

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 21, 2017

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.K. Verhaagen and J.W. Plaue
SUBJECT: Los Alamos Report for Week Ending April 21, 2017

DNFSB Staff Activity: J. B. Weathers observed the Generator Site Technical Review (GSTR). The GSTR is one of several actions that LANL will need to complete in order to resume shipping transuranic waste to the Waste Isolation Pilot Plan. R. Wu and P. J. Migliorini augmented oversight and observed portions of the contractor readiness assessment (CRA) discussed below.

Plutonium Facility–Readiness Activities: On Tuesday, the CRA team commenced their review of aqueous chloride and americium production activities. The planned two week review will cover the restart of aqueous chloride operations including size reduction, dissolution, solvent extraction, and anion exchange, as well as new start activities including americium precipitation, calcination, and packaging and handling.

Plutonium Facility–Fire Event: On Wednesday morning, three operators encountered a pyrophoric materials fire associated with a black powder that they had minutes earlier emptied in a plastic bag from a number of unlabeled legacy containers as part of a facility-wide housekeeping day. Upon discovery, an operator attempted to place the bag into a metal container when the bag conflagrated, causing minor burns to several fingers. He then pushed the cart containing this material to the front of the room away from the glovebox line and smothered the fire using an appropriate handheld extinguisher. The operators called 911, exited the room, and made additional notifications in accordance with procedure. After some thought, programmatic personnel determined the material likely to be lanthanum nickel hydride, which they believed had been used as a hydrogen storage bed for activities roughly 20 years ago. Following this determination, personnel from the LANL Hazardous Materials team were able to stabilize the material without further incident. There was no radioactive release or contamination involved in this fire. At the associated fact-finding, facility and emergency response personnel discussed issues including: protocol for the need to receive permission from the New Mexico Environment Department prior to stabilizing the material; uncertainty on roles and responsibilities and nomenclature regarding incident command; the need to clearly define the scope of approved housekeeping activities; and declared the need for another corner-to-corner inventory for legacy items.

Waste Characterization Remediation and Repackaging Facility–Engineering: On Tuesday, facility personnel held a second fact-finding to discuss the results of troubleshooting activities associated with the recent loss of power events (see 4/14/17 weekly). They discussed completed actions to perform thermography, examine and replace breakers, test cabling, and receive vendor support for the automatic transfer switch (ATS). Based on feedback from the vendor and review of the ATS data log, they concluded that tolerances for certain parameters on the incoming power were overly restrictive. As a result, minor fluctuations would cause the ATS to switch from line to neutral, but return to line prior to engagement of the diesel causing a brief loss of power. Engineers were able to replicate this scenario and have since properly adjusted the parameters. Facility personnel also installed and will be reviewing data from additional power monitors up and downstream of the ATS.