

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 21, 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 March 21, 2014

DNFSB Staff Activity: R.T. Davis, R.K. Verhaagen, and B. Broderick continued monitoring the recovery associated with the radioactive material release event at the Waste Isolation Pilot Plant.

Plutonium Facility–Criticality Safety: On Tuesday, facility management declared a Potential Inadequacy in the Safety Analysis based on New Information in the form of completed calculations that indicate the potential to flood a glovebox from sprinkler water through either a burned glove or an inlet filter. Criticality analysis and current inventory information further indicate about 24 locations that may not remain subcritical in a flooded condition. Immediate compensatory actions taken include: (1) ensuring immediate orderly exit from the facility upon receipt of a fire indication, (2) advising responding fire fighters of the situation, and (3) prohibiting the aggregation of more than 4500 g of fissile material in a single location. Personnel are also determining whether additional physical actions are needed to achieve a safe and stable configuration in the 24 locations.

Plutonium Facility–Safety System Degradation: On Monday, facility management reported and then critiqued the discovery of breached elastomeric sealing boots on a glovebox used to perform equation-of-state measurements. During the critique, personnel discussed the fact that these boots were not recognized as part of the safety significant confinement boundary. As a result, specification information, preventative maintenance protocols, and critical spares were not available. Critique personnel did not discuss what contributed to this gap or the need to perform an extent-of-condition review to determine if other unique pieces of confinement equipment were similarly uncontrolled. Program personnel discussed the desire to proceed with a temporary modification to the degraded boots involving tape, plastic bags, and additional radiological controls to support measurements for a near-term milestone.

At the Plutonium Facility, gloveboxes are considered Design Features and are not provided with Limiting Conditions for Operations (LCO). The Site Representatives note that other sites (e.g., LLNL) provide LCO coverage for Design Features as a best management practice.

Plutonium Facility–Unique Capabilities: The Special Recovery Line (SRL) is a unique capability within the NNSA complex to process an inadvertently boosted pit. Recently, LANL managers briefed the results of a study on the future of the SRL to NNSA Headquarters. The study, completed last summer, recommends processing the items currently stored at LANL during the next few years and then no longer maintaining the capability. LANL noted that about 5 to 7 years would be necessary to reconstitute a SRL-like capability once lost and further recommended that NNSA establish the equipment, procedures, and trained personnel to respond in the event that a pit is inadvertently boosted.

Weapons Engineering Tritium Facility (WETF): WETF personnel completed the second week of their management self-assessment in preparation for upcoming readiness reviews. Meanwhile, engineering staff continued efforts to replace the modules for the inoperable Oxygen Monitoring System (OMS) (see 2/28/14 weekly). Last week, WETF submitted to the field office a revised Justification for Continued Operations that asserts the OMS can be declared operable following replacement of the modules without further in-service testing, despite no firm evidence that the replaced modules were the cause of previous failures. WETF has also yet to declare whether operability of the OMS will be a prerequisite to commencing the contractor readiness assessment projected to start on March 31, 2014.