

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 23, 2012

MEMORANDUM FOR: Timothy Dwyer, Technical Director
FROM: Jonathan Plaue, DNFSB Site Representative
SUBJECT: LLNL Activity Report for Week Ending November 23, 2012

The laboratory was closed Thursday and Friday for the Thanksgiving holiday.

Quality Assurance: In a letter to the laboratory contractor dated November 19, 2012, the Livermore Site Office (LSO) formally transmitted three deficiencies (contractual non-compliances) and one weakness resulting from the recent assessment of software quality assurance (SQA) (see weekly report dated August 31, 2012). LSO specified that the required corrective action plan include formal evaluation of the following: (1) the national consensus standards used by the institutional SQA program, (2) the grading methodology used to ensure application of appropriate SQA work activities, (3) the institutional SQA requirements to ensure equivalency to the ASME Nuclear Quality Assurance 1 standard, (4) the extent-of-condition of issues within directorate-level implementing procedures and practices, and (5) potential impacts on the operability of safety systems and safety basis calculations used in the nuclear facilities. The corrective action plan is due by January 15, 2013.

Also in the letter, LSO noted that despite information that came to light during the SQA review, the Nuclear Operations Directorate subsequently proceeded to downgrade hazard analysis software from risk level 3 to 4, the lowest level. LSO stated that risk level 4 is generally inappropriate to meet 10 CFR 830 and directed no further changes to software grading until all software is re-evaluated using revised institutional procedures approved by LSO.

The Site Representative notes that the contractor completed an evaluation of the SQA issues on the operability of the safety systems. The contractor concluded that no compensatory measures were required, in large part based on existing surveillance testing and operational history. The contractor further determined that the issues amounted to documentation discrepancies that could be resolved in the longer term. LSO has reviewed this evaluation and agrees that no near-term action is required. LSO did not utilize a SQA subject matter expert in its review of the contractor's evaluation.

Tritium Facility: Earlier this month, workers observed several large, thin flakes (multiple inches in diameter) on the ground in Superblock. Based on historical worker knowledge, the contractor believes that these flakes emanated from the Tritium Facility exhaust stack. The contractor currently speculates that the flakes are pieces of operational deposits or peeled coating that was freed when the ventilation system was temporarily deactivated during a planned maintenance activity. The contractor determined the flakes to be contaminated with tritium and interpreted the results to be below the allowable surface contamination limits used for reporting thresholds. The Site Representative notes that the appropriate analysis and evaluation criteria are not readily apparent given that the composition of the material has not been determined (i.e., it is unclear whether the flakes contain Special Tritium Compounds). The contractor performed an initial survey of the nearby surroundings and rooftops to collect additional flakes, continues to monitor the area, and is considering the need for further evaluation of the situation.