

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 27, 2012

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending January 27, 2012

Plutonium Facility: This week, Plutonium Facility management declared a TSR violation based on the failure to perform a required In-Service Inspection (ISI) on a safety significant design feature. The Plutonium Facility safety basis requires the use of credited containers for all operations that could produce molten plutonium metal. These containers provide a confinement barrier for molten plutonium in the event of a process or furnace upset. Recently, Plutonium Facility personnel discovered an infrequently used process that creates molten plutonium metal. The containers used in this process are made of the correct material for molten plutonium processing, but the containers had not been subjected to the applicable ISI as required by the TSR.

Chemistry and Metallurgy Research (CMR) Building: The CMR safety basis credits shielding associated with CMR's Waste Assay Facility (WAF) as a safety significant design feature to protect workers from radiation produced by radiation generating devices inside the WAF. The CMR TSRs require an ISI to be performed on the WAF shielding every two years. Personnel must be qualified to perform this inspection by completing a computer based self-assessment and a performance demonstration of the ISI procedure. During a Vital Safety System Assessment, CMR personnel recognized that the most recent WAF shielding ISI was performed by an individual who had completed the self-assessment, but not the required performance demonstration and was therefore not qualified to perform the inspection. This discovery prompted facility management to declare a TSR violation based on the failure to satisfactorily perform an ISI within the required frequency. In response to this violation, facility personnel are performing an extent of condition review to identify any other TSR-level inspections or Surveillance Requirements that may have been performed by unqualified personnel.

Transuranic Waste Operations: Recently, LANL consolidated all Fiberglass Reinforced Plywood (FRP) boxes into a single dome in Area G that has an operable fire suppression system. This action improves the safety posture for these transuranic waste forms in the interim as Area G personnel continue to disposition these items. The FRP boxes contain legacy contaminated equipment and debris from decommissioning the TA-21 Plutonium Facility in the 1970s. LANL is currently processing FRP boxes in Building 412. This year, LANL plans to startup FRP processing lines in the Dome 231 Permacon and in Dome 375. FRP processing activities at less than 2.5 PE-Ci are covered under the Area G safety basis for sort, segregate and size reduction activities. For a small number of large FRP boxes, LANL plans to perform processing activities (i.e., waste removal, size reduction and repackaging) in-place, using confinement tents erected around the large boxes; however, this activity is not scheduled for 2012.

Safety Basis: This week, the site office approved a proposed revision to the LANL Unreviewed Safety Question (USQ) Procedure to incorporate changes to DOE Guide 424.1-1B, *Implementation Guide for Use in Addressing Unreviewed Safety Question Requirements*. The revision also provides improved linkage between the USQ and new information processes, includes required actions times in response to a potential inadequacy in the safety analysis, and adds an expert-based USQ screening process (the last will be piloted and reviewed during the next year). The site office approval notes that the LANL new information process needs to be substantially improved or discontinued and requests detailed contractor review of the process. A report on lessons learned and the advantages/disadvantages of continuing this process is requested by May 1, 2012.