

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 6, 2017

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

DNFSB Staff Activity. D. Owen and B. Sharpless were on site at INL during September 11–15, to conduct a review of Technical Safety Requirements (TSR) implementation at the Advanced Mixed Waste Treatment Project (AMWTP). The Board's staff provided an average of 1.4 person-weeks per month of on-site oversight for fiscal year 2017.

Idaho Cleanup Project (ICP). On September 13, 2017, Fluor Idaho, LLC, (Fluor Idaho) managers declared a "Management Concern 10(2) Recurring Event" with secondary reporting criteria 4B(6) for: "A facility or operations shutdown (i.e., a change of operational mode or curtailment of work or processes) directed by senior contractor or DOE management for safety reasons, and requiring a corrective action(s) prior to continuing operations." The declaration was due to a number of recent work control violations and safety incidents, which created a negative performance trend in executing work in a safe and compliant manner.

Fluor Idaho managers recognized that weaknesses exist in planning, executing, approving, and overseeing work to ensure that its workforce performs all work activities in a safe and compliant manner. Fluor Idaho placed on hold all maintenance, operations, and construction work activities, with the exception of vital operations, specifically those required by an environmental permit, by regulatory compliance, or by a safety basis. Fluor Idaho issued Executive Management Directive (EMD)-44 to outline the actions necessary to release work for execution. Fluor Idaho managers resumed work deliberately, releasing field work following the criteria outlined in the aforementioned EMD-44.

Advanced Mixed Waste Treatment Project. At 11:30 AM on September 18, 2017, nuclear operations management at AMWTP declared a TSR violation due to failure to enter a Limiting Condition of Operation (LCO) required for a noncompliance with a nuclear criticality limit.

At 8:13 AM on September 16, 2017, an assay Expert Technical Reviewer notified AMWTP's on-duty Plant Shift Manager (PSM) that a waste box's fissile mass measurement had been evaluated and increased from 156 fissile gram equivalent (FGE) Pu-239 to 573 FGE, making it non-compliant with criticality storage limits. This situation necessitated entering LCO 3.1, *Criticality Safety Controls List Compliance*, due to the non-compliance with a Criticality Working Requirement (CWR). The PSM, as well as on-duty shift supervision, did not recognize the requirement to enter the LCO, did not follow approved procedures, did not take the actions required by the LCO, and directed that the box be placed into a compliant storage array with criticality spacing (without the required LCO notifications and recovery plan).

Fluor Idaho's managers took immediate corrective actions for the TSR violation; longer term corrective actions will be developed upon completion of the causal analysis.