

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 1, 2016

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.K. Verhaagen and J.W. Plaue
SUBJECT: Los Alamos Report for Week Ending July 1, 2016

DNFSB Staff Activity: On Tuesday, DNFSB staff members conducted a teleconference with LANL and NNSA Field Office personnel to discuss revisions to the addendum to the Area G Emergency Planning Hazard Assessment (EPHA) associated with emergency response for accidents involving the inappropriately remediated nitrate salt waste. On Thursday, DNFSB staff members conducted another teleconference with LANL and NNSA Field Office personnel to discuss dispersion modeling protocol with emphasis on its application for the safety basis at the Transuranic Waste Facility.

Area G–Inappropriately Remediated Nitrate Salts (RNS): On Tuesday, Area G personnel secured power to the Dome 375 Permacon in order to safely conduct a replacement activity on a lightning protection system component. In addition, personnel used this opportunity to obtain images of the inside of the electrical cabinets to support design of a proposed backup electrical power supply. The outage lasted about two hours and was conducted during the cooler morning temperatures to accommodate securing the Permacon ventilation system. Despite these conditions, the Permacon temperature rapidly increased from about 58 to 73° F, nearly putting the facility into the associated action statement for the Limiting Condition for Operations. The Site Representatives note that this experience underscores the need to expeditiously install a backup power capability. LANL and EM Field Office personnel are currently working through the contractual arrangements needed to support moving forward with such capability.

Area G–Emergency Management: On Wednesday, Area G personnel conducted their annual EPHA exercise. This year’s scenario examined the response to an exothermic chemical reaction involving a drum of RNS waste, as indicated by a fire alarm and the simulated detection of radioactivity by the electronic continuous air monitor (eCAM) placed adjacent to the ventilation system exhaust. The activation and response of the eCAM was a novel aspect of the scenario, particularly since these units do not provide indication of release locally or at the Area G operations center and are managed by a separate entity at LANL. As an aside, Area G management is pursuing installation of new continuous air monitors that will improve direct notification. In addition to Area G personnel, exercise participants included the Emergency Operations division, LANL Hazardous Materials and Field Monitoring Teams, and the Los Alamos County Fire Department. Area G management noted several areas for improvement to be captured in the after action report. The Site Representatives note that the response was governed by the existing EPHA. Once approved and implemented, the revised EPHA addendum discussed on Tuesday would increase protective action distances for this scenario by a factor of about four.

Area G–Safety Basis: After receiving comments from NNSA and EM reviewers, LANL management determined that they will revise and resubmit a new version of revision 6 of the Evaluation of the Safety of the Situation for the RNS wastes. Revision 6 provides analysis and controls related to the potential threat from a wildland fire and establishes the path forward for the RNS contained in pipe overpack containers. While these containers do not yet have pressure relief devices installed, LANL personnel believe the design of the containers make them less susceptible to thermal runaway reactions. Separately, NNSA Field Office personnel concluded that they agree with the revised safety basis strategy for final treatment of the RNS waste (see 6/17/16 weekly).