

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 21, 2011

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending October 21, 2011

This week, staff members T. Cutler, J. Deplitch, M. Helfrich and J. Pasko were onsite to review the LANL emergency management program.

Material Disposal Area-B (MDA-B): In September, LANL completed the retrieval of waste buried at MDA-B, a six acre legacy waste disposal area that received radiological and chemical waste in the late-1940s and is only meters away from public areas. At present, approximately 85% of the 116 plutonium-239 equivalent curies (PE-Ci) that were retrieved have been shipped away from MDA-B for disposal. The shipment of all remaining excavated waste from MDA-B is currently scheduled to be complete in early 2012. Permanent removal of this legacy waste, which included significantly more radioactive material inventory and total waste volume than anticipated, will represent a significant achievement in reducing the hazards at Technical Area-21.

LANL also recently submitted the safety basis strategy for retrieval of sludge waste from the two "General's Tanks" located in Material Disposal Area-A in Technical Area-21. Sample results obtained recently indicate approximately 150 PE-Ci are contained in these tanks. The strategy notes that sludge removal from the General's Tanks will be conducted as a hazard category 2 nuclear activity using a Documented Safety Analysis and Technical Safety Requirements developed in accordance with DOE-STD-1120, which is a 10 CFR 830 safe harbor methodology for developing safety basis documentation for environmental restoration activities.

Transuranic Waste Operations: Laboratory personnel plan to use a glovebag inside of a permacon structure located at Area G to access a legacy Am-241 source and either retrieve it for future programmatic use or package it for disposal as transuranic waste. Historically, this source had been used for experiments at the Lovelace Respiratory Research Institute. Available assay data indicates the source contains approximately 0.56g of Am-241 which represents 1.7 PE-Ci (about three times greater than the hazard category 3 threshold of 0.56 PE-Ci found in DOE-STD-1027).

The Am-241 was originally contained in a glass ampoule that was placed inside a copper-shielded steel box. The integrity of the glass ampoule is now suspect and LANL personnel are planning for the presence of dispersible americium oxide based on a continuous air monitor alarm received the last time the box was opened in 2007 at a Sandia National Laboratories – Albuquerque facility. The steel box containing the americium source is currently overpacked inside a Standard Waste Box (SWB) and staged in a transportainer at Area G. Lab personnel plan to transport the SWB to a permacon structure in Area G, remove the steel box and insert it into a glovebag inside the permacon, open the steel box to access the americium source, and either package the material for shipment to the Plutonium Facility if the source is recoverable or package the material for disposal as transuranic waste if the source is not recoverable.

This week, a LANL review team issued their final report documenting completion of a checklist Contractor Readiness Assessment (CRA) for this activity. The report identifies four pre-start findings. Lab personnel plan to perform this evolution upon successful resolution of these findings.