



Department of Energy

Washington, DC 20585

January 17, 2003

The Honorable John T. Conway
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue, NW, Suite 700
Washington, D.C. 20004-2901

Dear Mr. Chairman:

Reference: Defense Nuclear Facilities Safety Board letter from J. T. Conway to J. H. Roberson, DOE, dated November 4, 2002.

This letter provides the U.S. Department of Energy (DOE) report in response to deficiencies in safety basis development identified by Defense Nuclear Facilities Safety Board (DNFSB) staff in the period April 30 through August 2, 2002, and reported to DOE on November 4, 2002, in the Reference. The Reference identified three summary level concerns and enclosed two Staff Issue Reports with amplifying details of those concerns. This letter addresses the summary level concerns. Enclosure 1 provides the detailed response to all of the concerns. The DOE has concurrently performed a rigorous review and inspection of the contractor's safety basis development, including these issues, beginning in November 2001 and continuing. Enclosure 2 summarizes the relevant portions of this effort.

The DOE strongly agrees that a rigorous Integrated Safety Management (ISM) review is important, and that some (safety) conditions were not adequately addressed in the Preliminary Safety Analysis Report (PSAR). The formal safety review performed by the DOE Office of River Protection (ORP) is the most rigorous of any performed to date by DOE on a new Hazard Category 2 facility at the preliminary design stage and is documented in over 1,200 detailed questions and responses, previously provided to the DNFSB staff. The ORP employed 63 contract specialist engineers (approximately 22 FTE) and inspectors, and six full time Federal staff. Their qualifications and experience are summarized in Enclosure 4. DOE considers that, due to the extensive commitments obtained through the formal safety review process (summarized in Enclosure 3), the deficiencies in the ISM review were remedied sufficiently to authorize construction in carefully controlled increments. These increments began August 16, 2001, and have continued in two subsequent authorizations. (The two final incremental construction authorizations are anticipated in late January 2003 (pretreatment) and September 2003 (analytical laboratory)).



Of course, DOE will continue to employ a vigorous inspection and assessment program of the contractor to ensure that, as the design evolves, ISM reviews focus on and resolve key outstanding design safety concerns. The DOE agrees that additional controls or design modifications may be necessary before adequate levels of safety are achieved and expects the contractor to determine whether any are necessary in subsequent ISM reviews that are currently underway. The DOE will continue to ensure that the resulting final designs are both cost effective and achieve adequate safety.

With respect to the observation that design calculations and inputs were deficient, DOE has considered this a serious weakness, and has aggressively questioned and assessed the contractor's performance and corrective actions. Enclosure 2 references related DOE reviews in this area. The DOE will ensure that the contractor's corrective actions are effective by follow-up assessments and inspections in the next year. The first of these assessments is currently scheduled for January 2003, prior to full construction authorization of the Waste Treatment and Immobilization Pretreatment facility on the Hanford Site.

With respect to the observation that the contractor treated the DOE's accident evaluation guidelines as fixed criteria for determining the acceptability of the design DOE considers that the contractor presentations to the DNFSB staff did not adequately explain that the guidelines are only one of a suite of considerations used to determine the acceptability of the design, and are not fixed acceptability criteria. Enclosure 1 attempts to further clarify this important point. Throughout its review of the PSARs, DOE has insisted that the contractor ensure that the unmitigated consequences of accidents are the primary determinant of control strategies for those accidents, consistent with the guidelines in DOE STD-3009-94, Appendix A. The DOE will reassess the contractor's performance in the closeout review of related authorization agreement conditions of acceptance and in inspections of further contractor hazard analysis that are occurring as the design matures.

Thank you for the assessment of this vitally important area. If you have further questions, please contact me at (202) 586-7709.

Sincerely,



Jessie Hill Roberson
Assistant Secretary

for Environmental Management

Enclosures:

- 1. Response to DNFSB Letter**
- 2. DNFSB Letter Issues**
- 3. CAR Conditions of Acceptance**
- 4. CAR Review Team Experience**

cc w/enclosures:

- B. A. Fiscus, RL**
- D. J. Grover, DNFSB Hanford Site Rep.**
- R. J. Schepens, ORP**
- Schneider, EM-44**
- M. B. Whitaker, S-3.1**