

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 15, 2016

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.K. Verhaagen and J.W. Plaue
SUBJECT: Los Alamos Report for Week Ending January 15, 2016

DNFSB Staff Activity: P.J. Foster, M.R. Bradisse, and M.T. Wright walked-down the Transuranic Waste Facility project construction site and conducted a review of the revised 90 percent documented safety analysis. M.W. Dunlevy and D.J. Brown supported the site representative office. On Monday, B.K. Caleca, D.K. Andersen, and T.J. Dwyer held a teleconference with personnel from the NNSA Field Office, NNSA Headquarters, and LANL to discuss the status of various seismic safety analyses and improvements planned for the Plutonium Facility.

Chemistry and Metallurgy Research (CMR) Building–Safety Basis: On January 13, 2016, the NNSA Field Office approved without conditions the safety basis temporary modification supporting the receipt and storage of a package containing americium-241 (see 1/8/2016 weekly). Separately, CMR personnel completed their implementation verification review of safety basis changes needed to support the Confinement Vessel Disposition project and expect to commence cleanout activities of the third sphere next week.

Plutonium Facility–Seismic Safety: This week, NNSA Headquarters approved the charter for a joint working group to develop a request for proposal for conducting a dynamic, non-linear seismic evaluation of the Plutonium Facility (see 8/14/2015 weekly). NNSA elected to pursue a non-linear analysis instead of completing the second phase of NNSA's alternate seismic analysis consistent with the recommendations of the Seismic Expert Panel documented in a report dated March 31, 2015. The charter establishes a working group consisting of three NNSA personnel and two LANL engineers. According to the charter's notional timeline, the group expects to develop an initial draft of the request for proposal by June 2016 and submit a final proposal to NNSA by September 2016. The timeframe for executing structural modifications identified by the non-linear analysis will depend on durations associated with NNSA's process to procure the request for proposal, selection of modeling approaches and parameters, completion of the computationally intensive modeling, review of the results, and the design work and funding for any necessary modifications.

Weapons Engineering Tritium Facility (WETF)–Operations: On Wednesday, WETF management declared a technical safety requirement (TSR) violation when they discovered that they could not execute a limiting condition of operation (LCO) action statement. At a critique of the event, WETF personnel identified equipment failures and inappropriate operator implementation of the TSRs as the causes of the violation. In December, while conducting a surveillance on the oxygen monitoring system (OMS), operators damaged an OMS housing wire in the tritium waste treatment system (TWTS) sample loop number two. Operators placed sample loop number one in service to maintain operability of the TWTS. Subsequently, operators discovered the pressure in sample loop number one was below specifications and placed it out of service and also placed the low pressure receiver (LPR) for the TWTS in WARM STANDBY MODE as required by the TSRs. Following two weeks without an operable OMS, operators entered the LCO action statement to perform a daily nitrogen purge of the LPR as required by the TSRs. On Tuesday, operators opened a work package to replace the damaged OMS housing. The following morning, operators recognized that the lockout for the work package prevented the ability to purge the LPR, but incorrectly determined that the LCO action statement did not apply while maintenance was being performed. Following questioning by the NNSA Facility Representative, facility management agreed that the action statement should have been completed and declared the TSR violation.