

John T. Conway, Chairman  
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## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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March 23, 2004

The Honorable Jessie Hill Roberson  
Assistant Secretary for Environmental Management  
U.S. Department of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585-0113

Dear Ms. Roberson:

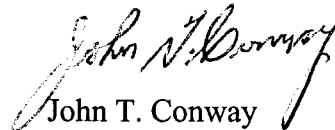
The Defense Nuclear Facilities Safety Board (Board) has been reviewing Bechtel National Incorporated's (BNI) process for developing requirements for fire resistance for structural steel used in the process buildings at the Hanford Site's Waste Treatment and Immobilization Plant (WTP). The Board found that BNI proposed and the Department of Energy's (DOE) Office of River Protection approved the use of an alternative, performance-based approach to meeting these requirements. This approach is being used in lieu of the prescribed code requirements for hourly fire-resistive ratings from the International Building Code and applicable DOE Orders and standards. While the Board continues to review the appropriateness of the codes and standards as applied to this project, the unique nature of this issue warrants immediate attention:

The Board recognizes that the concept of using performance-based analysis in lieu of prescriptive code requirements for structural steel protection is gaining some acceptance in the fire protection community, but there is generally no standard practice for completing this analysis. While a performance-based approach may result in cost savings during construction, such an approach generally results in a less conservative application.

Based on discussions with BNI representatives, the Board understands that the methodology for justifying a reduction in fire resistance ratings of structural steel is still evolving. The Board believes any alternative process employed by DOE should reflect generally accepted methods for the development of safety-related requirements.

Pursuant to 42 U.S.C. § 2286b(d), the Board requests a report within 60 days of receipt of this letter addressing how DOE will ensure that the proposed BNI methodology receives adequate review and comment through a peer review process, consistent with the process that would be expected of any consensus code requirement. This report should also discuss why the proposed methodology should be used in lieu of recognized methods already in use in the fire protection and structural engineering communities, and address any potential structural or safety impacts on the WTP facilities.

Sincerely,



John T. Conway  
Chairman

c: The Honorable Beverly Ann Cook  
Mr. Roy J. Schepens  
Mr. Mark B. Whitaker, Jr.