

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 1, 2005

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: T. D. Burns Jr. and C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending April 1,2005

Plutonium Facility (TA-55): NNSA has clarified that conditions of approval issued last week are not intended to interrupt room 201B cleanup; this high-priority risk reduction activity is continuing.

NNSA and LANL need to establish the safety-class control(s) they intend to rely on in place of passive ventilation and thereby address a number of low-probability, high-consequence accident scenarios. LANL has proposed interim Technical Safety Requirements (ITSRs) to define the safety envelope until the final safety basis upgrade is done, which could be a year. The ITSRs are intended to address the leak path factor (LPF) issue in the short-term, as well as consolidate controls from the following: unreviewed safety questions against the currently approved 1996 safety basis; hazard analyses from the proposed 2002 safety basis upgrade; and analyses from the NNSA-LANL joint review team working on the safety basis upgrade (site rep weeklies 2/4/05, 3/4/05).

The LANL submittal included refined LPF calculations, intended to quantify relative performance of the existing active confinement ventilation system. The analyses indicate that with the west exit doors open and the east exit doors closed, wind tunnel effects are precluded and the active ventilation system limits facility releases to less than 0.02%; two orders of magnitude lower than the best case estimates for passive confinement. Given that the PF-3 administrative building completely encloses the eastern exit doors, this analysis appears to be a reasonable representation of the actual facility configuration.

Citing a lack of quantitative data on PF-3's effectiveness as a wind-block and uncertainties about the potential costs of equipment upgrades, LANL has chosen not to pursue active ventilation as a safety-class control at this time. Instead, LANL proposes a combination of process-specific design features and administrative controls as a safety-class defense. NNSA review and additional LANL studies are underway.

Management: The NNSA Site Office and LANL have increased emphasis on responding to the Board on several late commitments and reporting requirements. Within the last week, they have issued responses on conduct of engineering (Board letter 1 /27/04); identification of critical admin controls (Rec. 02-3, commitment 4.5); roles and responsibilities for weapons points-of-contact (Rec 02-2, commitment 4.3.2); and TA-55 ventilation backup power (DOE commitment, Pu ventilation system study report, 3/15/96). The staff is reviewing these responses. NNSA still owes responses on a training assessment, which is nearly done, and on TA-18 temperature-based scram systems, which is waiting on NNSA to decide what critical assembly operations are required in the remaining time.

Radioactive Liquid Waste Treatment Facility (RLWTF): LANL appears on track to complete in mid-April the investigation into the RLWTF high-airborne contamination event (site rep weekly 3/11/05). Preliminary bioassay results indicate that the two workers received measurable but low internal exposures; these will likely be below the reporting threshold (500 mrem).

Fire Protection: LANL is increasing staffing and funding in FY-05 and 06 to address fire protection issues, including beginning to address fire hazard analysis updates and planning a response to the fire department baseline needs assessment (site rep weekly 3/4/05).

Radiography Facility (TA-8-23): LANL has secured operations in TA-8-23 and will propose to NNSA that it be downgraded from a HC-2 nuclear to a radiological facility (site rep weekly 11/12/04).