DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 7, 2015

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

Board's staff members B. Sharpless and D. Shrestha were on site during July 27–31, to conduct oversight of activities at the Integrated Waste Treatment Unit (IWTU). The staff members also visited the Advanced Mixed Waste Treatment Project (AMWTP) and INL's Emergency Operations Center. The Board's staff provided an average of 1.9 man-weeks of on-site oversight per month for the first 7 months of 2015.

Integrated Waste Treatment Unit. Facility personnel at IWTU completed the final preparations required to commence the next round of waste simulant processing tests. During the course of these tests, up to 60,000 gallons of waste simulant will be processed through IWTU to confirm the effectiveness of modifications made to the facility to correct a variety of deficiencies noted after previous testing.

A maintenance outage, "Outage F," is scheduled to follow the upcoming waste simulant processing activities. During Outage F, workers will inspect IWTU's processing equipment to verify the proper condition and function of all components. They will also make any additional necessary modifications to prior to the start of radioactive waste processing operations.

Advanced Mixed Waste Treatment Project. Following a review by Board's staff members of AMWTP's safety basis, management personnel at AMWTP declared two Potential Inadequacies of the Documented Safety Analysis (PISA). The subjects of these PISAs include the following:

- AMWTP's Waste Retrieval Fire Design Basis Accident (DBA) stipulates that a 200-gallon fuel fire affects 30 waste boxes and 55 waste drums using an assumed maximum material at risk in each container. Based upon a study referenced in AMWTP's Documented Safety Analysis, it is possible that a 200-gallon fuel fire would impact a larger number of containers than assumed in the DBA.
- AMWTP's safety basis contains potential analytical errors regarding a Beyond Design Basis Propane Delivery Explosion. There are several questions regarding the assumptions used to determine if the accident scenario is bounded by the DBA.

AMWTP's managers instituted new operational restrictions in response to the declaration of these PISAs. The restrictions include:

- A limit on the number of diesel-fueled vehicles permitted in waste retrieval and storage areas.
- Required periodic inspections of the facility's propane storage tank system to verify no detectable leaks.
- A requirement to keep the roll-up doors on the west end of the Type II waste storage buildings closed, except during periods of use, to preclude the migration of a propane vapor cloud in the event of a leak.