

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 25, 2012

MEMORANDUM FOR: Timothy Dwyer, Technical Director
FROM: Jonathan Plaue, DNFSB Site Representative
SUBJECT: LLNL Activity Report for Week Ending May 25, 2012

Plutonium Facility: This week, laboratory contractor personnel executed without incident the classified experiment involving high explosives and plutonium. No contamination was detected and the experimental outcome was as anticipated. Program personnel will complete several diagnostics on the test item before the material is prepared and packaged for disposition offsite.

Transuranic Waste Management: On Monday, a crew of nine workers from the Savannah River Site arrived for a three month detail. Initially, the crew will assist in retrieving parcels containing larger amounts of nuclear material from about 30 transuranic waste drums. These parcels require subsequent remediation to support achieving deinventory levels. Management is determining additional work scope for the team following completion of parcel retrieval.

Livermore Site Office (LSO): LSO personnel recently completed extent-of-condition reviews for the Toxic Gas Control System and Criticality Alarm System to ensure adequate flow down from the hazards analysis to the safety function, performance criteria, functional requirements, and surveillance requirements. The need for a few clarifications regarding the Criticality Alarm System was captured for action in next year's annual update; however, no significant issues were identified that required near term resolution. LSO intends to complete additional reviews as part of their response to the Board letter dated December 13, 2011.

Post-Deinventory Planning: At a recent all-hands briefing for Superblock personnel, the program operations manager outlined some details regarding programmatic operations following the downgrade to Security Category III. Under the current program of record, operations will continue in the Plutonium Facility as a Hazard Category 2 nuclear facility. The new security posture will support several Strategic Rollup Areas at the laboratory, each operating with quantities of nuclear material limited to the Security Category III levels defined in Department of Energy (DOE) Order 474.2, *Nuclear Material Control and Accountability* (for plutonium, < 0.4 kg metal, 2 kg pure oxide, <16 kg residues). The total site aggregate will be limited to less than the Security Category II limit. The manager further reported that all Security Category I operations will be successfully transitioned to other sites. By necessity, enduring operations will be limited to small sample sizes and will be used primarily for analytical chemistry and materials characterization activities.

Nuclear Material Packaging: On Wednesday, contractor personnel briefed LSO on the status of implementing DOE Manual 441.1-1 *Nuclear Material Packaging Manual*. The contractor anticipates receipt of new SAVY-4000 containers starting this July with repackaging to commence in October 2012. The contractor has identified 643 items, 398 of which are salts or crucibles with salts, that have apparent defined uses and will remain after deinventory. Of these total remaining items, 56 were identified as high risk and are scheduled to be repackaged no later than September 2013. The remaining containers are moderate or low risk and are scheduled to be completed by September 2014. The contractor is still formulating an approach for repackaging (e.g., dedicated effort versus as-handled), as well as a date to submit to LSO for approval their technical basis cross-walk for the SAVY containers.