

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 6, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: Timothy L. Hunt, Cognizant Engineer
SUBJECT: Idaho National Laboratory (INL) Report for August 2019

Staff Activities. R.G. Quirk was on site during the week of August 5, 2019, performing routine oversight. T.L. Hunt and Y. Li were on site during the week of August 26, 2019, observing the Idaho Cleanup Project annual emergency response exercise, meeting with subject matter experts on site-specific seismic hazards, and performing routine oversight.

Idaho Cleanup Project Annual Emergency Exercise. Fluor Idaho (with support from Battelle Energy Alliance) performed its annual evaluated emergency response exercise at the Idaho Nuclear Technology and Engineering Center on August 27, 2019. The scenario had operators transferring a waste drum of radioactive material within the New Waste Calcining Facility when it was dropped and breached. One of the operators tripped while evacuating the facility, twisting an ankle. In addition, the building loses power and ventilation. The exercise evaluators determined that all sixteen objectives had been met. There were, however, several criteria that were not met and numerous improvement opportunities were noted. Worthy of mention, information on the contents of the drum was not readily available to personnel in the emergency control center, conflicting information on the status of the exhaust fans was communicated to exercise participants, and a misunderstanding resulted when an individual did not evacuate the facility.

Advanced Mixed Waste Treatment Project (AMWTP) Treatment Facility Operations. Since processing drums of RF-761 (pyrophoric) debris waste began last month in the AMWTP boxlines, a handful of pyrophoric reactions have occurred. Most recently, on August 26, a drum of pyrophoric waste was dumped into the trough of the south boxline and burst into flames after the equipment operator removed the combustible plastic from around the waste, exposing it to air. Flames estimated to be a couple feet high were observed for several minutes and confined to the trough; the reaction was allowed to burn itself out. The fire suppression system in the boxline has been impaired but a fire protection equivalency is in place for such anticipated reactions (i.e., fire watches are required to monitor operations whenever waste is processed).

Accelerated Retrieval Project (ARP) VII Contractor Readiness Assessment (CRA). Fluor Idaho initiated its CRA on July 25, 2019 in preparation for startup of sludge repackaging project (SRP) operations in ARP VII. This is not considered an initial startup of a new Hazard Category 2 nuclear facility as the planned ARP VII SRP operations are an extension of those that were performed in ARP V, with a subset of the same operational restrictions but with different waste streams. ARP VII operations will use the same qualified operators and safety basis, as well as the same or similar procedures, facility systems, and equipment. The assessment team evaluated 29 criteria, 2 of which were not met. The CRA team noted seven pre-start findings, including three related to the knowledge, qualification process, and staffing level of the TRU program acceptable knowledge expert supporting SRP operations. The lone post-start finding pertains to the ability of ARP personnel to respond to future upset conditions with a currently less than adequate operational drills program. Upon completion of the pre-start corrective actions and approval of the permit modification request, operations are expected to begin.