DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 17, 2011

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending June 17, 2011

Federal Oversight: This week, the NNSA Site Office Manager announced the selection of a new Assistant Manager for Field Operations whose responsibilities include management of Facility Representatives, Safety System Oversight engineers, and the readiness program. The selectee is a former Facility Representative of the Year who had been serving at the Plutonium Facility.

Weapons Engineering Tritium Facility (WETF): WETF management declared a TSR violation this week based on the discovery of two rupture disks installed in the safety significant Tritium Gas Handling System (TGHS) that did not comply with the WETF Pressure Safety Program. The two rupture disks rated to actuate at 16 psid were located adjacent to a portion of the TGHS equipped with pressure protection devices rated to actuate at 38 psid. In this configuration, accumulation of gas in the adjacent section that exceeded 16 psid could actuate the rupture disks and back-flow gas into a now unprotected part of the system making it vulnerable to over-pressurization and failure.

The two affected rupture disks were installed prior to WETF fully implementing the requirements of LANL's conduct of engineering program. Using the less formal prior process, relevant Piping and Instrumentation Diagrams (P&IDs) were not updated to reflect the presence and rating of the newly installed rupture disks. When WETF engineers verified Pressure Safety Program compliance as part of their phased restart process, these rupture disks were not identified as a problem because they were not shown on P&IDs. Also, since this section of the TGHS was part of the lowest priority restart phase, associated components were not subjected to the enhanced verification measures applied to higher priority sections needed to support earlier startup phases.

In response to this discovery, WETF management has declared the TGHS inoperable pending modifications to bring the system into Pressure Safety Program compliance and has initiated an extent of condition review to identify any similar issues within credited pressure systems.

Plutonium Facility: LANL management has submitted for NNSA site office concurrence a recommendation to perform confirmatory analysis that compares the results of deterministic soil-structure interaction (SSI) analysis with the results of the probabilistic soil-structure interaction analysis that served as the basis for LANL's SAFER evaluation of the Plutonium Facility.

Radioactive Liquid Waste Treatment Facility (RLWTF): This week, RLWTF personnel used an upgraded rotary vacuum filter to transfer low-level waste sludge to a drum for disposition for the first time since 2007. Restoration of this drum-out capability will allow operators to begin removing large quantities of sludge from the low-level waste system that have accumulated over the years and prevented some key pieces of equipment from being operated as intended. RLWTF personnel are also making significant progress on replacing the failure-prone tubular ultrafilter system with more robust pressure filters. These upgrades will help improve the reliability and availability of the low-level waste processing system but do not reduce the need or urgency to construct a replacement facility. LANL and LASO continue deliberations on the path forward for the RLWTF-Upgrade project that is intended to provide this replacement capability.