

A.J. Eggenberger, Chairman  
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# DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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February 6, 2009

Dr. Inés R. Triay  
Acting Assistant Secretary for Environmental Management  
U.S. Department of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585-0113

Dear Dr. Triay:

The Defense Nuclear Facilities Safety Board (Board) continues to follow closely operations at the H-Canyon facility at the Savannah River Site as it continues its mission of stabilizing inactive and surplus nuclear materials from around the nuclear weapons complex. The Board's staff recently assessed the condition of the electrical distribution systems that provide power to safety-related equipment at H-Canyon. This electrical equipment is essential to support safe, reliable operations at the facility. Enclosed is a report prepared by the Board's staff that provides the details of the review and highlights several areas that require attention:

- As a result of electrical system modifications made in the past 10 years, the backup diesel generators for H-Canyon are now connected to the safety-class canyon exhaust fans through as many as five circuit breakers. Additionally, the associated automatic transfer switches (ATSS) do not function as originally intended when normal power is restored after an interruption of power. The excessive number of circuit breakers between the diesel generators and the safety-class canyon exhaust fans degrades the reliability of the system. This issue could be resolved by (1) reconfiguring the electrical system to reduce the number of circuit breakers and (2) replacing the four existing ATSSs with four new standard-type ATSSs.
- Safety-class exhaust fans are located in the Fan House building which is not located fully within the lightning protection zone. The contractor should provide an adequate lightning protection system for the Fan House building in accordance with National Fire Protection Association Standard 780, *Standard for the Installation of Lightning Protection Systems*.
- The contractor has not evaluated the ampacity derating effect (reduction in rated current of the cable) for several penetration seals containing safety-related electrical power and control cables in the HB-Line electrical room. Improperly sized cables could fail and be unable to perform their intended safety function.

Dr. Inés R. Triay

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Pursuant to 42 U.S.C. § 2286b(d), the Board requests a briefing within 90 days of receipt of this letter on actions to be taken to resolve the electrical design deficiencies discussed above and in the enclosed report.

Sincerely,

A handwritten signature in black ink, appearing to read "A. J. Eggenberger". The signature is fluid and cursive, with a large initial "A" and "E".

A. J. Eggenberger  
Chairman

Enclosure

c: Mr. Jeffrey M. Allison  
Mr. Mark B. Whitaker, Jr.