

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 16, 2014

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.T. Davis, R.K. Verhaagen, and J.W. Plaue
SUBJECT: Los Alamos Report for Week Ending May 16, 2014

DNFSB Staff Activity: R.T. Davis completed his assignment as a site representative at LANL this week. J.W. Plaue attended the Nuclear Materials Management Team meeting in Denver, CO. R.K. Verhaagen was out of the office Wednesday to Friday.

Area G: On Friday, Area G management declared a Potential Inadequacy of the Safety Analysis (PISA) based on the unknown hazards and hazard frequency associated with nitrate salt wastes that have been treated with an organic based absorbent. During the investigation of the radioactive material release event, Waste Isolation Pilot Plant (WIPP) personnel identified a breached drum in the underground. Based on the location, the breached drum was narrowed down to one of two drums created at LANL that contain nitrate salt waste treated with organic cat litter.

Area G management received this new information on Thursday night and took immediate action to overpack a drum that is very similar to one of the suspect drums in the WIPP underground. This similar drum was created at the WCRR repackaging facility from the same parent drum as one of the suspect drums identified at WIPP. The following additional immediate actions and operational restrictions were identified for the PISA:

- Overpack all treated nitrate salt waste drums into standard waste boxes or pipe overpack containers (action in progress on Friday)
- Relocate all treated nitrate salt waste materials to a location with a fire suppression system (action in progress on Friday)
- Perform temperature monitoring of these waste items (currently being performed daily)
- Conduct headspace sampling and analysis of the standard waste box overpacks as needed

All sampling and intrusive evaluation of treated nitrate salt waste is on-hold pending evaluation of the PISA and identification of a safe path forward. LANL personnel continue to use a war room at Technical Area-63 to triage information and actions associated with this issue.

Plutonium Facility–Criticality Safety: This week, Plutonium Facility management held two critiques to evaluate the details and corrective actions associated with an item identified as an oxide material in the facility inventory database (LANMAS) that was located in a glovebox with criticality controls that specified metal only materials. Field office personnel pursued this issue in detail because the fissile material operation was recently evaluated by an annual walkdown and as part of the resumption process, neither of which identified the database discrepancy. Plutonium Facility personnel subsequently self-identified this issue as part of an extent of condition review that was completed prior to approving the operation for resumption.

During the critique, Plutonium Facility management identified that personnel performed the field evaluations without details from the inventory database in-hand, which is not consistent with facility management expectations. As part of the corrective actions, the procedure that includes the annual field walkdown will be revised to clarify that the LANMAS information should be specifically included and reviewed (the same checklist is used as part of the resumption process). Plutonium Facility management is also performing an extent of condition review for other fissile material operations that have been through the resumption process.