

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 23, 2004

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending January 23, 2004

Management: A team from the Institute of Nuclear Power Operations (INPO) was on site this week providing insight on potential improvements to the lab's corrective action program.

Quality Assurance (QA): While many LANL organizations implement QA (e.g., pit manufacturing), LANL does not have a DOE approved institutional QA Program and has self-reported that it is non-compliant with the QA provisions in the Nuclear Safety Management Rule (10 CFR 830, subpart A). Last April, NNSA concurred in a LANL plan to achieve institutional compliance in about 2 years - by March 2005. This requires a major effort and is proving tougher than originally projected. It's behind schedule. Areas where improvements have been made include: establishment of a senior management quality steering group; issuance of lab-wide requirement documents (LIRs) for software QA, issue management, and management assessment; internal assessments on training, weapons engineering; new expertise assigned full-time to institutional QA, both within LANL and the NNSA Site Office; and the INPO review of LANL corrective action programs. Last week's first meeting of the QA network was very encouraging. LANL has dozens of enthusiastic QA professionals with years of experience distributed throughout the lab. The QA network provides an opportunity for them collectively to help improve the institution. They need their management's support to make this a priority. By vigorous follow-through, LANL could achieve a state where business, safety, and mission improvements are driven more by assessments and less by events, such as accident investigations.

Training: One QA criterion is to train and qualify personnel so that they are capable of performing their assigned work (10 CFR 830.122, criterion 2). The NNSA Site Office is conducting a training assessment, to be done in May. A LANL institutional assessment last August identified that not all lab organizations are effectively managed to facilitate using a systematic-approach-to-training process that supports the mission; training evaluations, to the extent they are conducted, are not endorsed at the appropriate management level; evaluation results are not used to develop corrective action plans; training and qualification contractual requirements are not all reflected in lab implementing documents, nor have all required actions been implemented. Two earlier LANL reviews (1/03, 10/02) identified similar issues. LANL has a corrective action plan for the August assessment and is obtaining off-site expert assistance. Sufficient information appears available now to identify priority training improvements that could enhance safety and mission performance (site rep weekly 12/12/03).

Weapons Engineering Tritium Facility (WETF): This week, the NNSA Site Office modified the WETF Technical Safety Requirements (TSRs) and approved a positive Unreviewed Safety Question Determination involving an increase in lightning strike frequency (site rep weekly 11/28/03). NNSA asserts that tritium storage container burn-through is credible without a maintained lightning protection system (LPS); that the LPS prevents fires; that the 2 expert evaluations on LPS were mitigated analyses; and that for these and other reasons, the LPS needs to be Safety Class. NNSA states that this effort has reinforced the importance of the fire barriers and of the thermal adequacy of containers – both already Safety Class. NNSA continued to impose a stringent tritium inventory limit unless fire barriers are upgraded. LANL is performing a 3-month cost-benefit study of potential LPS improvements – ranging from mods to achieve Faraday cage equivalent protection to a local lightning early warning system.

TA-18 Mission Relocation: The conceptual design is near completion for relocation to the Nevada Test Site. NNSA is holding a review next week (1/27-28) in Washington DC of the CD-1 package.