

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 22, 2010

MEMORANDUM FOR: Timothy Dwyer, Technical Director
FROM: Jonathan Plaue, DNFSB Site Representative
SUBJECT: LLNL Activity Report for Week Ending January 22, 2010

Tritium Facility: On January 15, 2010, the laboratory submitted to the Livermore Site Office (LSO) a proposed strategy and schedule for resolving issues concerning the documented safety analysis (see weekly report dated January 1, 2010). The proposal specifies that the safety basis annual update (due in March 2010) will only include resolution of the issue concerning special tritium compounds and lithium hydride compounds. The broader issues including re-examination of the hazards analysis, associated consequences, and control set refinement will be included in a separate safety basis amendment to be submitted no later than June 30, 2010. On January 21, 2010, LSO approved this path forward without conditions, but noted the importance of timely issue resolution due to a projected increase in Tritium Facility operational tempo.

Also on January 15, 2010, the laboratory submitted a request for a one-time safety basis allowance. The allowance was requested to support processing of three containers of legacy tritium contaminated oil that was the subject of a recent potential inadequacy in the safety analysis (see weekly report dated December 4, 2009). These bottles are believed to each contain less than 1000 Ci of tritium. The proposed processing involves pouring the oil into a container of Nochar® N990 and disposing of the resultant material as low level waste. The processing is proposed to occur in a fume hood utilizing a work permit; however, the safety basis currently requires a glovebox for processing activities in excess of 600 Ci of tritium (no form is specified). The request asserts that the extra handling involved with moving the oil from its current location in a hood to a glovebox would introduce increased potential for contamination to personnel or to the glovebox. The request further asserts that the overall risk of the proposed activity is low to negligible and that no changes to the technical safety requirements are warranted. LSO is currently evaluating the request. The lack of a clear technical basis for the existing 600 Ci limit may complicate the evaluation.

Feedback and Improvement: The Nuclear Materials Technology Program held a periodic safety and security briefing on Friday. Attendance was required for all Superblock and Radioactive and Hazardous Waste Management personnel. In addition to an overview of organizational changes and other administrative information, the briefing provided lessons learned from recent critiques, occurrences, and other non-reportable facility events. In particular, management utilized this occasion to: clarify expectations for stopping or pausing work when unexpected situations arise as a result of the bulging bottles incident (see weekly report dated January 8, 2010); rigorously adhere to personnel protective equipment requirements as a result of a recent serious head laceration where protective equipment was not worn; and scrutinize purchased electrical components for appropriate certification (i.e., Underwriters Laboratories) after a batch of more than 30 counterfeit light emitting diode units was received at the lab.