

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 23, 2007

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: M. J. Merritt, DNFSB Site Representative
SUBJECT: Lawrence Livermore National Laboratory (LLNL)
Report for Week Ending February 23, 2007

Plutonium Facility Criticality Safety Implementation: This week, a critique-like meeting was held in the Plutonium Facility to gather information related to the use of a plutonium casting mold that was not authorized by the Operational Safety Plan (OSP). Designation of approved equipment in the OSP ensures that use of the equipment has been analyzed by the Criticality Safety Section for use in the glovebox and that the equipment complies with the Standard Criticality Control Condition (SCCC) for the operation. Fissile material handlers (FMHs) discovered discrepancies between the mold that had been used for some casting operations and the drawing for the mold specified in the OSP. It is not feasible to place identification information on the mold itself, so verification (that the mold matches the OSP-approved drawing) must be accomplished by a dimensional inspection. Subsequently, the FMHs conducted a search for the drawing that matched the mold in question and any criticality safety evaluation, but none were found. At the time that the condition was discovered, the Facility Manager directed that work in the affected gloveboxes be suspended and that FMHs review the other approved equipment in the glovebox to ensure that no other SCCC non-compliance existed. The Criticality Safety Section is reviewing the event to define a path forward and determine what level of criticality infraction is applicable.

The Facility Manager took the appropriate real-time actions to ensure facility safety, however, the timeliness of the critique-like meeting was lacking. The condition was initially discovered on February 9, 2007, but the meeting was not held until February 20th. The Nuclear Materials Technology Program has developed a draft procedure for conducting critiques, but this procedure was not employed to evaluate this event. NMTP management should expedite the use of the critique process to ensure the timely and thorough evaluation of undesirable events.

Potential Inadequacy in the Safety Analysis (PISA) for Waste Facilities: Late last year, a potential inadequacy in the documented safety analysis was declared for the Waste Storage Facility (Building 696) and for the Building 695 segment of the Decontamination and Waste Treatment Facility (Occurrence Report LLNL-LLNL-2006-0070). The potential inadequacy affects the 2-hour rated fire partition (firewall) that is designated as a safety significant structure for both facilities. The PISA stated that a combustible free zone should be established within seven feet of the B696 firewall as a compensatory measure to ensure that the functional requirements of the firewall could be achieved. In a January 31, 2007 letter, the Livermore Site Office (LSO) requested LLNL submit an estimated completion date for the unreviewed safety question determination (USQD) for the condition. LSO believes that LLNL should have completed the USQD in a more timely manner. According to LSO, the USQD should typically be completed on the order of days not weeks to fully comply with the LLNL *Unreviewed Safety Question Procedure*, ES&H Manual Document 51.3.

LSO Senior Nuclear Safety Advisor: The NNSA posting to fill a Senior Nuclear Safety Advisor vacancy at LSO closed on November 15, 2006. The position was originally posted in May, and re-posted in July and October. This week, LSO conducted interviews with candidates.