

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 26, 2016

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.K. Verhaagen and J.W. Plaue
SUBJECT: Los Alamos Report for Week Ending August 26, 2016

DNFSB Staff Activity: Board Member Hamilton, accompanied by staff members C.T. Beaty and M.W. Dunlevy, observed the annual full-scale exercise discussed below.

Emergency Management: LANL personnel conducted their annual full-scale exercise. This year's exercise spanned three days and involved a force-on-force security event at the Plutonium Facility that resulted in the simulated breach of confinement and release of radioactive material. Players included the full Emergency Response Organization, the LANL protective force, the Federal Bureau of Investigation, the Los Alamos Medical Center, the Los Alamos County Fire Department, and several other entities from the county. The player hotwash and controller critique are scheduled for next week.

Plutonium Facility–Infrastructure: On Tuesday, Plutonium Facility operators placed the facility into Mode 2–Standby after the 14 day limit in the Technical Safety Requirements (TSR) had elapsed to restore operability to one of the diesel firewater pumps. Maintenance personnel are currently working with the equipment vendor to resolve issues with head gaskets. Per the TSR, they have 50 days to restore operability while in Mode 2—if not, the TSR action statements require the containerization of all material-at-risk. The TSR defines containerization as a metal container for solids and a glass or plastic closed top container for liquids—there are no further specifications on the fire resistance of the containers even though the facility has credited fire-resistant container types. While it is unlikely to be needed in this instance, the Site Representatives note that the facility has not previously demonstrated the ability to containerize all material-at-risk and question whether this action statement is executable. Area G and the Weapons Engineering Tritium Facility have encountered similar issues with their TSRs. Other current equipment and infrastructure issues include:

- Both emergency diesel electric generators are out of service since February 2015 and May 2016. The safety basis does not credit these electric generators.
- One of the instrument air compressors has been out of service since April 2015. Instrument air is a safety significant support system for the ventilation system. The facility is currently running on an alternate compressor.
- Questions on the fittings for fire suppression system challenge its ability to meet its safety significant performance criteria to remain operable following a performance category 2 seismic event.

Safety Basis: The NNSA Field Office recently approved two Evaluations of the Safety of the Situation (ESS) associated with damage ratios (DR) for pipe overpack containers (POC) at the Plutonium Facility and Area G. LANL submitted these ESSs in September of 2015 (see 9/4/15 weekly). In the approval letters, the NNSA Field Office notes that insufficient technical information exists to justify any DR value other than one under thermal insults, but allows the continued use of non-zero DRs until ongoing POC thermal testing has been completed. Of note, LANL only currently uses a DR other than one for the Plutonium Facility.

Confinement Vessel Disposition Project: Last week, project personnel received the fifth vessel for processing. They commenced processing this week.