Department of Energy
National Nuclear Security Administration
Washington, DC 20585

May 14,2004

OFFICE OF THE ADMINISTRATOR

The Honorable John T. Conway
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue, N.W.
Suite 700
Washington, D.C. 20004

Dear Mr. Chairman:

This is in response to your April 12,2004, letter regarding the Lawrence Livermore National Laboratory's (LLNL) proposed safety basis for Building 332, the Plutonium Facility. Specifically, you brought to my attention two areas of concern:

- the validity of LLNL's calculation of the Leak Path Factor, a key element of the new safety analysis; and
- the resultant downgrading of some systems and components from Safety Class to Safety Significant.

Your letter stated that the Board believes LLNL's approach to allow unfiltered release of radioactive materials from potentially hazardous events is inconsistent with the defense-in-depth philosophy.

The National Nuclear Security Administration (NNSA) agrees with the Board that there should be no reduction in the margin of safety for operation of Building 332. NNSA considers the modifications made in Building 332, as reflected in the draft Documented Safety Analysis (DSA)/Technical Safety Requirements (TSRs) now under review by the Livennore Site Office (LSO), as an opportunity to strengthen the safety of the facility.

As discussed with your staff, hardware modifications were made to Building 332 to try to achieve a fail-safe approach to avoid an unacceptable off-site release of plutonium in the event of a bounding-case accident, even if the building loses all electrical power. In principle, not having to rely on active systems to ensure the safety of the public is preferred. However, a number of LSO and Board staff review comments on the draft DSA have raised questions about the validity of LLNL's assumptions and calculation of the fraction of accidentally released plutonium that would emerge from the Building 332 confinement area (the Leak Path Factor).

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In order to address these concerns, LSO is commissioning an independent calculation of the Leak Path Factor. It is LSO's intention to complete this supplemental analysis by mid-July. Once the calculation is completed, LSO will make the determination whether to endorse LLNL's proposed position.

Following acceptable resolution of the Leak Path Factor issue and other DSA review comments, those safety systems that are essential for preventing an off-site release will be classified as Safety Class, in accordance with the 10 CFR 830, Subpart B, *Nuclear Safety Rule*, and DOE-STD-3009, *Preparation Guide Department of Energy Nonreactov Nuclear Facility Documented Safety Analyses.* Other safety systems that are essential for worker safety and robust defense-in-depth should be classified as Safety Significant or as equipment important to safety.

LSO's DSA analysis may support reclassification of key facility systems from Safety Class to Safety Significant. If system reclassification is warranted, it is essential that system reclassification does not result in downgraded system performance. Accordingly, LSO intends to carefully review the operability criteria, surveillances, and maintenance of these key safety systems (e.g., ventilation systems and emergency power systems) to determine whether changes are appropriate prior to LSO's approval of the DSA/TSRs.

NNSA does not consider the potential reclassification of safety systems, in compliance with the Nuclear Safety Rule and consistent with the DOE-STD-3009 methodology, as a downgrading of the robustness of the defense-in-depth posture of the Plutonium Facility. Installed hardware improvements in Building 332, continued maintenance of key safety systems, and implementation of appropriate TSRs should ensure the requisite margin of facility safety.

The Staff Issue Report attached to your letter contains helpful review comments on the draft DSA, many of which are similar to LSO's review comments that were forwarded to LLNL in February 2004. We appreciate the time that your staff spent reviewing the DSA and will ensure that these comments are considered as part of the LSO review process.

Sincerely,

Linton F. Brooks
Administrator

cc: M. Whitaker, DR-1