

DMB/50.55(e)



THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

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Dalwyn R. Davidson
VICE PRESIDENT
SYSTEM ENGINEERING AND CONSTRUCTION

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July 22, 1981



Mr. James G. Keppler
Director of Region III
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

4:10
RE: Perry Nuclear Power Plant, Docket
Nos 50-400, 50-441 Interim Report
on Missile Penetration Analysis for
Safety Class Axial-Flow Fans
(RDC 31 (81))

Dear Mr. Keppler:

This letter serves as the interim report as required by 10CFR 50-55(e) on a significant deficiency reported by Mr. William Kacer of The Cleveland Electric Illuminating Company (CEI) on June 22, 1981 in a telephone conversation with Mr. L. McGregor of the Nuclear Regulatory Commission Region III, Office of Inspection and Enforcement. The deficiency concerns sixteen axial-flow fans supplied by the Buffalo Forge Company. Buffalo Forge first notified the NRC of this deficiency under 10CFR Part 21 on June 5, 1981. CEI subsequently received notification from Buffalo Forge in a letter dated June 11, 1981.

This report includes a description of the deficiency, analysis of the safety implications, and the corrective action to be taken.

Description of Deficiency

Buffalo Forge had supplied a total of sixteen safety-related axial-flow fans for the Perry Nuclear Power Plant (PNPP) to be used in the HVAC system in the emergency service water pumphouse and the diesel generator building. None of the sixteen fans have been installed. Buffalo Forge has notified CEI that their fan casings, as fabricated, will not contain a generated missile. This condition does not meet the requirements of procurement specification SP-648-4549-00 for axial-flow fans.

Buffalo Forge had performed a missile penetration analysis during the initial design but has since developed a new method of calculation for the fan housing thickness. Under this new method, the current thickness does not meet the penetration requirements.

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Analysis of the Safety Implications

If the housings of the axial-flow fans are not of sufficient thickness to inhibit internally propagated fan missiles from piercing the shell and becoming a projectile, the possibility exists that the function of other surrounding safety-related equipment could be impaired.

Corrective Action

Buffalo Forge has submitted to CEI a listing of all fans which are affected. The lists identify Buffalo Forge's identification number, actual housing thickness and revised housing thickness. Buffalo Forge has notified Gilbert Associates, our architecture engineers, that they will provide drawings indicating the required modifications to prevent missile penetration of the fan casings. These drawings will be reviewed by Gilbert Associates for physical interference checks and support requirements.

Buffalo Forge is presently designing a method of reinforcing the fan casing to meet their new method of analysis and also in accordance with specification requirements.

The method for reinforcing the fan housing should be completed by October 31, 1981 and a final report will then be submitted.

Very truly yours,

Dalwyn R. Davidson

Dalwyn R. Davidson

Vice President

System Engineering and Construction

DRD/llp

cc: Mr. J. Hughes - NRC Site

Mr. Victor Stello, Director
Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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