

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 16, 2005

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director

FROM: C. H. Keilers, Jr.

SUBJECT: Los Alamos Report for Week Ending September 16, 2005

Waste Characterization, Reduction, and Repackaging Facility (WCRRF): NNSA has approved interim safety basis requirements (e.g., worker respiratory protection, increased airborne monitoring) for resuming repackaging of transuranic waste in WCRRF (site rep weekly 9/2/05); this resumption is essential to achieve the Quick-to-WIPP Program risk reductions. The NNSA Site Office has declared it is the restart authority and will approve restart based on a LANL management self-assessment.

Plutonium Facility: In addition to ventilation upgrades previously discussed (site rep weekly 9/2/05), LANL plans on refining accident analyses by January with the goal of showing a passive confinement strategy works; modeling refinements include ramp vs step airborne release, explicit material-at-risk partition for Pu-238 powder vs sintered-form, refined wind boundary conditions from a computational fluid dynamics code. If this fails, LANL plans to quantify potential passive confinement upgrades in February, and if those prove insufficient, consider the following options in this order in March: an active aerosol removal system at PF-4 exits; fire suppression upgrades; further ventilation upgrades. It is unclear how this aligns with DOE's implementation plan for Board Recommendation 04-2.

Pu-238 Operations: On Thursday, LANL, NNSA, and the staff had a video-teleconference on the status of aqueous recovery startup and corrective actions from the August 2003 contamination event. LANL is making progress in dispositioning some legacy Pu-238 residues as waste, but resumption of pyrolysis is now projected to slip into next year. Pyrolysis warrants priority since it is an essential risk reduction step for the large remaining inventory of combustible residues (site rep weekly 4/22/05).

Emergency Response: LANL is radically changing its Emergency Operations Center (EOC) processes and procedures to implement the National Incident Management System (NIMS) per Presidential Directive HSPD-5. While there is much to be done, progress is evident in recent training activities and drills compared to the exercise last December (site rep weeklies 5/20/05, 12/3/04).

Conduct of Engineering: Under the Operational Efficiency (OE) Project, LANL has established an institutional engineering program, including setting up an active Engineering Practice Council, formally training and qualifying ~25 systems engineers (including oral boards), and developing an institutional manual and procedures that are now under senior management review. In FY-06, LANL plans to begin improving engineering records for vital safety systems using the new procedures.

Quality Assurance (QA): Under the OE Project, LANL is on-track by December to issue 9 of 15 key institutional QA procedures and to close the site-wide welding potential inadequacy in safety analysis (PISA). The 9 procedures involve audits, assessment, commercial grade dedication, suspect counterfeit items, graded approach, non-conformance reporting, supplier evaluation, and procurement quality. LANL believes that the 6 remaining procedures would benefit from input from the new contractor; these include calibration, inspection and test, document control, and records management.

Safety Basis: The safety basis sub-project is one of the more deeply challenged efforts under OE to achieve its goals, including ensuring sufficient qualified staffing, and establishing and verifying safety basis document control. LANL now plans to complete its OE safety basis commitments and to independently assess technical safety requirement implementation in nuclear facilities by May 31st.