

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 14, 2006

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending April 14, 2006

Plaue was here this week augmenting site rep coverage; Deplitch was on site Wednesday for the 90 % design review of the Planet control system for the NTS (DAF) Critical Experiments Facility.

Waste Operations: LANL's highest-consequence postulated nuclear accident scenario involves transuranic waste. This week, LANL reported several waste storage domes having large fabric tears; per the 2003 authorization basis (AB) – which has never been fully verified as implemented – this constitutes a degraded safety-class system. For worker safety, LANL has restricted access to one ripped dome. For perspective, the domes are 9 to 19 years old, compared to a 10-year suggested life, and both NNSA and LANL recognized dome degradation as an issue in 2003. When approving the AB, NNSA observed that, given the lack of effective safety systems (e.g., the domes), removal of the material-at-risk by shipment to WIPP is the only way of reducing the potential offsite consequences.

DOE, NNSA, and LANL are now on a pathway that will likely slow WIPP shipments after the Quick-to-WIPP campaign is completed. Due to DOE budget issues, LANL is slowing disposition of items prohibited by WIPP and is continuing to plan on suspending these operations in early May. No further operations are planned in the key facility for this – WCRRF – through the remainder of FY-06 and possibly longer, except for conducting periodic surveillance of essential equipment and making a modification to increase glove-box differential pressure (site rep weeklies 3/31/06, 9/16/05).

At times during the Quick-to-WIPP campaign, LANL was finding that 90 % of the legacy drums had items prohibited by WIPP that required disposition in WCRRF; with great effort, LANL increased WCRRF through-put to ~75 drums/week; it's now less than half that. Based on current information, suspending WCRRF operations seems inconsistent with timely and efficiently shipping transuranic waste to WIPP and thereby addressing one of LANL's most significant nuclear safety issues.

Pu-238 Operations: LANL's second-highest-consequence postulated nuclear accident scenario involves Pu-238 operations in TA-55, and it is exacerbated by the building confinement strategy issue. Recently, more restrictive material-at-risk controls have been proposed as part of a new confinement strategy; refinement is needed to ensure that these controls are clear and operationally effective. Separately, NNSA has approved a process hazard analysis (PrHA) for pyrolysis and for hydroxide precipitation; these are key operations for addressing the significant Pu-238 inventories in combustible residues and in liquid wastes, respectively (site rep weeklies 3/3/06, 1/20/06). Pyrolysis is scheduled to restart in July; liquid waste solidification is also being considered. LANL is also poised to submit to NNSA a substantially revised PrHA for the full-scale aqueous scrap recovery line; this revision is intended to address issues from the Board's letter of Aug 1st, 2003; the improvements look promising.

Federal Oversight: While LANL's recent efforts to address TA-55 fire suppression issues and resume operations were noteworthy, federal oversight fell below prior levels for a resumption of this importance. Last Friday, NNSA management deferred to LANL on adequacy of closure of related NNSA conditions-of-approval. Also, NNSA management directed the sole fully-qualified facility rep (FR) at TA-55 to focus on his paperwork backlog instead of monitor the contractor's decision-making process leading up to resumption; the FR did review resumption documentation. For several years, TA-55 has had only one fully-qualified FR, although by most metrics it warrants two or three.