-ID) Facility Representative of a failure within the 48V DC power system on the Advanced Mixed Waste Treatment Facility's (AMWTF) Criticality Incident Detection and Alarm System (CIDAS). CIDAS is a safety-significant system that is required to be operable in OPERATIONS MODE when the supercompactor is operational (LCO [Limiting Condition for Operation] 3.5) and in OPERATIONS MODE and when the north or south boxlines are operational and processing HIGH Fissile Gram Equivalent containers (LCO 3.8). As a result, AMWTF operators entered LCO 3.5 and LCO 3.8 Condition(s) A, which require the immediate actions of placing CIDAS in SUSPENSION MODE and ceasing all operations affecting fissile materials within the supercompactor glovebox and north and south boxlines.

AMWTF operators completed the required actions immediately. The CIDAS system remained in suspension mode until engineering personnel were able to replace the 48V DC power supplies and to perform associated surveillances.

AMWTF Glovebox Annual Surveillance. On February 27, 2018, the Radioactive Waste Management Complex's Nuclear Operations Manager notified DOE-ID's AMWTF Facility Representative that the annual "puff test" of the micromist fire suppression systems had not been performed in 2016 or 2017. The micromist systems provide fire protection for the special case waste glovebox and the supercompactor glovebox at AMWTF. The annual surveillance is performed on these systems to ensure operability. Due to the contaminated environments within these gloveboxes, DOE-ID granted an exemption for the required water flow tests. In their place, air "puff tests" are performed to ensure there are no blockages in the system piping.

While revising the annual surveillance documentation to make it conform to Fluor Idaho writing standards, it was noted that the puff test portion of the annual surveillance was not performed. The impairment required the establishment of a fire watch for the affected systems.

Fluor Idaho implemented corrective actions, including the following:

- Creation of a corrective maintenance work order to complete the required surveillance (scheduled for 3/6/18).
- Finalization of the surveillance documentation revision to conform to Fluor Idaho requirements, including Subject Matter Expert review and validation of the tests.