DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 29, 2016

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.K. Verhaagen and J.W. Plaue
SUBJECT: Los Alamos Report for Week Ending July 29, 2016

DNFSB Staff Activity: On Thursday, R.L. Jackson, conducted a teleconference with LANL and NNSA Field Office personnel to out-brief observations from the review of the safety design strategy for the Plutonium Facility Equipment Installation Phase 1 subproject.

Emergency Management: This week, LANL personnel hosted the annual HazMat Challenge for various regional hazardous materials responders, including the Los Alamos County Fire Department. In addition to some new scenarios, LANL personnel leveraged the institutional drill program processes to improve the training value of the event. In particular, the LANL organizers significantly increased the duration for each scenario to achieve a more realistic response and provided each team with a detailed written evaluation.

Area G–Inappropriately Remediated Nitrate Salts (RNS): On Monday, LANL received approval from the New Mexico Environment Department on the permit modification needed to support treatment of the RNS waste. Despite this achievement, approval of the safety basis documents continues to pace the treatment schedule. At this week's in-process review, LANL managers indicated that they remain on track to submit the documents by the middle of August. However, NNSA reviewers continue to finalize their review plan and attempt to deconflict several competing priorities to support the approval need date reflected in the project schedule.

Plutonium Facility–Operations: On Tuesday, Plutonium Facility management convened a second fact-finding to review the degraded items found in a plutonium-238 glovebox (see 7/8/16 weekly). After an improved attempt to construct a timeline, LANL personnel reaffirmed their prior conclusion that the degradation was the result of radiolytic and acid attack. Specifically, the operators present during a spill of a plutonium-238 rich, high molar nitric acid solution, stated that they tossed the cellulosic rags used to soak up the spill into the adjacent dropbox. As a result, they believe that the rags likely came into contact with the items that became degraded. Corrective actions include an effort to review spill response procedures, continued review of waste acceptability, and review of prior corrective actions from the 2003 Type B and 1994 Type C accident investigations. The Site Representatives note that the latter accident involved two instances where cellulosic wipes (i.e., cheesecloth) used in plutonium-238 operations ignited. In addition, recent LANL testing in support of RNS treatment indicated that cellulosic wipes that have contacted nitrate solutions possess the ignitability characteristic (D001).

Plutonium Facility–Criticality Safety: On Monday, Plutonium Facility management declared a criticality safety process deviation when inaccuracies in criticality safety postings for two outdoor transuranic waste storage pads were identified. These inaccuracies included: (1) misspellings, some technical in nature, (2) the second page of a two page posting was missing, (3) two revisions of the same posting were posted in the same area, and (4) the actual postings on the storage pad were not maintained in the facility document management system. During a fact-finding of the event, facility personnel identified a number of issues with the processes used to ensure configuration management during implementation of procedural revisions that include criticality safety postings. Management intends to develop a lessons learned that emphasizes the approved process to implement procedure revisions. Additionally, operators will develop a process to ensure the technical accuracy of postings and to frequently evaluate outdoor postings to verify their physical integrity.