

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 4, 2016

**TO:** Steven Stokes, Technical Director  
**FROM:** Bradford Sharpless, Idaho Cleanup Project Cognizant Engineer  
**SUBJECT:** Idaho National Laboratory (INL) Report for February 2016

**DNFSB Staff Activity:** Board's staff member D. Brown was on site during February 16–19, to observe the “Chemistry Summit” for INL's Integrated Waste Treatment Unit (IWTU). The Board's staff provided an average of 1.2 man-weeks of on-site oversight per month for the first five months of fiscal year 2016.

**Idaho Cleanup Project:** On February 4, the Department of Energy (DOE) announced the award of INL's Idaho Cleanup Project (ICP) core contract to Fluor Idaho, LLC. The new five-year ICP contract consolidates the scope of the previous ICP contract and the Advanced Mixed Waste Treatment Project (AMWTP) contract.

**Integrated Waste Treatment Unit:** During February 17–18, representatives from IWTU, DOE Idaho Operations Office, Savannah River National Laboratory, National Energy Technology Laboratory, and DOE Headquarters, along with other invited industry experts, participated in an IWTU “Chemistry Summit.” The purpose of this two-day event was to review data from the most recent waste simulant testing runs at IWTU and to develop recommendations for continued facility testing.

Recommendations developed as a result of the summit were divided into two categories: short term proposals to change operating conditions and/or use of additives to eliminate or minimize problems; and longer term proposals that involve major process/equipment changes and renewed research to fix IWTU's operational problems. The short term recommendations, which support the next waste simulant run, attempt to improve the chemical kinetics and hydrodynamic properties of the fluidized bed in the Denitration Mineralization Reformer. The longer term recommendations will likely require additional approvals, facility downtime, and funding.

**Advanced Mixed Waste Treatment Project:** On February 23, AMWTP's Nuclear Facility Manager (NFM) notified the DOE Facility Representative that operators in the Advanced Mixed Waste Treatment Facility (AMWTF) violated a criticality working requirement. On February 21, AMWTF operators completed the processing of a box containing waste products contaminated with fissionable material in the South Box-Line. The box included one large item that was determined to be insignificantly contaminated and the box was moved to the hot maintenance cell for processing. Upon completing the processing of the box, operators performed a criticality cleanout of the cell and a new box was placed into the South Box-Line on February 23. The Facility Operations Manager subsequently determined that required verification steps in the box processing procedure regarding fissionable material and large items had been skipped while processing the box on February 21. The NFM suspended all operations in AMWTF pending the development and implementation of a recovery plan and corrective action plan.