

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 11, 2017

MEMORANDUM FOR: S.A. Stokes, Technical Director

FROM: J.W. Plaue

SUBJECT: Los Alamos Report for Week Ending August 11, 2017

DNFSB Staff Activity: Y. Li and L. Schleicher met with LANL personnel to discuss the process for the forthcoming update to the probabilistic seismic hazards analysis, which is expected to refine, and possibly lower, the earthquake hazard for the laboratory's nuclear facilities. They also walked-down sites for paleoseismic trenching, as well as several previously studied hoodoos that will provide inputs for the seismic update.

Plutonium Facility–Startups: On Monday, the NNSA Field Office authorized the startup of aqueous chloride and americium production operations (see 6/9/17 weekly). Operations personnel plan to execute their startup plan in the coming months and complete a production milestone of americium-241 oxide for the DOE Office of Science. The line will then undergo an outage during the winter to replace a glovebox spool piece that is thought to be degraded and the source of a previous radiological uptake by a worker several years ago. The spool piece is currently taped and monitored to support interim operations. Also on Monday, the NNSA Field Office authorized startup of the mobile loading operations for TRUPACT II containers (see 7/21/17 weekly). LANL anticipates a limited shipping campaign of transuranic waste to the Waste Isolation Pilot Plant in September 2017.

Transuranic Waste Facility (TWF)–Readiness: On Wednesday, the Federal Operational Readiness Review (FORR) team completed their review. They complimented the TWF operators on their professionalism and concluded that TWF was ready to commence limited nuclear operations following closure of the pre-start findings. However, the FORR team also provided three recommendations based on the inability of TWF personnel to effectively complete several key work evolutions. The recommendations are to: modify the startup plan to limit daily throughput (likely to four drums) and require DOE approval for release of startup phases, as well as the senior supervisory watch; prohibit stacking of drums until further verification of readiness; and prohibit facility startup until further verification of readiness to adequately overpack a waste container with compromised integrity. For the latter case, the safety basis requires that a container must be overpacked within seven days after discovering damage to its integrity. The facility does not currently have a process to accomplish such overpacking in a non-emergency condition.

In addition to the recommendations, the FORR team identified five pre-start findings concerning: (1) the NNSA Field Office lacks an oversight plan for TWF startup; (2) the primary container handling procedure is inadequate; (3) the abnormal response procedure doesn't address key conditions and appropriate responses; (4) the startup plan is inadequate to ensure deliberate escalation to normal operations; and (5) procedures that manage abnormal conditions lack detailed corrective actions to achieve a safe and stable state. The team identified six post-start findings involving: (1) noncompliant fire barrier penetrations seals; (2) ineffective controls for nitrogen asphyxiation hazards; (3) inadequate commercial grade dedication; (4) lack of climate controlled storage for spare parts; (5) issues with the technical safety requirements; and (6) insufficient minimum staffing.

Inappropriately Remediated Nitrate Salt (RNS) Waste–Treatment Activities: Waste Characterization, Reduction, and Repackaging Facility workers have successfully treated 24 of the RNS containers, including the container with the highest radiological inventory.