

April 5, 2004

Dr. David H. Crandall  
Assistant Deputy Administrator for  
Research, Development, and Simulation  
National Nuclear Security Administration  
U.S. Department of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585-0104

Dear Mr. Crandall:

The Defense Nuclear Facilities Safety Board (Board) was pleased to receive your letter of February 13, 2004, forwarding the Department of Energy's (DOE) first annual report regarding nuclear criticality safety: *Status of the Department of Energy Nuclear Criticality Safety Program for Calendar Year 2003*. The report represents a step in the right direction, and the first intimation of the efforts DOE will undertake to maintain and build upon the gains brought about by the successful implementation of the Board's Recommendation 97-2, *Continuation of Criticality Safety at Defense Nuclear Facilities in the Department of Energy*. The Board considers it particularly important that DOE has been able to stabilize funding and direction for the program.

At the same time, however, the Board notes that in several areas, the report indicates the need for further effort on the part of DOE in the coming year. Specifically:

- The Board's letter of August 7, 2003, stressed the value of proactive rather than reactive initiatives as key elements in the enhancement of nuclear criticality safety throughout DOE's defense nuclear complex. With this principle in mind, DOE's reviews of the effectiveness of actions taken to improve nuclear criticality safety must be much more comprehensive, especially with regard to collection of data at the field level by knowledgeable nuclear criticality safety professionals.
- The report does not provide adequate information with regard to the staffing levels of both contractor and federal nuclear criticality safety personnel. While the report specifies the number of qualified/not-yet-qualified personnel in each case, it does not clearly show that this number has been analyzed and determined to be adequate. For those cases in which a vacancy is found to exist, clear plans, as well as interim compensatory measures, must be provided.

- DOE's efforts to conduct trending and analysis must be brought to a much more mature level. Likewise, the ability to develop and disseminate useful lessons learned must be improved.

These factors should be considered in the activities of DOE's program managers, as well as those of the Nuclear Criticality Safety Support Group, in the coming year. DOE should also stress also the importance of assessments in the field, keyed to both the adequacy and the implementation of standards.

The Board also remains keenly interested in the crucial decisions regarding the future of DOE's criticality experiment capability, which will be required in the coming year.

Pursuant to 42 U.S.C. § 2286b(d), the Board requests that next year's annual report on nuclear criticality safety address the above-discussed issues and improvements.

Sincerely,

John T. Conway  
Chairman

c: The Honorable Linton Brooks  
The Honorable Beverly Ann Cook  
The Honorable Jessie Hill Roberson  
Mr. Mark B. Whitaker, Jr.