

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 11, 2011

MEMORANDUM FOR: Timothy Dwyer, Technical Director
FROM: Jonathan Plaue, DNFSB Site Representative
SUBJECT: LLNL Activity Report for Week Ending March 11, 2011

DNFSB Staff Activity: On March 9, 2011, the staff held a closeout teleconference with the Livermore Site Office (LSO) and the Laboratory on the proposed safety basis for the Tritium Facility. The staff expressed primary concerns with the selection of safety significant controls for loss of confinement and fire scenarios.

Plutonium Facility: On March 9, 2011, LSO issued the Safety Evaluation Report approving the Laboratory's request to downgrade the safety significant portion of the fire suppression system to defense-in-depth Equipment Important to Safety (EITS) (see weekly report dated September 3, 2010). This portion of the fire suppression system was credited to protect the flexible joints downstream of the final stage HEPA filters from the effects of a fire in the basement. A breach of these joints could result in a direct leak path to the environment for radioactive materials released in the basement during an accident. LSO concluded that a suite of controls including a specific administrative control (SAC) limiting combustibles and a safety basis commitment to maintain a 10 foot combustible exclusion zone around the gaskets provided reasonable assurance of adequate protection for workers, the public, and the environment. As a condition of approval, LSO directed the Laboratory to revise the technical safety requirements to specify that the material-at-risk in the basement shall be contained in closed transuranic waste containers. The basement was cleared of all radioactive materials several years ago—this approval preserves the flexibility to store waste in the future.

Overall, the facility's credited controls for a fire include: (1) a safety class fire suppression system to protect the final stage HEPA filtration, (2) safety class fire walls to limit the size of a fire, (3) safety class room ventilation, (4) safety significant fire detection and alarm system, and (5) several SACs to preserve initial conditions in the safety analysis. The sprinkler system throughout the facility is EITS.

Work Planning and Control: Last week, LSO and Nuclear Materials Technology Program (NMTP) personnel met to discuss review comments on the draft *NMTP Work Planning and Control Manual* (WPCM) and the released version of the *Operational Safety Plan (OSP) Development and Implementation Guide*. Development of the WPCM and revision of OSPs were key actions taken in response to the Board letter dated June 14, 2010. LSO commented that significant variation existed in the quality of the contents for the sampled OSPs produced using this guide. In particular, LSO found some OSPs with work scope definitions that left it unclear what activities were authorized. At this point, NMTP has revised approximately 70 percent of the OSPs using this version of the guide. For the WPCM, LSO commented that shortcomings still existed with respect to a number of the concerns expressed in the Board's letter. NMTP personnel are currently evaluating the resolution of these comments and expect to propose a path forward in the coming weeks. It is likely that some comments will be resolved in the near term and others will require longer term actions. The Site Representative believes that strengthened training and management expectations can help compensate for weaknesses in the procedural documentation that cannot be resolved in the near term.