

# DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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January 27, 2010

The Honorable Thomas P. D'Agostino  
Administrator  
National Nuclear Security Administration  
U. S. Department of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585-0701

Dear Mr. D'Agostino:

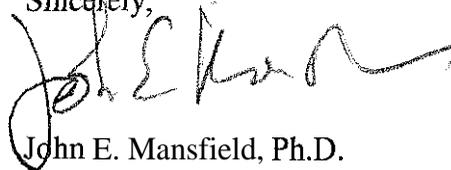
The staff of the Defense Nuclear Facilities Safety Board (Board) observed the readiness assessment (RA) led by the National Nuclear Security Administration (NNSA) for startup of the Tritium Process Station (TPS) at Lawrence Livermore National Laboratory (LLNL) and reviewed related aspects of the Tritium Facility's safety basis and operational activities. NNSA authorized startup of TPS based on the RA, but the Board is concerned that the hazard analysis for TPS may not have adequately characterized the consequences of fire scenarios involving tritium nor identified the appropriate safety-significant controls to protect facility workers. Some of these issues stem from weaknesses in the existing safety basis for the Tritium Facility.

The NNSA RA team identified two findings, both of which were categorized as post-start issues: (1) designating the TPS glovebox as a safety-significant control without appropriate justification has led to confusion about the functional requirements and controls for the glovebox, and (2) the operating guidance for the glovebox did not meet the intent of Department of Energy (DOE) Order 5480.19, *Conduct of Operations Requirements for DOE Facilities*. The Board's staff independently identified a number of other issues and expanded on the two issues identified by the RA team. Overall, the staff concluded that a number of significant open issues related to hazard analysis, selection of controls, and conduct of operations existed at TPS. The details of the staff's review are included in the enclosed report.

Therefore, pursuant to 42 U.S.C. § 2286b(d), the Board requests a report and briefing within 60 days of receipt of this letter on actions to be taken to address the deficiencies identified by the Board's staff and the NNSA RA team regarding the analysis and control of hazards both for TPS and more broadly in the Tritium Facility safety basis, as well as the deficiencies

identified in the conduct of operations for TPS. The Board notes that the Livermore Site Office recently directed the contractor to resolve a number of issues with the Tritium Facility safety basis, including those identified with TPS.

Sincerely,

A handwritten signature in black ink, appearing to read "John E. Mansfield". The signature is fluid and cursive, with a large initial "J" and "M".

John E. Mansfield, Ph.D.  
Vice Chairman

Enclosure

c: Ms. Alice C. Williams  
Mr. Mark B. Whitaker, Jr.