

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 30, 2016

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.K. Verhaagen and J.W. Plaue
SUBJECT: Los Alamos Report for Week Ending December 30, 2016

The Year on a Page: The Site Representatives' summary of the key developments of 2016:

- LANL completed key actions necessary to minimize the risk associated with the inappropriately remediated nitrate salt wastes (RNS). The most prominent of these actions include: implementation of new controls identified in the Evaluation of the Safety of the Situation (ESS) to prevent or mitigate consequences from a wildland fire and thermal runaway event; completion of the safety basis changes necessary to support the final treatment of the RNS wastes into an acceptable waste form; and preparation for upcoming readiness reviews to conduct final treatment activities. LANL managers believe they remain on schedule to complete the treatment prior to the next peak wildland fire season.
- Transuranic waste operations at Area G remain largely curtailed pending resolution of eight Potential Inadequacies of the Safety Analysis (PISA). Resolution of several of these PISAs has languished for many months due to competing priorities for LANL and NNSA Field Office safety basis personnel.
- Plutonium Facility personnel completed the revised scope of the restart project. Notably, several process deviations occurred in resumed operations prompting management to significantly change the material move procedure. The next significant readiness review is scheduled to occur in April 2017 for the aqueous chloride and americium oxide operations.
- Plutonium Facility personnel accomplished significant progress addressing DNFSB/Tech-39 concerns, including reducing material-at-risk on the first floor located outside of gloveboxes by 127 kg by relocation to more robust storage locations and improved utilization of certified containers.
- NNSA's decisions on the scope for Phase III of the TA-55 Reinvestment Project translated into the loss of line item funding for Plutonium Facility to upgrade the active confinement ventilation system to safety class and eliminate non-seismically qualified loads from the safety class fire water loop. These sub-projects were key elements of NNSA's previous strategy to mitigate the consequences of a post seismic fire to well below the DOE Evaluation Guideline. The situation is further exacerbated by the recently acknowledged seismic fragility issues with the fire suppression system, as well as LANL's planned reliance on executing these line items to counter system aging, vulnerability, and obsolescence issues.
- The Plutonium Infrastructure Strategy moved forward with approval of Critical Decision 2/3 for the equipment installation sub-projects and conduct of the analysis of alternatives for the Plutonium Modules. Notwithstanding this progress, delays and resource issues with the subproject approval will likely prolong programmatic operations in the Chemistry and Metallurgy Research Building.
- LANL declared PISAs associated with the potential for explosive mixture of oxygen and hydrogen isotopes in the headspace of Flanged Tritium Waste Containers. In the coming months, the NNSA Field Office is expected to complete review and approval of the ESSs for this condition and LANL is expected to develop a process and associated safety basis to disposition these containers.
- Weapons Engineering Tritium Facility personnel completed programmatic function tests for the first time since July 2011. They have also nearly completed a maintenance outage to make system modifications and resolve pressure safety concerns. The modifications are necessary to support risk reduction activities associated with the removal of bulk tritium gas.