



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

AUG 09 1985

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Docket Nos.: 50-440  
and 50-441

MEMORANDUM FOR: The Atomic Safety and Licensing Board for Perry:  
(J. P. Gleason, G. O. Bright, J. R. Kline)

The Atomic Safety and Licensing Appeal Board for Perry:  
(A. Rosenthal, W. Johnson, G. Edles)

FROM: Thomas M. Novak, Assistant Director  
for Licensing  
Division of Licensing

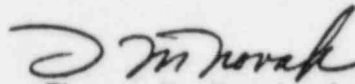
SUBJECT: DEVIATION ANALYSIS REPORT OF EXCESSIVE VOLTAGE DROPS  
IN ELECTRICAL CIRCUITRY WHICH MAY PREVENT OPERATION  
OF PERRY HYDROGEN CONTROL SYSTEM GLOW PLUGS  
(BOARD NOTIFICATION NO. 85-071)

Board Notification 85-069, dated July 9, 1985, advised the Licensing Board of a CEICO Deviation Analysis Report, dated June 18, 1985, indicating the need to assess the safety impact caused by excessive voltage drop conditions found in electrical circuits associated with several plant systems, including the Hydrogen Control System glow plugs. CEICO has since completed its evaluation of voltage drops and has determined that the Hydrogen Control System electrical circuitry is not among those systems for which voltage drop corrective action is needed. Board Notification 85-069 addressed a "draft" Deviation Analysis Report of affected systems, which by either analysis or test later revealed that voltage drops in the glow plug circuitry did not impair operation of the glow plugs to perform their safety function.

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Those systems requiring voltage drop corrective actions, to be pursued in accordance with 10 CFR 50.55(e), are identified in the enclosed CEICO letter to the NRC Region III Administrator (M. R. Edelman to J. G. Keppler) dated July 25, 1985. The CEICO findings on these systems as well as the glow plugs will be verified by the NRC regional inspection staff prior to Perry Unit 1 licensing, currently scheduled in late September 1985.



Thomas M. Novak, Assistant Director  
for Licensing  
Division of Licensing

Enclosure:  
CEICO Letter dated July 25, 1985

cc: ACRS (10)  
EDO  
Parties to the Proceeding  
See next page



## 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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July 25, 1985

PY-CEI/OIE 0086 L

MURRAY R. EDELMAN  
VICE PRESIDENT  
NUCLEARMr. James G. Keppler  
Regional Administrator, Region III  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137RE: Perry Nuclear Power Plant  
Docket Nos. 50-440; 50-441  
Voltage Drop Evaluation  
[RDC 142(85)]

Dear Mr. Keppler:

This letter is the final report pursuant to 10CFR50.55(e) concerning the potential for insufficient voltage to some equipment when source voltage is degraded and/or when long cable lengths are used to supply the equipment. This deficiency was reported by telephone to Mr. R. Knop of your office on June 25, 1985 by Mr. B. D. Walrath of The Cleveland Electric Illuminating Company. This deficiency has been evaluated per Deviation Analysis Report 246.

Description of Deficiency

A review was conducted to assess the effects of degraded supply voltage and long cable lengths. This review identified instances where the voltage drops associated with these conditions could adversely affect the operation of plant equipment. Components in the following systems are affected:

- P47: Control Complex Chilled Water
- M32: Emergency Service Water Pump House Ventilation
- M43: Diesel Generator Building Ventilation

The other systems originally identified as having potentially degraded operation due to excessive voltage drop have been evaluated and found acceptable. This evaluation considered either the use of the manufacturer's test data, a component specific calculation, or a functional test of the equipment to demonstrate operability under degraded voltage conditions.

~~55-847-1418~~ 2pp.

July 25, 1985

Analysis of Safety Implications

This deficiency could prevent or delay the start of the affected systems if a LOCA occurs when offsite power is in a degraded voltage condition.

Corrective Action

Design changes (ECN-28522-86-2283 and associated cable pull slips) are being initiated to increase the size of the cables to the affected components in order to prevent excessive voltage drops.

If you have any questions, please call.

Sincerely,

*Murray R. Edelman*

Murray R. Edelman  
Vice President  
Nuclear Group

MRE:pab

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

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

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