

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 26, 2002

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** C. H. Keilers, Jr.  
**SUBJECT:** Los Alamos Report for Week Ending July 26, 2002

**Plutonium Facility (TA-55):** The DOE readiness assessment (RA) for the new Pu-238 scrap recovery line is tentatively scheduled to begin August 19<sup>th</sup>.

**Decommissioning Activities:** A LANL subcontractor is preparing to open and non-destructively characterize a pair of buried, 50,000 gal tanks in TA-21 containing radioactive sludge. Estimated transuranic inventory is 200-400 gm (12-25 Ci). This exceeds the threshold for Hazard Category 3 (HC-3) and is a quarter to half the HC-2 threshold.

The tanks were used between 1945 and the mid-1970s as liquid radioactive waste receiver tanks, and they have been inactive for two decades. Standing liquid wastes were pumped out when TA-21 plutonium operations ceased. The plan has been to excavate to each tank's opening, lift the cover with a backhoe, allow the tank to naturally ventilate, monitor the tank head-space for combustibles and airborne radioactivity, and then complete characterization activities.

Questions arose this week on the hazards, the adequacy of controls, and the assessment of readiness to conduct this operation. In particular, it appears that the possibility that the tanks are sealed, allowing flammable gases to accumulate, can not be ruled out at this time. It also appears that better contamination control during excavation and filtered ventilation to prevent an airborne release would be appropriate. The site rep understands these questions are being pursued.

**Chemistry and Metallurgical Research Building (CMR):** CMR is celebrating its 50<sup>th</sup> anniversary this week. It continues to play a key role in actinide research, analytical chemistry, and material characterization. CMR is also likely key to disposition of the excess uranium solutions now at TA-18 (SHEBA fuel) and the 9 large spherical vessels containing SNM at TA-55. The latter is discussed in the new 94-1 Implementation Plan submitted by DOE this week.

Last week, the Secretary of Energy approved the mission need (CD-0) for the CMR Replacement Project. Conceptual design, preliminary hazard analysis, and NEPA activities are scheduled to begin shortly. Holmes and Narver is leading the architect-engineer services team during this phase. Estimated completion of conceptual and preliminary design phases are in 8/03 and 9/04, respectively. The scope potentially includes current CMR operations (except hot cells), as well as similar actinide chemistry activities now done in TA-55, new storage vault(s), large vessel activities, and contingency space for future missions. The schedule range for completion is 9-14 years. DOE will establish the project baseline (cost, schedule, and scope) at the end of preliminary design.

**Radiography Facility (TA-8-23):** TA-8-23 is currently operating under a Justification for Continued Operation (site rep weekly 2/22/02). LANL expects to submit a safety basis in September. TA-8-23 is more than 50 years old, and lacks seismic, confinement, and engineered fire suppression features. As discussed last week, DOE and LANL are considering shifting radiography operations to TA-55 (PF-41-NMSF). Based on discussion with DOE, it appears likely that radiography of either high explosive or high heat (Pu-238) components will only be permitted in TA-8-23.