

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 19, 2004

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending March 19, 2004

The Board and a staff team were on site this week. On Wednesday, Andrews, Jordan, and Contardi were here for informal, separate discussions on TA-55 Pu-238 operations.

Formality of Operations: Two recent examples indicate a need for more formality here in closure of safety issues before new operations or restarts to ensure there are no omissions that could affect safety. First - when approving the TA-18 safety basis in 2002, NNSA stated that the Solution High Energy Burst Assembly (SHEBA) shall not operate in burst mode until several studies are submitted to and accepted by NNSA. This includes addressing potential common mode failure of the two identical dump valves, which are the two safety-class shutdown mechanisms. Last month, LANL informed the staff these actions were complete; however, NNSA has not received and accepted the studies, and it is unclear who at NNSA and by what formal mechanism NNSA intends to accept closure of these items.

Second - last September, TA-55 curtailed processes that generate Pu-238 waste and residues because of potential safety concerns involving deterioration of the slip-lid containers (site rep weekly 9/12/03). On February 23rd, TA-55 management approved a resumption plan for the curtailed operations; however, the approved plan is based on draft documents, including a hazard control plan and a work instruction still in development and a process hazard analysis not yet submitted to NNSA. It is unclear that all the reasons for curtailment have been identified and formally addressed; that prerequisites have been satisfied and formally verified; and that implications of the Type B corrective action plan have been considered. From discussion with LANL, the intent was to restrict resumed operations to those within the glovebox lines, including residue pyrolysis, but LANL needs to resolve the container issues. These concerns may be addressed by the integrated planning effort described below.

Plutonium Facility (TA-55): LANL is engaged in integrated planning to address several inter-related needs involving Pu-238 operations, including: (1) resuming operations that generate wastes and residues; (2) progressing on the Type B corrective action plan (CAP); (3) starting up the new scrap recovery line and delivering heat sources in time for the NASA New Horizons mission to Pluto. Scrap recovery line startup has several apparent prerequisites: an explicit Technical Safety Requirement (TSR) revision that captures all the applicable controls; formal closeout and verification of LANL readiness assessment (RA) findings from last summer (~90 total, including 31 pre-starts - site rep weekly 8/1/03); a new LANL RA; and the NNSA RA. The scope of the new LANL RA is to be determined, but could include resumption of residue-generating activities and implementation of new work control processes. An integrated schedule should be available early next week.

LANL is moving ahead on the Type B CAP (site rep weekly 2/20/04). Efforts to decon the room to date have been well-planned and well-executed, but progress is on hold pending LANL submitting and NNSA approving a process hazard analysis for temporary residue storage locations and configurations. LANL also needs both NNSA approval of the CAP, and DOE and NNSA action on judgements of need under federal responsibility. The latter includes NNSA developing comprehensive criteria for safe stabilization, storage, and disposal of Pu-238 bearing materials, considering the full life cycle. NNSA needs to take timely action on these to support LANL safely moving ahead with these activities.