

John T. Conway, Chairman  
A.J. Eggenberger, Vice Chairman  
Joseph J. DiNunno  
John E. Mansfield  
Jessie Hill Roberson

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

625 Indiana Avenue, NW, Suite 700, Washington, D.C. 20004-2901  
(202) 694-7000



November 1, 2000

The Honorable David Michaels  
Assistant Secretary for Environment,  
Safety and Health  
Department of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585-0119

Dear Dr. Michaels:

The guidance for preparation of safety bases for Department of Energy (DOE) defense nuclear facilities is provided in DOE-STD-3009-94, Change Notice No. 1 (January 2000), *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports*. This standard also describes the methodology recommended for identification and classification of safety structures, systems, and components (SSCs). Additional guidance is provided in DOE-HDBK-3010-94, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities*. These documents have been commonly used by the contractors to prepare or upgrade the safety bases of defense nuclear facilities. The methodology described in DOE-STD-3009-94 has also been identified by DOE in the interim final rule on Nuclear Safety Management as an acceptable approach for preparing a documented safety analysis.

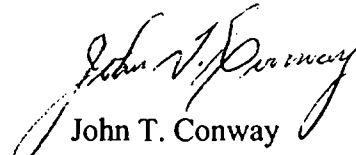
The Defense Nuclear Facilities Safety Board (Board) has reviewed these guidance documents and believes that they provide an adequate methodology for preparation of acceptable safety bases for defense nuclear facilities (Board letter to Deputy Secretary of Energy, dated July 8, 1999). However, the Board and its staff have recently observed the proposed use of a different methodology for treatment of dose calculations for identification and classification of safety SSCs. This methodology reduces the conservatism in the current DOE recommended approach by using a probabilistic combination of uncertainties or errors in calculating unmitigated consequences.

Although development of this proposed methodology may prove useful in certain applications, there is the potential for misapplication. The Board believes that the Office of Primary Interest for nuclear safety analysis directives needs to evaluate this methodology, assess its applicability to authorization basis activities, and if appropriate, establish relevant standards and guidelines. The Board and its staff are available to assist DOE in this evolution and in ensuring that an adequate safety margin is established and maintained in the safety bases of defense nuclear facilities.

The Board also believes that DOE should examine the expectations concerning the use of DOE standards, guides, and handbooks. It appears that in practice significant departure from DOE's recommended approach requires only local consent by the approval authority for facility safety documents. This means that established DOE standards and guides could be overridden at levels below that of field office managers.

The Board would like the opportunity to discuss both of these issues with you at your earliest convenience.

Sincerely,



John T. Conway  
Chairman

c: Mr. Mark B. Whitaker, Jr.