

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 30, 2017

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.K. Verhaagen and J.W. Plaue
SUBJECT: Los Alamos Report for Week Ending June 30, 2017

DNFSB Staff Activity: M.R. Bradisse, R.C. Eul, N.M. George, J. McKamy, and P.J. Migliorini were at the laboratory this week to review the effectiveness of actions taken to improve nuclear criticality safety and conduct of operations at the Plutonium Facility.

Emergency Management: Last Thursday, LANL issued the after-action report for this year's full-scale exercise (see 5/12/17 weekly). This is the first such report issued after strengthening the evaluation process to achieve an improved level of self-criticism. Evaluators determined that 10 out of 126 applicable objectives were unmet, including 8 findings. Findings of note include: the Emergency Manager incorrectly selected the Emergency Action Level (EAL) based on indicators from the facility—the report further notes that the EALs are confusing and difficult to navigate; Protective Action Recommendations for the public were not issued in accordance with the EAL; Occupational Medicine staff failed to implement measures to manage potential contamination; and the site-wide mass notification system was not effectively implemented and failed to provide accurate information to building occupants. The report also identified 14 opportunities for improvement and a further 27 observations. Items of note from these categories include: the need to strengthen the use of WebEOC® and the associated display of information for situational awareness in the Emergency Operations Center (EOC); the incident command post was initially setup within the isolation zone due to communications challenges; plume modeling responders departed for the EOC prior to receiving safe route information, since they suspected that they would otherwise get caught in a shelter-in-place; and facility management lacked familiarity with the EALs.

Inappropriately Remediated Nitrate Salt (RNS) Waste–Treatment Activities: During the past two weeks, Waste Characterization, Reduction, and Repackaging Facility workers successfully treated three RNS drums for a total of eleven treated since the campaign started on May 18, 2017. Recent challenges included ventilation system failures, continuous air monitor alarms subsequently determined to be false, and unanticipated items discovered in the waste.

Weapons Engineering Tritium Facility (WETF)–Flanged Tritium Waste Containers (FTWC): Last Thursday, the NNSA Field Office Manager approved LANL's Evaluation of the Safety of the Situation (ESS) for three FTWCs stored within WETF that may be pressurized with a potentially explosive headspace mixture of oxygen and hydrogen isotopes (see 12/22/16 weekly). In the approval letter, the NNSA Field Office Manager directs WETF management to revise a standing order that implements the current operational restrictions to include prohibition of intentional movement or venting of the FTWCs until further notice from the NNSA Field Office. The approval letter directs WETF management to implement the statement regarding no intentional movement or venting of the FTWCS through a Specific Administrative Control in the WETF Technical Safety Requirements. The NNSA Field Office Manager also directed LANL to submit a plan to update the safety basis to support FTWC remediation and to address additional ESS review comments by late August.