

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 2, 2016

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

**DNFSB Staff Activity:** The Board's staff did not conduct any on-site activities at INL during November 2016. The Board's staff provided an average of 2.5 man-weeks of on-site oversight for the first two months of fiscal year 2017.

### **Radioactive Wastes Management Complex.**

***Potential Inadequacy in the Safety Analysis.*** On November 1, 2016, the Radioactive Waste Management Complex's (RWMC) Nuclear Facility Manager (NFM) notified the Department of Energy (DOE) Facility Representative (FR) that contractor personnel had identified a potential inadequacy in the safety analysis (PISA) for RWMC. Fluor Idaho, LLC (Fluor), the management and operating contractor for RWMC, entered the PISA discovery phase on October 26, 2016, when a Board's staff review of the RWMC safety basis noted a non-conservatism in a statistical analysis. The statistical analysis used in calculating the material at risk at the RWMC Subsurface Disposal Area for Safety Analysis Report (SAR)-4 was not performed in accordance with the requirements of DOE-STD-5506-2007, *Preparation of Safety Basis Documents for Transuranic (TRU) Waste Facilities*. The error results in a less-than-conservative dose rate for some of the design basis accident scenarios, though the magnitude of increase in the dose rates did not trigger the need for additional safety related controls.

***Dropped Waste Drum.*** On November 23, 2016, RWMC's NFM notified the DOE FR that workers had dropped a waste drum outside of the Accelerated Retrieval Project (ARP)-VIII facility. While there was no indication of a drum breach, workers conservatively took the actions for a breached drum and evacuated the area. A controlled reentry by Radiological Controls personnel confirmed no breach of the drum and no contamination on the workers involved. As a result of a subsequent fact-finding meeting, the NFM will ensure that appropriate refresher training is conducted on the duties and responsibilities of designated equipment spotters and additional training is conducted on the proper arrangement of drums to avoid interference.

***Advanced Mixed Waste Treatment Project.*** On November 30, 2016, the Advanced Mixed Waste Treatment Project's (AMWTP) NFM notified the DOE FR of a PISA in AMWTP's documented safety analysis (RPT-DSA-02). On November 29, 2016, a waste storage container (#10168195) was subject to an Expert Technical Review (ETR) following the completion of its characterization process. Following the initial ETR and independent ETR, the box was assigned a Fissile Gram Equivalent (FGE) value of 2525 FGE. Multiple AMWTP criticality safety evaluations use 1800 FGE as a process assumption because "it is the highest fissionable mass in a waste box from the TSA-RE [Transuranic Storage Area-Retrieval Enclosure] discovered to-date." Due to the discovery of this new information, AMWTP personnel entered the PISA process. The container is in an Isolation Storage Area and has been posted to restrict any movements. No additional controls are warranted at this time.