

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 17, 2006

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending March 17, 2006

Contract Transition: Los Alamos National Security (LANS) LLC started their due-diligence facility walk-downs this week with CMR; they expect to complete a sampling of facilities by mid-April.

Federal Oversight: The NNSA Site Office (LASO) has started to reinvent itself again. NNSA has decided to move immediately at LANL into a two-year pilot of its new oversight model, which will rely heavily on LANS's still-undefined contractor assurance system. NNSA asserts that this model will not affect federal nuclear safety oversight; however, it is unclear now how NNSA, for the purposes of its oversight, intends to categorize the lower hazard nuclear facilities (i.e., the radiological facilities), nor is it clear how NNSA will ensure adequate federal oversight of shared institutional safety programs, such as fire protection, quality assurance, training, and work control. The next step appears to be for LASO to prepare an implementation plan by July 1st (site rep weekly 2/17/06).

Fire Protection: Fire scenarios dominate the high-consequence end of the risk spectrum for LANL nuclear facilities. Recent attention has focused on code-discrepant sprinkler heads (site rep weekly 3/3/06). TA-55 remains in standby and is on track to finish its planned sprinkler head replacements by the end of this month; this is being closely managed. CMR has consulted with the LANL fire protection group, has reduced the set of heads requiring immediate replacement from about 600 to about 90, and has replaced these heads, tested the system, and returned to normal operation.

Chemistry and Metallurgy Research Replacement Facility (CMRR): On Thursday (3/16), LASO concurred in a CMRR nuclear safety strategy to guide the preparation of the preliminary safety basis, which is due in draft in August. During a review two years ago, the Board's staff suggested the need for such a set of NNSA-approved guiding principles for the purpose of driving early and explicit communication and consensus on safety considerations affecting the design (site rep weekly 4/2/04).

The approved safety strategy is essentially a reiteration of the LANL preliminary hazard analysis (PHA) and the LASO safety evaluation report of a year ago (site rep weekly 3/25/05). The strategy reasserts the following as safety-class: passive building confinement, long-term storage containers, fire barriers, fire suppression (including detection), long-term vault, building structure, and glove-box supports; active ventilation would be safety-significant. While the NNSA approval letter asserts that the strategy paper's logic is both technically and fiscally sound, the technical justification consists of references to expert opinion and to the PHA of a year ago, and cost considerations are not mentioned.

A classic issue is for a DOE site to declare a set of systems as safety-class or safety-significant, and then fail to follow up on the engineering, procurement, operability, and maintainability commensurate with that quality level. Institutionally, LANL's intent has been to address this via conduct of engineering and quality assurance initiatives; however, how these initiatives will interface with the CMRR project is not clear. The suite of safety systems preliminarily selected for CMRR also exceeds that for TA-55 PF-4, even though the latter is involved with higher hazard operations; some of these controls may be appropriate to consider for back-fit into TA-55, while others may prove difficult to implement in a technically justified manner from an engineering and operations perspective.