

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 29, 2017

MEMORANDUM FOR: S.A. Stokes, Technical Director

FROM: J.W. Plaue

SUBJECT: Los Alamos Report for Week Ending September 29, 2017

Plutonium Facility–Conduct of Operations and Work Control: On Saturday, pipefitters released airborne radioactive material when they removed a plug from a service panel on the base of a glovebox. This was the same work crew and glovebox involved in the contamination event late last month (see 9/1/2017 weekly). At the fact-finding, attendees reviewed the scope of work which included replacing two elbows on the service panel with shorter versions. The pipefitters described difficulty in turning one of the elbows because of an interference from a plug and decided to remove the plug thereby releasing the contamination. They believed they had allowance to take such an action because the work document provided only vague constraints on “field routing.” The two pipefitters and supporting radiological control technician were wearing air purifying respirators and anti-contamination clothing, but exited the room when airborne radioactive contamination levels exceeded their safety thresholds. All three workers were contaminated on their protective clothing, including one with 100 k dpm alpha on the skin of the chest area, which was successfully decontaminated. Nasal smears were all determined to be negative and the workers were placed on special bioassay. Continuous air monitors indicated airborne levels as high as 4520 DAC-hours in the impacted room, as well as lower readings in the adjacent room and an area in the north corridor, which was also found to have areas of floor contamination. Fact-finding attendees discussed concerns and corrective actions associated with: establishing a common understanding of field routing; ensuring adequate on-call support during off-hours; and worker perceptions of increased programmatic pressure for project work.

Plutonium Facility–Safety Basis: Earlier this month, LANL management submitted to the NNSA Field Office a revision to the Evaluation of the Safety of the Situation (ESS) addressing the seismic interaction concerns for the fire suppression system (FSS). The initial ESS focused on questions regarding the seismic performance of cast iron fittings raised in the Board’s letter dated May 12, 2016. The Board’s letter also noted that LANL engineering personnel had documented concerns in 2010 with the potential for adverse seismic interactions (so-called 2 over 1 concerns) where unqualified equipment may fall or otherwise impact portions of the credited FSS. The revised ESS formally addresses this interaction issue and identifies 17 specific areas of concern within the facility, one global concern in the filter plenums, and a coupling issue present in both of the firewater pump houses. The ESS proposes maintaining the previously specified operational restrictions to reduce material-at-risk limits. The ESS further commits to implement corrective actions for the specific areas of concern through an annual revision to the TA-55 Project Execution Strategy.

Area G–Operations: On Tuesday, Area G personnel received the first shipment of newly generated transuranic waste since January 2014 when they accepted a number of oversized boxes from the Plutonium Facility. According to LANL’s projections, this shipment will extend the ability to continue accumulating waste at the Plutonium Facility’s outdoor storage pads until March 2018.