

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 25, 2010

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending June 25, 2010

Plutonium Facility – Safety Basis: This week, LANL re-submitted the 2009 annual update of the Documented Safety Analysis (DSA) and Technical Safety Requirements (TSRs) for the Plutonium Facility to the site office for approval. The DSA includes updated analysis of the seismic accident scenarios (both the seismically induced fire and spill events). Consistent with the previous submittal, LANL disaggregated the material-at-risk into the various physical forms (e.g., metal, oxide, solutions) with specific administrative controls for each form. In addition, this submittal includes further refinement of the different forms of heat source plutonium materials (e.g., fine powder, sintered) and the potential amount of molten plutonium that could be involved in the seismic accident scenarios. Based on the revised analysis, the offsite dose consequence for the postulated post-seismic fire scenario is significantly lower than the dose consequence in the DSA approved in 2008. However, the mitigated consequence remains above the DOE evaluation guideline (site rep weekly 12/4/10).

For the DSA and TSRs approved in 2008, LANL is currently conducting an Implementation Verification Review for the fourth and final phase of implementation. Last week, LANL also submitted a revision to the 2008 DSA/TSRs to resolve previous site office comments and conditions of approval. The submittal includes the following requirements for declaring a TSR violation for a design feature: 1) failure to perform an In-Service Inspection (ISI) within the required frequency is a TSR violation 2) if a design feature fails an ISI, that failure is new information, which shall be evaluated for initiation of the Potential Inadequacy of the Safety Analysis process (failure of an ISI is not automatically considered a TSR violation) 3) failure of a design feature to meet performance criteria, functional requirements, or safety function following return to service after planned or inadvertent modification is a TSR violation.

Weapons Engineering Tritium Facility (WETF): On Monday, the NNSA Operational Readiness Review (ORR) team began their review to evaluate resumption of tritium gas handling operations. This week, NNSA ORR field observations including conduct of an emergency drill were performed. The team plans to complete their review and provide recommendations and findings by next Wednesday. Following the initial restart of low pressure tritium gas handling operations, which is the scope of the ORR, LANL plans to perform a contractor readiness assessment in July to restart function test operations to support an important programmatic mission.

Plutonium Facility – Fire Suppression System: In September 2009, LANL declared the fire suppression system inoperable based on hydraulic calculations that indicate the system does not achieve the water density coverage required in the safety basis. A Justification for Continued Operation (JCO) including compensatory measures was approved and implemented while upgrades to resolve the flow density issue were completed. This week, LANL requested an extension to this JCO to September 17th (the previous JCO expires at the end of June) to allow completion of upgrades to resolve this issue.