

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 19, 2002

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending April 19, 2002

McConnell and Nichols were on site this week reviewing tritium facility operations.

Weapons Engineering Tritium Facility (WETF): DOE approved the new WETF authorization basis last week, subject to 16 conditions of approval. This is based on DOE review of the 151 hazard scenarios, 14 evaluation basis accidents, 11 proposed safety-related systems, 8 proposed limiting conditions of operation, and 9 programmatic controls. The dominant accidents are fires involving the entire inventory. The inventory is assumed to be mostly in tritium storage containers and, to a lesser extent, in systems within gloveboxes. The nearest site boundary is 425 meters away.

The WETF safety strategy is highly dependent on the tritium storage containers, considered to be Safety Class; however, not all the containers currently in use are as robust as assumed in the safety analysis. Therefore, DOE has imposed more restrictive inventory limits than LANL proposed, as well as a schedule by when most of the inventory will be in robust containers. Besides containerization, DOE is requiring LANL to perform an aircraft crash analysis and to investigate and address deficiencies in National Electrical Code compliance, fire protection, and on-site transportation.

Authorization Basis (AB): In response to site rep weekly 3/29/02, the DOE Site Office has identified several needs and is pursuing improvements in the AB review, approval, and verification processes.

Regarding WETF, the AB as proposed by LANL and approved by DOE appears to meet the intent of the DOE Nuclear Safety Management Rule (10 CFR 830), but not excessively. Also, when approving the WETF AB, DOE observed that there are still apparent quality issues in the LANL AB preparation and internal review processes. These need to be addressed quickly and thoroughly, given the expected pace this year of major AB submittals for nuclear facilities (about one per month).

Recommendation 2000-2: The DOE team has completed the field work for the two Phase II fire protection assessments discussed last week and expects to issue their findings within a few weeks. In a related area, an interagency wildfire management team held a public meeting this week in Los Alamos. Fuel moisture levels have been trending close to the 10 year low and are lower now than they were in April 2000, one month before the Cerro Grande fire. As a result, LANL has imposed appropriate outdoor restrictions. Longer term, LANL plans to thin about 10,000 acres before the end of FY 03.

Chemistry and Metallurgy Research Facility (CMR): DOE and LANL have nearly completed the multiple-year CMR Upgrades Project and are closing out the project. Extensive improvements have been made to the Operations Center facility monitoring system; emergency lighting and notification; HEPA filtration; duct and hood washdown systems; stack monitors; differential pressure monitors; hot cell controls; and fire alarm and suppression. Transient combustibles were also reduced. Perchlorate-contaminated HEPA filters were replaced. Work remains on the emergency personnel accountability system and internal power distribution. Estimated cost at completion is about 13 % below the \$106M project baseline (total estimated cost in late 1999). For their efforts, the project received the 2001 Deputy Secretary's Excellence Award.