



# THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

P.O. BOX 5000 - CLEVELAND, OHIO 44101 - TELEPHONE (216) 622-9800 - ILLUMINATING BLDG. - 55 PUBLIC SQUARE

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December 14, 1984

MURRAY R. EDELMAN

VICE PRESIDENT

NUCLEAR

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

RE: Perry Nuclear Power Plant  
Docket Nos. 50-440; 50-441  
Design of Control and Computer Room  
Humidification System [RDC 116(84)]

Dear Mr. Keppler:

This letter serves as the final report pursuant to 10CFR50.55(e) on the deficiency concerning use of nonsafety humidity detectors related to control complex HVAC systems. Mr. R. C. Knop of your office was notified on October 2, 1984, by Mr. T. A. Boss of The Cleveland Electric Illuminating Company that this problem was being evaluated. An interim report was subsequently submitted on October 30, 1984.

This report contains a description of the deficiency, an analysis of safety implications, and our planned corrective action.

## Description of Deficiency

Environmental Zone CB-3 (Control Complex Elev. 679'), identified in the Equipment Qualification Program as a mild environment, houses safety-related equipment associated with the control complex HVAC systems. This zone also houses the nonsafety control and computer room humidification system (M29). The piping of this low-pressure humidification system is classified as high energy piping.

To protect the mild environment classification of Zone CB-3 from the effects of a postulated break in the M29 system, redundant humidity detectors are provided. These humidity detectors, which are part of the M29 system, are unqualified nonsafety components. Failure of these detectors during a postulated pipe break would result in an environmental condition in Zone CB-3 for which the safety-related equipment in that zone is not qualified.

## Analysis of Safety Implications

In the event of a design basis earthquake, it is conservatively assumed that a pipe break would occur in the non-seismically supported M29 system. Further postulating the failure of the unqualified non-safety humidity detectors, the control room would not be notified, via annunciation, of the environmental conditions in Zone CB-3. In approximately 20 minutes, the mild environment classification of the zone would be exceeded.

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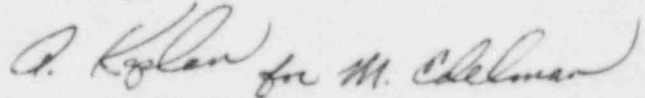
Since Zone CB-3 contains safety-related equipment associated with both trains of redundant Control Complex HVAC Systems, this situation would jeopardize the ability to maintain the required Control Complex environment. This could impair the ability to achieve safe shutdown.

Corrective Action

To ensure that the mild environment classification of Zone CB-3 will not be exceeded, operational procedures for responding to a seismic alarm will be modified to require an operator to inspect the computer room humidification system (M29) for leakage. If leakage is found or suspected, or the inspection cannot be made, the operator will shut down the M29 system. In addition, our Nuclear Engineering Department personnel will perform a review to ensure that similar conditions do not exist elsewhere in our design. We plan to complete these actions by March 8, 1985.

Please call if there are any questions.

Sincerely,



Murray R. Edelman  
Vice President  
Nuclear Group

PRE:pab

cc: Mr. J. A. Grobe  
USNRC, Site Office (SBB50)

Mr. D. E. Keating  
USNRC, Site Office (SBB50)

Director  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

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1100 Circle 75 Parkway, Suite 1500  
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