

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 8, 2002

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending November 8, 2002

Weapons Engineering Tritium Facility (WETF): WETF is in the process of transition from an old authorization basis (AB) to a new, improved one. On October 25th, the site rep reported that WETF temporarily secured operations because of overdue commitments for implementing new Technical Safety Requirements (TSRs). This action was driven by an AB compliance issue and did not constitute an emergent safety issue, since the facility continues to operate safely under the previous AB. However, it demonstrates the difficulties that can arise during the process of TSR development, implementation, and verification. A facility may need to operate for an extended period under an old AB, while developing procedures, training personnel, and finally demonstrating capability to comply with a new one. During this period, there is potential for confusion.

WETF is currently conducting a management self-assessment (MSA) for both starting up Building 450 and implementing the new TSRs. WETF management believes that the facility is close to meeting the overdue commitments and that it will demonstrate implementation during a contractor operational readiness review, scheduled to begin shortly. Next week, a DNFSB staff team will be on site reviewing the status of TSR implementation at LANL facilities, including WETF.

Plutonium Facility (TA-55): On August 9th, the site rep reported that LANL is considering engineered solutions in place of administrative controls for the new Pu-238 scrap recovery line and that DOE/LANL had slipped the project to allow time to address issues raised in a Board letter (4/23/02).

While progress was made in August and September, the project may now be backsliding. For example, the site rep learned this week that the ion exchanger reservoir concept is no longer being pursued based on results from a challenging and potentially questionable resin dryout calculation. Resin dryout could lead to conditions conducive to an energetic reaction. The significance of such a reaction is being reevaluated but was previously deemed to require Safety Class controls. The reservoir concept was a relatively straightforward engineered feature intended to extend the period before resin dryout, although it perhaps needed refinement to expand the range of upset scenarios it addressed. For the same reasons, the project is also not considering automatic detection or alarms that might provide early indication of leaks or losses leading to resin dryout. On another issue, the project has not examined alternatives nor substantiated cursory estimates for modifications to address the solution transfer strategy questions (i.e., their proposed use of temporary flexible tubing).

On the positive side, the project expects, within a week or two, to submit to DOE a revised process hazard analysis (PrHA). The site rep has been told that the PrHA will address all the questions and issues, include a more thorough examination of the hazards, and propose better safety controls and engineered features. The project has been proceeding at risk in parallel with the revised PrHA development. Before it can proceed to readiness assessments, the PrHA will be reviewed by the responsible LANL division, by an independent LANL team (the Office of Authorization Basis), and by the DOE Site Office. Given the potential weaknesses discussed above, this should represent a good, thorough test of the DOE/LANL authorization basis review and approval process. The site rep is communicating concerns with the direction of this project with DOE/LANL management.