

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 28, 2001

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

Plutonium Handling and Processing Facility (TA-55): In March 2000, a Pu-238 airborne release occurred from a TA-55 glovebox system, resulting in at least 7 of 8 workers in the room receiving confirmed intakes. The source was discovered to be a finger-tight compression fitting in a contaminated vacuum line. The line was disturbed by a technician troubleshooting a glovebox auxiliary system using skill-of-the-craft as work authorization. Contributing to the event was a ball valve in the vacuum line that had degraded teflon seats.

In July 2000, DOE issued a Type A accident investigation report on this event, which includes a list of causal factors and judgements of need. In September 2000, LANL provided a corrective action plan to address the DOE findings. At the facility level, the plan includes improving hazard analyses, work planning and controls, configuration management, and conduct of operations. At the institutional level, the desired improvements include glovebox quality assurance, communications (e.g., equipment status), defined roles and responsibilities, and the level of reliance on skill of the craft. Several of these have been discussed in recent site rep reports. Many of these involve ensuring that Integrated Safety Management is fully implemented.

During the last year, LANL has made progress on the above, including inspecting the integrity of the roughly 30,000 compression fittings in the facility. Discrepant gloveboxes and fittings have been or will be corrected on a risk-prioritized schedule. Other actions remaining include developing as-built configuration records for glovebox auxiliary systems; replacing the continuous air monitors (CAMS) to increase sensitivity by nearly an order of magnitude; and implementing a plan to inspect and replace degraded teflon components. The overall plan appears well-supported by DOE and LANL senior management. Within the next month, DOE expects to begin a review to validate many of the actions completed in the facility.

Weapons Engineering and Tritium Facility (WETF): Last Friday, DOE withheld approval of the updated authorization basis for WETF, consisting of the Final Safety Analysis Report (FSAR) and the Technical Safety Requirements (TSRs). During the comment resolution meeting last week, DOE, the facility itself, and an independent LANL review team each raised numerous questions on the safety analyses. LANL estimates that resolving the issues will cause a two month slip in operational readiness reviews for new WETF systems required for consolidation of LANL tritium operations. The site rep believes that the dependence on administrative controls and the level of defense in depth for fire protection still merits attention (site rep weekly 8/10/01). Also, it may be worthwhile to postpone finalizing the TSRs until after they have been incorporated into a set of draft procedures and those procedures have been validated by operations personnel.

Fire Protection: LANL has been investigating delayed signal transmissions from facility fire alarm panels to the central alarm station. For nuclear facilities, such problems might lead to delayed fire department response, possibly violating assumptions made in safety analyses. Personnel training is currently being used as a compensatory measure (i.e., dial 911). DOE and LANL are initiating a site-wide fire alarm system replacement project, which may address the longer term issue.