

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 11, 2016

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.K. Verhaagen and J.W. Plaue
SUBJECT: Los Alamos Report for Week Ending March 11, 2016

DNFSB Activity: On Monday and Tuesday, Board Member Sullivan visited LANL for walk-downs of the Weapons Engineering Tritium Facility, Plutonium Facility, Chemistry and Metallurgy Research building, and Area G. He also attempted to observe an emergency drill at Area G; however, Emergency Management personnel cancelled the drill after Fire Protection Division personnel needed to support the planned scenario did not arrive because they had not been scheduled to participate.

Area G–Emergency Management: On Wednesday, Area G personnel conducted their first learning team event. Area G management called for the learning event after a slower than desired response to a transuranic waste drum of questionable integrity (i.e., potential breached drum) that occurred last week. Participants in the learning team discussed several items of interest. For example, an abnormal operating procedure guides the operations center response to this condition; however, written guidance for other key responders, such as industrial hygiene and radiological control technicians (RCT), is limited and largely reliant on training and on-the-job experience. A large number of the RCTs are new to Area G, exacerbating this problem. The Site Representatives also note that specific RCT practices vary extensively across the laboratory. For example, participants discussed that after the RCT detected radioactive contamination on the operator who had first observed the questionable drum, both individuals walked to another dome to utilize a different contamination monitor without attempting to fix or otherwise isolate the suspect contamination. While the contamination ultimately was determined to be radon, practices at other LANL facilities would necessitate some type of additional control prior to moving an individual with suspect contamination. Notably, Area G personnel identified two additional drums of questionable integrity this week. Response to these events was improved, in part resulting from actions taken to ensure industrial hygiene equipment is now checked daily for adequate electrical charge and given the necessary single point calibration check.

Area G–Safety Basis: Last week, LANL submitted to the NNSA Field Office a request for extension of the Evaluation of the Safety of the Situation (ESS) for the Potential Inadequacy of the Safety Analysis (PISA) declared for a single drum fuel pool fire (see 3/13/15 weekly). On Wednesday, the NNSA Field Office approved a LANL request for extension of revision 3 of the ESS for the transuranic waste drums containing inappropriately remediated nitrate salts (RNS) PISA (see 3/27/15 weekly). Both of these ESSs also serve as Justification for Continued Operations and were set to exceed their twelve-month approval deadline.

On Monday, LANL submitted to the NNSA Field Office for review and approval revision 5 of the ESS for the transuranic waste drums containing RNS. While LANL previously submitted revision 4, the NNSA Field Office neither approved nor rejected it. Revision 5 allows for installation of increased venting capacity and pressure relief directly on the drums. The ESS will be implemented in two phases. The first phase will allow lid removal from the standard waste boxes currently housing the RNS drums. The second phase will allow installation of the additional venting and pressure relief devices. LANL is proposing this action because test data has demonstrated that preventing the RNS drums from over-pressurization significantly reduces the chance for a self-initiated thermal runaway reaction.