

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 30, 2012

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending March 30, 2012

Area G: The Area G TSRs credit overburdens as design features to protect low level waste in disposal pits from accident conditions that could cause the material to be dispersed. The design feature requires, “6 inch minimum fill material overburden on exposed low level waste pit layer – operational cover for active pit.” Last week, a site office Facility Representative questioned why an exposed portion of an active low level waste pit at Area G was not covered by an overburden.

Area G personnel had historically interpreted language from the accident analysis in the Area G DSA to conclude that the overburden design feature was only applicable when greater than 500 PE-Ci of low level waste was exposed in an active waste pit. Since far less than 500 PE-Ci was exposed in the pit observed by the Facility Representative, Area G personnel did not believe the overburden was required. This week, upon evaluation, Area G management concluded that the 500 PE-Ci applicability interpretation did not comply with the TSRs as written and suspended low level waste operations until a revision to the TSRs can be reviewed and approved by NNSA.

Radioactive Liquid Waste Treatment Facility – Upgrade (RLWTF-UP) Project: This week the site office provided NNSA-Headquarters a path forward for development and selection of safety basis controls for the RLWTF-UP Project. In July 2010, NNSA provided direction to LANL to re-evaluate options for this project to reduce cost. LANL subsequently recommended separating the transuranic and low-level waste processes into individual structures. The project path forward that includes separate facilities was accepted by NNSA in 2011. The low-level processing operations and common utilities would be located in a less-than-hazard-category 3 facility planned for completion in 2017. The transuranic processing operations would be located in a hazard category 3 nuclear facility planned for completion in 2020.

The path forward notes that LANL will be directed to identify anticipated engineered and administrative safety controls for the transuranic processing facility as part of the safety design strategy. The site office letter also notes that the quantity of transuranic liquid waste that requires processing has been low recently (averaging 6 to 9 Ci/year since 1994). Based on this low processing need, NNSA will also request LANL to perform an engineering study and make recommendations on alternate locations for the transuranic liquid waste processing portion of this project that considers expected mission need along with improved nuclear safety, waste minimization and life-cycle costs. This study may obviate the need to collocate hazard category 3 and radiological operations.

Plutonium Facility: This week, LANL transmitted a positive Unreviewed Safety Question determination to the site office associated with the refueling of an underground diesel fuel tank that supplies a pump house for the safety class Plutonium Facility fire suppression system. The following compensatory measures remain in place for this issue: refueling of the underground diesel fuel tank only when required, refueling operations will be performed under a work package that includes a fire watch and traffic control, training for personnel that perform the refueling operation and ensuring refueling vehicles meet safety basis requirements.