

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 3, 2015

**MEMORANDUM FOR:** Steven Stokes, Technical Director  
**FROM:** Bradford Sharpless, Idaho Cleanup Project Cognizant Engineer  
**SUBJECT:** Idaho National Laboratory (INL) Report for June 2015

Board members J. Roberson, S. Sullivan, and D. Santos were on-site during June 8–10, 2015, to walkdown select INL nuclear facilities. Board staff members J. Pasko, R. Quirk, and B. Sharpless were on-site during June 8–12, 2015, to facilitate the Board members' visit and to conduct a review of the Advanced Mixed Waste Treatment Project's (AMWTP) safety basis. The staff members conducted a closeout brief with personnel from the Department of Energy Idaho Operations Office and its contractor on June 30, 2015, to discuss the staff's conclusions resulting from its review of the AMWTP safety basis.

**Integrated Waste Treatment Unit (IWTU).** Personnel at IWTU continue to complete activities associated with the facility's "Outage E" as they prepare to commence radioactive waste processing operations. Senior contractor managers expect to begin heating up the facility's processing systems in mid-July 2015 to conduct a series of waste simulant processing runs. This testing will determine if modifications made to IWTU's systems have successfully resolved the problems noted after completing the previous waste simulant processing runs.

**Idaho Nuclear and Technology Center (INTEC).** On June 18, 2015, an operator observed a sodium reaction fire at INTEC's Building CPP-666 while cutting a length of pipe containing both sodium and Remote-Handled Transuranic (RH-TRU) contamination. The operator was conducting the activity in an Argon Repackaging Station (ARS), which is located inside a shielded hot cell, using remotely controlled manipulators. This activity is part of the process for treating sodium in radioactively contaminated components and repackaging them for permanent disposal as RH-TRU waste.

After observing the flame, the operator attempted to extinguish it by applying METL-X powder using the remote manipulators. He then activated the manual fire alarm, as required by procedure for a flame in the hot cell lasting more than 20 seconds. Personnel evacuated CPP-666 and the INL fire department responded to the facility. The fire department declared the fire out and cleared CPP-666 for personnel re-entry.

Following the fire, facility personnel instituted corrective actions, including:

- Increasing the flow of argon gas to the ARS.
- Establishing a separate flow of argon gas directed at the component cutting location.
- Using an intermittent cutting technique to limit the amount of oxygen drawn into the cutting location.

Currently, the facility's management has placed a hold on further cutting operations involving sodium-contaminated components while best practices for this activity are reviewed.