DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 10, 2015

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.K. Verhaagen and J.W. Plaue
SUBJECT: Los Alamos Report for Week Ending April 10, 2015

Fire Protection: Last week, the NNSA Field Office approved the fiscal year 2015 Baseline Needs Assessment (BNA). The BNA identified the following issues: (1) current pre-incident plans do not contain much of the information mandated by DOE Order 420.1B, *Facility Safety*, and NFPA 1620 needed to support timely and effective response; (2) the Los Alamos County Fire Department procedure for minimum staffing requires update; and (3) the roles, responsibilities, accountabilities, and authorities (R2A2) between the NNSA Field Office, LANL, and the fire department are not well defined. The BNA notes that two of these issues are long-standing. Notably, the deficiency in pre-incident plans was previously identified in the 2009 BNA, as well as subsequent self-assessments and a DOE/NNSA assessment. In addition, a 2013 DOE/NNSA assessment previously identified the issue with R2A2s.

Plutonium Facility–Safety Systems: Recently, the facility experienced a number of events concerning degraded safety systems resulting in unanticipated entries into action statements specified in the Limiting Conditions for Operation (LCO). The recent events include: (1) last Tuesday, personnel performing a weekly surveillance identified that the heater unit on one of the safety class firewater pumps had failed; (2) on Saturday, a compressor on the safety significant Instrument Air System failed; and (3) the safety significant Facility Control System failed briefly on Tuesday evening then fully crashed on Wednesday evening. Fact-findings revealed questions on proper unit sizing and quality concerns for parts for the first two, respectively. On Tuesday, the facility also experienced an unanticipated LCO entry due to a momentary transient out of the required pressure differentials associated with the safety significant ventilation system. Facility personnel have been troubleshooting this issue following an unusually high number of events (e.g., they logged about 50 such entries from September 2014 through February 2015). Facility management believes the high number may be attributed to increased operator formality leading them to log even brief transients, some potential equipment problems, and the impact of high winds on the external pressure sensor.

Weapons Engineering Tritium Facility (WETF)–Comprehensive Causal Analysis: The Associate Director for Nuclear and High Hazard Operations (ADNHHO) appointed a team to conduct a comprehensive causal analysis and extent of condition review for a missed in-service inspection (ISI) on a tritium containment vessel. During a critique of the event facility personnel identified that procedural deficiencies and an inadequate tracking system were the main contributors to the missed ISI that resulted in a Technical Safety Requirement (TSR) violation. The team's appointment letter from ADNHHO directs them to determine the causes that contributed or lead to this incident, as well as to review a number of other recent similar events that have been reported in the Occurrence Reporting and Processing System to identify common contributors. The team is also chartered to expand the review to evaluate all currently implemented TSR controls using the causal analysis results and to validate all implemented TSR controls are appropriately identified and incorporated into processes or programs that adequately manage and maintain these controls. The team is actively performing this review and intends to have their report with recommended corrective actions completed in the next few weeks.