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**DEFENSE NUCLEAR FACILITIES  
SAFETY BOARD**

Washington, DC 20004-2901



January 3, 2013

The Honorable Steven Chu  
Secretary of Energy  
U.S. Department of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585-1000

Dear Secretary Chu:

The Defense Nuclear Facilities Safety Board (Board) remains deeply concerned with the seismic safety posture of the Plutonium Facility (PF-4) at Los Alamos National Laboratory. The Board believes a recent analysis performed by the laboratory's contractor demonstrates that PF-4 is vulnerable to structural collapse. The large plutonium inventory of PF-4, coupled with the facility's proximity to the public, creates the potential for very high offsite dose consequences if the building were to collapse. Structural upgrades necessary to fix the PF-4 vulnerabilities are currently projected to take several years to complete. In the interim, the potential for very high dose consequences remains.

In 2009, the Board issued Recommendation 2009-2, *Los Alamos National Laboratory Plutonium Facility Seismic Safety*, to focus Department of Energy (DOE) and National Nuclear Security Administration (NNSA) management attention on the need to improve the seismic safety posture of PF-4. The Board acknowledges that seismic remediation measures have been taken at PF-4 since 2009; however, existing measures would be largely defeated by a collapse of the PF-4 structure. In response to the Board's Recommendation 2010-1, *Safety Analysis Requirements for Defining Adequate Protection for the Public and Workers*, the Deputy Secretary of Energy, in a letter dated July 19, 2012, established guidance for evaluating these types of situations where new information indicates the existing control strategy of a facility is no longer viable to keep postulated offsite consequences from exceeding the DOE Evaluation Guideline of 25 rem Total Effective Dose Equivalent. NNSA's contractor has submitted, and DOE Headquarters personnel are reviewing, an Addendum to the PF-4 Documented Safety Analysis that provides the information required by the Deputy Secretary.

Based on the developments outlined above, the potential for very high offsite dose consequences in the event of a seismically-induced collapse, and the amount of time it will take to address PF-4 structural vulnerabilities, the Board strongly urges DOE to implement additional near term measures to reduce the potential consequences of a seismically-induced collapse. Such risk reduction measures could include accelerated disposition of plutonium already designated as waste or surplus material, robust containerization of dispersible plutonium forms, and strengthened emergency planning and preparedness protocols and measures.

Therefore, pursuant to 42 U.S.C. § 2286b(d), the Board requests a report and briefing within 60 days of receipt of this letter that provides the DOE senior leadership assessment of the current state of public and worker protection for PF-4 seismic accident scenarios and the risk reduction measures to be applied to mitigate near term seismic risks.

Sincerely,

A handwritten signature in black ink, appearing to read "P S Winokur". The signature is fluid and cursive, with the first name "P" being a large, stylized letter.

Peter S. Winokur, Ph.D.  
Chairman

c: The Honorable Thomas P. D'Agostino  
Mrs. Mari-Jo Campagnone