DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 20, 2009

MEMORANDUM FOR: Timothy Dwyer, Technical Director
FROM: Jonathan Plaue, DNFSB Site Representative
SUBJECT: LLNL Activity Report for Week Ending November 20, 2009

Livermore Site Office (LSO): On Monday, the Facility Representative (FR) for the Plutonium Facility completed cross-qualification for the other three Superblock nuclear facilities. This accomplishment represents an important step toward improving LSO's operational oversight coverage in the Superblock. Currently, two FRs are assigned to the Superblock nuclear facilities. The second FR is in the process cross-qualification for the Plutonium Facility. Staffing analyses performed by LSO identified the need for a third FR in the Superblock. At this time, an individual for this position has been identified and is expected to begin the training process in early calendar year 2010. LSO has a desired end-state of four to five FRs fully cross-qualified across the six nuclear facilities. The next phase will cross-qualify Superblock FRs at the Radioactive and Hazardous Waste Management nuclear facilities.

Plutonium Facility: On November 18, 2009, the laboratory issued the report from the critique that was performed regarding the Potential Inadequacy in the Safety Analysis and Technical Safety Requirement violation associated with the Hydrogen Gas Isolation System (see weekly report dated October 30, 2009). The report identified issues associated with the inadequacy of technical reviews performed, content and specificity of the surveillance procedure, and extreme schedule pressure. The critique's human performance improvement analysis further identified schedule pressure as the most prominent error precursor and observed two contributing factors. First, it discussed the fact that the Hydrogen Gas Isolation System is required to operate the Hydride/ Dehydride/ Casting (HYDEC) unit, which supports the security category I/II deinventory project. The deinventory project is recognized by laboratory program management as the top priority and has been emphasized by LSO through contractual incentives. Second, the report observed that the final HYDEC startup preparation and review occurred at a time coincident with intense resource and management attention focused on timely achievement of Critical Decision 4 for the Tritium Facility Modernization project. The human performance analysis concludes that the combination of project pressures manifested into less than adequate attention to detail and a lack of questioning attitude.

Overall, the critique determined that this was a system induced error that warranted personnel remediation and evaluation of applicable processes and procedures. While a few of the corrective actions target weaknesses in the design review process, actions have not been identified related to other key contributing processes and procedures (e.g., project planning, scheduling, and procedure development, validation, and adherence). Further, none of the corrective actions appear to target prevention of future errors induced by schedule pressures. Adherence to robust processes and procedures is one recognized method to manage schedule pressures.