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DEFENSE NUCLEAR FACILITIES SAFETY BOARD

625 Indiana Avenue, NW, Suite 700, Washington, D.C. 20004
(202) 208-6400



April 30, 1996

The Honorable Victor H. Reis
Assistant Secretary for Defense Programs
Department of Energy
Washington, DC 20585-0104

Dear Dr. Reis:

During the past several years, initiatives of both the Defense Nuclear Facilities Safety Board (Board) and the Department of Energy (DOE) have led to significant improvements in the Nuclear Explosive Safety Study (NESS) process. Although corrective measures have been developed, they have not been implemented. The Board urges that the identified improvements in the nuclear explosive operations safety management process, including the NESS, be implemented expeditiously. Implementing actions needed include the issuance of revised Orders, standards, and guides that govern the integrated safety of nuclear explosive operations.

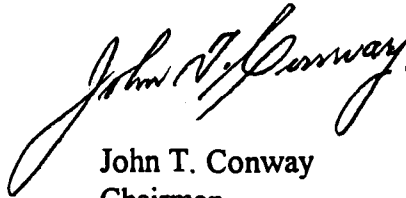
The Board and its staff have reviewed the revised requirements and guidance documents (Order 5610.10A, Order 5610.11A, DOE-STD-XXXX-95, DOE-STD-YYYY-95, DOE-STD-ZZZZ-95, and G5610.11A) in detail, as they represent a part of DOE's response to Board Recommendation 93-1 and the NESS Corrective Action Plan (NESS CAP). The process established by these documents represents a significant improvement over the current safety management approach--not only focusing considerable attention on the prevention of nuclear detonation and high-explosive dispersal of nuclear material, but also requiring consideration of hazards to workers and to the environment in an integrated manner. Since the new process does represent a significant change over current practice, the Board notes that its implementation by DOE, laboratory, and contractor personnel will require a great deal of close attention and technical cooperation.

As an example, DOE-STD-XXXX-95, "Preparation Guide for the U.S. Department of Energy Hazard Analysis Reports for Nuclear Explosive Operations," provides a broad spectrum of options for conducting the various parts of the operational hazards analysis. When DOE promulgates this standard, it needs to be clearly emphasized that the analytical methods employed must be tailored to both the severity of the hazards and the availability of good data. It would be inappropriate to expend analytical resources to quantify some aspects of human performance for an operation when simple risk reduction strategies are immediately obvious (e.g., one should revise procedures to minimize the number of hand-lifts of high explosive parts, instead of first analyzing whether there is a significant probability that a part would be dropped).

In addition, the guidance in DOE-STD-XXXX-95 concerning Hazard Analysis Report (HAR) documentation does not appear to acknowledge that other sources of analytical results may already exist. Potential sources would include facility Safety Analysis Reports and other nuclear explosive operations HARs--assuming that some results from these other HARs might be relevant. It appears that DOE would want to permit the referencing of these other sources in the HAR to eliminate the need for duplicate documentation on the basis that continuing preservation of the references could be assured.

As the revised Orders, standards, and guides are implemented over the next few months, it is highly likely that areas will be identified that need either additional technical guidance, clarification, or reconsideration. At a briefing to the Board on April 23, 1996, Mr. Stello stated that the standards and guides would be used with the understanding that they will remain "living documents," with frequent revision until experience is gained with application of the new approach. In support of completion of Recommendation 93-1/NESS CAP commitments, the Board's staff will work with DOE to develop a plan to transition into this new integrated nuclear explosive safety management approach. The Board designates Ms. Cindy Miller at (202) 208-6580 as the principal staff interface with Mr. Stello on this matter.

Sincerely,

A handwritten signature in cursive script, reading "John T. Conway". The signature is written in dark ink and is positioned above the printed name and title.

John T. Conway
Chairman

- c: Mr. Mark Whitaker
- Dr. James Turner
- Mr. Bruce Twining
- Mr. Terry Vaeth