DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 26, 2010

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending November 26, 2010

The laboratory was closed on Thursday and Friday in observance of the Thanksgiving holiday.

Plutonium Facility – Safety Basis: This week, facility management declared a TSR violation based on an NNSA Facility Representative discovery that a TSR-level surveillance to ensure compliance with material-at-risk limits had been performed without inspecting all required material locations.

Currently implemented Plutonium Facility TSRs require the quantity of ^{238}Pu-enriched heat source plutonium (HS-Pu) stored in each of the 60 locations in the vault water bath to be checked for compliance with approved limits on a quarterly basis. The limit on HS-Pu in vault water bath locations was derived to ensure the thermal loading from the total quantity of high-activity HS-Pu does not overwhelm the heat removal capability of the vault water bath leading to a rise in water temperature and eventual boiling. The NNSA Facility Representative discovered that the procedure used to execute the TSR-level surveillance only checked compliance in 51 of the required 60 locations in the vault water bath. The quarterly TSR surveillance had been performed five times using the inadequate procedure. This prompted Plutonium Facility management to declare a TSR violation.

In response to this discovery, facility personnel immediately checked the quantity of HS-Pu in the nine vault water bath locations that had been omitted by the surveillance procedure and each location was found to be in compliance with the TSR limit. The cause of the procedure inadequacy could not be immediately determined and continues to be investigated. Facility management identified corrective actions to strengthen expectations for verification and validation prior to procedure approval. Based on this and other discoveries of inadequate implementation of TSR-level surveillances and inspections, facility management is developing a plan to identify and address any similar issues. These implementation issues are also being evaluated to identify lessons learned that can be applied to the institutional Implementation Verification Review process that is intended to find and fix these issues.

Readiness: Recently, the site office provided conservative direction to LANL on the level of readiness review for startup activities identified in the FY 11 First Quarter Startup Notification Report (SNR). Because of the potential for substantial modifications, 15 planned startup activities at Area G, WETF and TA-55 were identified by the site office as potentially requiring federal Readiness Assessments in accordance with DOE Order 425.1D. The site office memo requests LANL to pursue project planning based on this direction. However, if LANL identifies additional information to indicate the startup activities do not involve substantial modifications, the laboratory should make appropriate recommendations in a future SNR revision.

For two startup activities, the site office memo directs that Operational Readiness Reviews be completed because of the hazards, complexity, and need to assess against all core requirements identified in DOE Order 425.1D. The first activity is startup of the Confinement Vessel Disposition Project in Wing 9 of the Chemistry and Metallurgy Building, which is scheduled for 2012. The second activity is the MOVER Project in Area G, which will conduct transuranic waste sort and segregate activities.