

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 20, 2014

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.K. Verhaagen and J.W. Plaue
SUBJECT: Los Alamos Report for Week Ending June 20, 2014

Area G–Nitrate Salt Wastes: This week, Area G personnel completed the relocation of all remaining 3706 Campaign transuranic wastes (i.e., combustible and dispersible) into Dome 230 for storage. Dome 230 is equipped with a fire suppression system.

On Wednesday, Area G personnel conducted an emergency exercise involving the remediated nitrate wastes currently stored in the Dome 375 Permacon. The scenario was supposed to involve an operator that was surprised by contacting a high temperature Standard Waste Box (SWB) and subsequently trips and is rendered unconscious, while a second operator observes and reports evidence of smoke and fire from the SWB. A key controller failed to inject evidence of smoke and fire from the SWB, reducing exercise effectiveness. Consequently, the event did not trigger an Operational Emergency status resulting in several significant exercise objectives that could not be evaluated.

Last Friday, LANL submitted to the field office the Evaluation of the Safety of the Situation (ESS) for the Potential Inadequacy of the Safety Analysis regarding waste drums containing remediated nitrate salts (see 5/16/14 weekly). The ESS argues that immediate actions and compensatory measures put in place, primarily overpacking and monitoring the wastes in SWBs, provides a safe configuration until a path forward for disposition is developed and implemented. Specifically, the ESS assigns a damage ratio of 0.1 to the overpacked drums in SWBs for a fire in accordance with DOE-STD-5506. This damage ratio is used to mitigate the consequences to the public from a postulated fire involving all remediated nitrate salt drums in SWB overpacks in the Dome 375 Permacon from 10.6 to 1.06 rem. DOE-STD-5506 cites engineering judgment as the technical basis for this damage ratio.

Emergency Preparedness: On Thursday, LANL conducted a functional exercise of the Emergency Operating Center. The scenario for this exercise was a seismic event that resulted in the collapse of two wings and a fire at the Chemistry and Metallurgy Research Building and a partial collapse of the Plutonium Facility. The exercise also challenged communications by simulating the loss of landlines and saturation of cell phones. LANL's Emergency Response Organization, the Los Alamos County Fire Department and Emergency Management personnel, LANL's Media Center, and the field office were full participants in the exercise. Exercise notifications were made to the New Mexico Department of Homeland Security and Emergency Management and to the DOE Forrestal Watch Office. Field operations were simulated through a concurrent tabletop exercise. Although a full critique of the exercise has not been completed, during the hot wash potential improvements to communications between the emergency directorate and support section personnel were identified.

Weapons Engineering Tritium Facility (WETF): On Tuesday, WETF personnel completed a multi-day evolution to package 112 legacy items containing tritium into a Flanged Tritium Waste Container (FTWC) for disposal at Area G. These items were identified during the hands-on inventory completed earlier this year (see 1/24/14 weekly) as a subset of over 1100 legacy items requiring disposition from WETF. This is the fourth FTWC packaged for disposal at Area G and represents another step forward in the legacy item disposition project.