DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 18, 2013

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: R.T. Davis and R.K. Verhaagen
SUBJECT: Los Alamos Report for Week Ending January 18, 2013

Area G – Work Planning and Control: A Radiological Controls Technician (RCT) assigned to source check an area radiation monitor in the High Energy – Real Time Radiography facility in Area G opened a vial containing a liquid Europium-152 (Eu-152) source and emptied its contents on to an equipment cabinet. The RCT mistakenly thought the vial contained a sealed source. The source was actually comprised of 0.53 mCi of Eu-152 suspended in a hydrochloric acid solution. Approximately 1 milliliter of liquid was poured out of the vial contaminating the RCT and a local area in the facility. Actions taken after the spill of material prevented contamination from being spread outside the facility.

In addition to the fact that the RCT did not know that the source being used was in a liquid form, there were a number of work planning and control issues that contributed to this event. Some of the identified issues included: no procedure existed for performing the source check activity; no pre-job brief specific to the activity of conducting the source check was conducted; word of mouth was used to identify the required source for the check; the RCT did not stop when he initially could not get the correct reading on the radiation monitor; and not all of the controls specified in the radiological work permit were followed. Additionally, issues that paralleled the release of contamination event at the Los Alamos Neutron Science Center (LANSCE) in August 2012 were identified. As a result, the Associate Director of Nuclear and High Hazard Operations has directed an additional investigation be performed by managers involved in the investigation of the LANSCE event.

Plutonium Facility – Criticality Safety: Based on questions from site office personnel, a criticality safety infraction was identified in the Plutonium Facility when workers placed containers on a cart that were too small to be restrained by an interference plate. This plate is designed to ensure containers remain in their location during a seismic event as required by the criticality safety limit approval (CSLA). During the critique of the event it was determined that controls that were identified as safety significant in the CSLA were not elevated to the safety basis documents as would have been appropriate. In response to this discovery, the New Information process has been entered and use of the carts has been suspended until appropriate criticality safety controls are implemented.

Safety Basis: The site office granted LANL extensions on the following three significant safety related documents this week to "ensure the necessary quality deliverables and management review": 1) the PF-4 safety basis addendum to address structural performance (now due February 1st); 2) the final report on the PF-4 service chase joint mock-up testing (now due February 15th); and 3) the Area G safety basis changes to support higher material at risk box line operations (now due January 31st). The site office letter requests LANL to ensure that results from the PF-4 service chase joint testing are appropriately factored into the ongoing alternate seismic analysis.

The site office also recently provided extensive comments to LANL on the August 2012 submittal of the RANT shipping facility Documented Safety Analysis update. The site office identified 66 comments that require correction or resolution and requested LANL to resubmit the safety basis documents in 90 days.