

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 28, 2014

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.T. Davis, R.K. Verhaagen, and J.W. Plaué
SUBJECT: Los Alamos Report for Week Ending February 28, 2014

DNFSB Staff Activity: R.K. Verhaagen relieved R.T. Davis at the Waste Isolation Pilot Plant for the continued monitoring of recovery actions associated with the radiological contamination event.

Weapons Engineering Tritium Facility (WETF): On Tuesday, WETF personnel identified that three of eight sensors were out of specification during a calibration check of the Oxygen Monitoring System (OMS). This was the first calibration check since personnel made adjustments to the system earlier in the month. The calibration check is performed against the oxygen content of normal room air (~21 %) and a 3 % oxygen calibration gas. The failed sensors read as high as 25 % and as low as 6 % for room air. In accordance with field office direction (see 2/21/14 weekly), LANL is no longer authorized to continue restart activities for tritium processing and is required to submit to the field office a technical strategy for resolving the OMS problems. Based on the 26-year-old age of the system hardware, the observed failures in both directions, the inconsistencies in the sensors that are failing, and the lack of success with attempted corrective actions, WETF management has determined to upgrade the system hardware to digital. The Site Representatives note that the digital system will continue to rely on electrolyte-based sensors and such sensors have been problematic in similar applications at the Savannah River Site.

Criticality Safety: On Monday, the field office approved without condition the revision to the institutional Nuclear Criticality Safety Program document (SD-130) (see 2/21/14 weekly).

Plutonium Facility–Criticality Safety: On Monday, the LANL Director approved a request to delegate resumption release authority for 106 fissile material operations (FMOs) to the Principle Associate Director for Weapons Programs. These 106 FMOs were part of the 275 FMOs recently approved by the field office as having adequate technical bases despite some known non-compliances (see weekly 2/14/14). These FMOs involve vault locations and the storage, staging, non-destructive assay, and certain glovebox operations involving a single pit or containerized items. Previously, the LANL Director delegated release authority for all FMOs involving less than 520 g of plutonium to the Associate Director for Plutonium Science and Manufacturing (see 10/22/13 weekly). Overall, the number of delegated FMOs represents about 160 of the more than 400 FMOs in the Plutonium Facility. To support these delegations, Plutonium Facility management intends to revise the release resumption process to allow these FMOs to defer certain corrective actions related to criticality safety to post-resumption as long as the actions are captured in the Performance Feedback Issues Tracking System.

Area G–Safety Basis: Last week, the field office approved without conditions revision 2.3 of the Basis for Interim Operations and associated Technical Safety Requirements. This week, LANL personnel independently verified the revision as implemented. Notably, this revision allows Area G personnel to vent certain sealed pencil tanks that require processing as part of the 3706 Campaign. Overall, Area G management expects to complete processing of all 3706 waste by mid-March and complete final assay and certification in April. At that point, all 3706 waste will be ready for offsite shipment.