

July 21, 2004

Mr. Paul M. Golan  
Acting Assistant Secretary for  
Environmental Management  
U.S. Department of Energy  
1000 Independence Avenue, SW  
Washington, D.C. 20585-0113

Dear Mr. Golan:

The Defense Nuclear Facilities Safety Board (Board) has reviewed the Department of Energy's (DOE) letter of May 21, 2004, regarding the proposed reduction of structural steel fire resistance for the Waste Treatment Plant (WTP). The Board agrees that DOE-STD-1066-97, *Fire Protection Design Criteria*, is the correctly invoked guidance to supplement DOE Order 420.1A, *Facility Safety*. With regard to fire resistance ratings, paragraph 9.2.2 of this standard states that "in no event should the fire resistance rating be less than 2 hours under conditions of failure of any fire suppression system not designed as a safety class item."

The Board notes that the WTP fire suppression system is not designated a safety-class system, nor will the structural steel have a 2-hour fire rating. DOE-STD-1066-97 allows use of an alternative approach provided that approach will "provide a comparable level of safety to that achieved by conformance with this standard" as determined "by the Authority Having Jurisdiction after consultation with a qualified fire protection engineer." The Board understands that DOE's Office of River Protection (ORP) and its contractor will be using independent qualified fire protection engineers to evaluate the proposed equivalency.

The protection of structural steel at WTP is an important safety issue. Therefore, pursuant to 42 U.S.C. § 2286b(d) the Board requests a briefing within 30 days from ORP and its fire protection experts that addresses the following points:

- The reasons for pursuing this alternative approach for a new defense nuclear facility.
- Identification of the applicable International Building Code (IBC) 2000 requirements and DOE-STD-1066-97 provisions to which equivalency is being asserted, and the underlying safety goals and objectives of those requirements and provisions.
- The methodology used to determine that the proposed alternative approach for protection of structural steel provides a comparable level of safety to that achieved by conformance with the applicable IBC 2000 requirements and the DOE standard.

- How the proposed alternative approach provides for defense in depth and demonstrates a commitment to the use of engineered safety features instead of administrative controls (see DNFSB/TECH-27 and the Board's Recommendation 2002-3).
- The results of the equivalency evaluation of the alternative approach and ORP's conclusions.

Sincerely,

John T. Conway  
Chairman

c: Mr. Roy Schepens  
Mr. Mark B. Whitaker, Jr.