

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 11, 2015

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.K. Verhaagen and J.W. Plaue
SUBJECT: Los Alamos Report for Week Ending September 11, 2015

DNFSB Staff Activity: C.T. Beaty was onsite to support data gathering on various emergency management and conduct of operations topics at the Plutonium Facility and Area G.

Plutonium Facility–Emergency Management: On Monday, facility personnel conducted an emergency exercise involving the response to a postulated fire in a glovebox. Notably, this was the first fire-type scenario exercised in the facility since at least 2008, as evidenced by published after action reports. The scenario was a limited fire involving ordinary combustibles without injury or contamination to personnel. In some aspects, the exercise involved improved realism such as the workers using the dropbox fire alarm and the Los Alamos Country Fire Department (LAFD) firefighters deploying a hose within the facility. Other important aspects of the response remain artificial such as LAFD assets pre-staging and arriving to the facility via a security bubble and firefighters not utilizing breathing apparatus. In particular, it is unclear when LAFD has drilled or exercised within this facility while using breathing apparatus to improve their understanding of limitations given the facility size and security protocols. Overall, exercise participants noted improvements in communications and commended the first line supervisor for recognizing the ability to isolate electrical power from the impacted glovebox.

Radioactive Liquid Waste Treatment Facility: During the past several months, low-level waste construction project personnel have experienced a number of unexpected encounters and near misses with buried utilities and piping highlighting the challenges of ongoing construction within an operating legacy facility environment. Most recently, personnel encountered four radioactive liquid waste transfer lines at a depth of about 3 ft below grade when they were expecting them to be around 13 ft. The construction crew leader's action to pause mechanical excavation upon the uncovering of a sand layer likely prevented breach of these lines. Subsequent to this incident and discussions with the Site Representatives, NNSA Field Office personnel questioned facility management on: (1) the adequacy of the piece of warped plywood protecting the exposed lines from construction hazards; (2) why personnel had expectations on the depth of the piping that were inconsistent with available drawings, (3) whether analysis existed to demonstrate the buried lines could support loads from heavy construction equipment; and (4) whether actions could be taken to better protect radioactive materials immediately adjacent to the primary thoroughfare for construction equipment contained within a large number of low-level waste containers and a piece of in-service filtration equipment.

Chemistry and Metallurgy Research (CMR) Building–Facility Evaluation: On Wednesday, an assessment team briefed the results of their Facility Evaluation of CMR. Facility Evaluations are one of LANL management's tools used to ensure continuous improvement of operations. Recently, a renewed emphasis has been placed on performing and improving Facility Evaluations across the site. The assessment team performed work observations, interviews, and document reviews to evaluate the level of performance and compliance implementation of various functional areas within CMR. The team identified a number of meaningful findings in the functional areas of Management Systems, Conduct of Engineering, Conduct of Operations, Safety Basis, and Criticality Safety.