

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 17, 2015

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.K. Verhaagen and J.W. Plaue
SUBJECT: Los Alamos Report for Week Ending April 17, 2015

Plutonium Strategy–Radiological Laboratory Utility Office Building (RLUOB): On Wednesday, LANL submitted to the field office for review and approval a safety design strategy for upgrading RLUOB to a Hazard Category 3 nuclear facility. The strategy proposes increasing the radioactive material inventory to up to 400 grams of Pu-239 equivalent. This increase will allow relocating additional analytical chemistry and material characterization processes from the Chemistry and Metallurgy Research (CMR) facility that had previously been slated for the now deferred CMR Replacement nuclear facility. The increase in radioactive material inventory limits, as well as completion of the RLUOB Equipment Installation Phase 2 and Plutonium Facility Equipment Installation (see 8/15/14 weekly), will accommodate the transition of all analytical chemistry and materials characterization processes currently performed in CMR to RLUOB and the Plutonium Facility.

Area G–Nitrate Salts: This week, LANL chemists and energetic materials experts initiated a series of experiments at the request of the DOE Accident Investigation Board in an attempt to recreate the event associated with Drum 68660 in the Waste Isolation Pilot Plant. These experiments are being conducted at full scale within four 55-gallon drums with their contents prepared to resemble as closely as possible the known conditions within Drum 68660 without using radioactive materials. The experiments will be conducted in two temperature controlled transportainers with two 55-gallon drums in each. These LANL experts will now focus on planning and executing a limited set of experiments to support the safety basis for future sampling and treatment activities for the remediated nitrate salt wastes. These experiments will be performed under quality assurance appropriate for nuclear facility applications, whereas the full-scale tests are considered research and development and will not be used to inform safety bases.

Plutonium Facility–Restart Activities: Numerous Plutonium Facility restart activities were completed over the preceding week, including:

- The final report for the T-Base 2 machining federal readiness assessment (FRA) was issued. The assessment team found that fifteen out of sixteen functional area objectives were met, with the criticality safety objective being unmet. The FRA team concluded that upon correction of the pre-start findings (see 4/3/15 weekly) T-Base 2 machining would be ready to restart operations.
- The final report for the Balance of Machining contractor readiness assessment (CRA) was issued (see 3/13/15 weekly). Three pre-start findings were identified relating to an inadequate startup plan, improper use of a machining plan as a work control document, and software quality assurance issues. Seven post-start findings identified issues with conduct of maintenance, transient combustible loading, beryllium hazards, and training and qualification. The CRA team concluded that following satisfactory resolution of pre-start findings Balance of Machining would be ready to restart operations. The FRA is currently scheduled to start in early June.
- A management self assessment for the Isotopic Fuels Impact Tester was completed. The follow-on CRA and FRA are currently scheduled to be completed this fiscal year.