

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 27, 2015

**MEMORANDUM FOR:** S.A. Stokes, Technical Director  
**FROM:** R.K. Verhaagen and J.W. Plaue  
**SUBJECT:** Los Alamos Report for Week Ending November 27, 2015

**Weapons Engineering Tritium Facility (WETF)–Restart Activities:** Recently, LANL management submitted to the NNSA Field Office for review and approval a corrective action closure package supporting the recent federal readiness assessment (see 10/9/2015 weekly). LANL’s request addressed the two pre-start findings relating to software quality assurance and radiation protection and their proposed schedule for completing the actions necessary to close the post-start finding related to quality assurance non-conformance reporting. As the Startup Approval Authority, the NNSA Field Office Manager’s approval of this request will enable facility personnel to complete facility restart. Following resumption of authorized activities, WETF personnel plan to transfer gas out of the Tritium Gas Handling System in preparation for a maintenance outage necessary to make system upgrades to allow future gas processing for risk reduction activities. WETF personnel are also planning to conduct function testing of gas transfer systems when restarted.

**Plutonium Facility–Criticality Safety:** Last Friday, LANL transmitted a request to the NNSA Field Office to extend the deadline for directed safety basis changes. The NNSA Field Office direction came in a letter approving a previous request to extend the Evaluation of the Safety of the Situation/Justification for Continued Operations (ESS/JCO) concerning the potential for nuclear criticality due to firewater intrusion (see 5/15/15 weekly). LANL noted in the current request for extension that the Nuclear Criticality Safety Program Upgrades Project Plan, which is a prerequisite to making the safety basis changes, is still in revision to address necessary deficiencies. LANL committed to submit the necessary safety basis changes and the project plan by December 24, 2015. The ESS/JCO will be closed following approval and implementation of the safety basis changes.

**Transuranic Liquid Waste (TLW) Treatment Facility Project:** Last month, LANL management transmitted to the NNSA Field Office for approval the Preliminary Safety Design Report (PSDR). The TLW Treatment Facility will be a Hazard Category 3 nuclear facility with a proposed radiological material-at-risk limit of 55 americium-241 equivalent curies. From a risk perspective, the PSDR estimates Level C radiological consequences for the public and facility workers for a fire that vaporizes the entire facility inventory, which the PSDR deems as physically impossible but informative from a bounding standpoint. The PSDR defines Level C radiological consequences as lost work time without disability for the worker and < 5 rem Total Effective Dose for the public. The PSDR proposes 23 engineered controls with all but the safety significant chemical shields classified as defense-in-depth. The PSDR further proposes four Specific Administrative Controls that provide a limit on radiological material-at-risk limit, a limit on fissile material inventory, a fissile material transfer protocol, and a bulk chemical delivery control. For the code of record, the PSDR indicates that despite the availability of newer versions, the project’s design will adhere to DOE Order 420.1B, *Facility Safety*. LANL’s transmittal letter notes that they will provide the results of a separate review requested by the NNSA Field Office of the hazards associated with a natural gas line in proximity to the facility.