

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 28, 2001

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending December 28, 2001

The laboratory is closed from Tuesday, December 25, to Wednesday, January 2.

Plutonium Handling and Processing Facility (TA-55): LANL is close to completing the installation of the Pu-238 Scrap Recovery Line, a new aqueous processing line for recovering and purifying Pu-238 oxide. The objective is to be able to produce ½ kg Pu-oxide per month, 10 months per year. This is a batch process with a separate glovebox being used for each major unit operation: comminution (ball milling), nitric acid dissolution, anion exchange, oxalate precipitation, hydroxide precipitation, filtration, and calcination/oxygen-16 exchange (calcination is at 750 °C for 2 hours). The gloveboxes are normally sealed from each other. Transfers are made via tubing for solutions and via covered metal containers and pass-through doors for solids.

When operational, the Scrap Recovery Line will be a Hazard Category 2 activity based on the Pu-238 inventory. Per DOE direction, the safety class controls include an inventory administrative limit and specifications for the anion exchange resin on type, shelf-life, dry-out restrictions, and recovery/render-safe processes. These controls are in addition to the normal safety class features for Pu-238 operations (i.e., building structure, filter plenums, connecting ductwork, and seismically qualified gloveboxes). Safety significant features include the covered metal containers for moving solids and the stainless steel mesh that surrounds each anion exchange column. DOE also is requiring LANL to develop a TSR-level control on transient combustibles within the glovebox line, as well as safe handling procedures for certain chemicals used in the process.

Currently, LANL anticipates a management self-assessment in February, the LANL readiness assessment in March/April, the DOE readiness assessment in June, and startup by August.

TA-18 Flood Retention Structure (FRS): DOE has obtained from the Army Corps of Engineers a proposal to undertake activities necessary for resolving open issues with the FRS, including those identified in a Board letter and staff report in November (site rep weekly 11/9/01). The proposed activities include performing a baseline FRS inspection, core drilling and testing the roller compacted concrete and underlying foundation material, and preparing a concrete materials and foundation completion report. DOE action on the proposal is imminent. These activities also support the turnover of FRS responsibilities from the Corps to DOE and LANL. Timely resolution of these issues continues to be warranted, as well as finalizing the FRS emergency action plan and FRS maintenance and inspection procedures.

Transuranic Waste Inspectable Storage Project (TWISP): Last week, TWISP retrieved its last waste drum, reaching this milestone two years ahead of schedule and \$13M (26 %) under-budget. Since 1995, TWISP has retrieved about 17,000 drums and 200 fiberglass reinforced plywood crates in TA-54. The containers had been stored for nearly two decades in dense-packed arrays on asphalt pads under plywood, plastic, and earthen cover. Retrieval operations were conducted using a Hazard Category 2 safety basis.