

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 3, 2008

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending October 3, 2008

Contaminated Puncture Wound: This week, the LANL accident investigation team issued their final report on the recent Plutonium Facility contaminated puncture wound. The team concluded that an undetected metal spur left on a part during a machining operation penetrated the worker's personal protective equipment and punctured the worker's hand. The following three judgments of need (JONs) were identified: LANL should require specific procedures for machining and cutting hard metals (e.g., stainless steel) that identify appropriate hazards and controls; LANL should require part inspection and mitigation of sharps hazards after each cutting or machining operation; and LANL should develop remote and automatic metal handling, cutting, and machining techniques to reduce worker exposure to potential puncture hazards. A separate team is scheduled to develop a corrective action plan based on these JONs by the end of October (site rep weeklies 8/29/08, 8/22/08, 8/15/08).

Site-Wide Fire Protection: This week, after years of negotiation, the National Nuclear Security Administration (NNSA) and Los Alamos County signed a contractual Cooperative Agreement for providing enhanced fire department services to LANL. The new Cooperative Agreement formalizes expectations for minimum overall fire department staffing per shift, minimum shift staffing at key fire stations, response times for nuclear facility emergencies, and compliance with National Fire Protection Association (NFPA) standards. The agreement also establishes a 'major nuclear facilities reserve force' of 7 fire fighters that cannot be deployed to respond to non-LANL events without notifying NNSA. Finally, the Cooperative Agreement creates a requirement for fire department personnel training plans to be jointly reviewed and approved annually by both the county and NNSA.

LANL also recently completed an assessment that verified the site-wide water supply system has adequate tank capacity and appropriate alarm set-points to support the functional requirements of credited fire suppression systems in LANL nuclear facilities. The report did identify several opportunities for improvement including the need to formalize reporting to nuclear facilities when supply system upsets or degradation may impact fire suppression system operability and a need to assess maintenance instructions against the NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*. These improvements are planned for FY09. Because a number of LANL fire suppression systems are credited in nuclear facility DSAs, timely completion of these improvements seems warranted (site rep weeklies 8/1/08, 7/18/08).

Radioactive Liquid Waste Treatment Facility Replacement Project (RLWTF-R): The RLWTF-R project is currently planning to combine Critical Decisions (CD) 2 and 3 and to perform substantive final design activities prior to gaining combined CD 2/3 approval. Because of this deviation from the traditional CD process described in DOE Order 413, the NNSA site office issued a direction letter this week to clarify expectations for what deliverables are required prior to proceeding into final design. NNSA-mandated deliverables included the following: • Safety Design Strategy document, • Rec. 2004-2 confinement ventilation evaluation, • final materials selection recommendations for process tanks and piping, • Preliminary Documented Safety Analysis, • recommendations for hold points during final design to ensure adequate integration of safety and the design, and • identification of adequate influent storage capacity via Waste Management Risk Mitigation tankage or a viable alternative.