

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 7, 2004

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending May 7, 2004

Integrated Safety Management (ISM): LANL senior management is committed to improving the LANL integrated work management process. Last week, the LANL Director issued an instruction outlining his expectations, including that people focus on the intent of the process and not just the documentation. LANL also has revised the interim work management requirements to incorporate lessons learned since the new work control process was put in place last November (site rep weekly 10/31/03). This is still an overlay on the prior work control processes. Two challenges are (1) standardizing expectations and preparation of the responsible division leaders or their designees, who now have increased personal responsibility for implementing the process, and (2) streamlining implementation for repetitive tasks, such as low-risk maintenance and surveillance. LANL has committed to developing and implementing process improvements (e.g., hazard identification and support tools), delivering training, and issuing new institutional requirements by September 30th.

Critical Experiments Facility (TA-18): LANL conducted a management self-assessment (MSA) of TA-18 operations this week, and the report is forthcoming. Also, the site rep observes that the current TA-18 authorization basis (AB) implicitly permits both Godiva and SHEBA to operate in delayed critical mode with a 150 g plutonium equivalent sample and with excess reactivity approaching \$1.00. The other assemblies are limited to \$0.80 with Division Leader approval, \$0.50 otherwise. The safety basis does not include an analysis of Godiva and SHEBA in the delayed critical regime. Instead, it has analysis for operations above \$1.00 (i.e., burst mode) that led NNSA to impose additional controls, such as restricting the sample size to zero during burst mode operations. LANL has issued a standing order with more explicit controls for Godiva and SHEBA and will propose such controls in an upcoming Technical Safety Requirement (TSR) revision. LANL is also reviewing TA-18 experiments against the hazards and controls. Review of the sample size and reactivity limits appears warranted.

Plutonium Facility (TA-55): TA-55 has traced the uninterruptible power supply (UPS) failure reported last week to a likely transient in a bypass switch during restoration from maintenance. NNSA has approved a TSR change to limit the significance of any future similar failure. Also, TA-55 has completed an MSA on resuming the Pu-238 aqueous recovery bench-scale process without ion exchange. This MSA was an improvement over some observed last year. TA-55 appears to have benefitted from increased institutional support, particularly the Performance Surety Advisor Program. The MSA included stepping through the process and tracing implementation of controls down to procedures. Some of these controls evolved from a process hazard analysis (PrHA) that LANL submitted 2 years ago to NNSA as part of the AB update but that NNSA has not yet approved. While this PrHA is likely the best information currently available on the hazards, NNSA needs to complete its review to ensure appropriate controls are in place.

Weapons Engineering Tritium Facility (WETF): NNSA has completed its Operational Readiness Review (ORR) and is preparing its report. Tentatively, the team identified 3 pre-start and 24 post-start findings, most of which were linked to institutional issues (e.g., conduct of engineering, training, welding, maintenance, quality assurance). There were few AB issues. The site rep observes that the NNSA ORR was thoroughly and professionally conducted, and that WETF was well-prepared. This was the culmination of several years of hard work by LANL, the Site Office, and, more recently, the Performance Surety Advisor Program.