



THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

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MURRAY R. EDELMAN
VICE PRESIDENT
NUCLEAR

February 7, 1985

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
Topaz Class 1E Inverters
RDC [120(64)]

Dear Mr. Keppler:

This letter serves as the reissuance of our final report pursuant to 10CFR50.55(e) concerning Class 1E inverters manufactured by Topaz which are utilized in various control panels supplied by General Electric. This item was originally identified to Mr. Knop of your office on October 29, 1984, by Mr. P. P. Martin of The Cleveland Electric Illuminating Company (CEI). General Electric reported this deficiency to the NRC in accordance with 10CFR21 on October 6, 1984. Our previous correspondence on this subject was dated November 28, 1984, and January 11, 1985.

This report contains a description of the deficiency, an analysis of the safety implication and the corrective action. We have also outlined the status of the corrective actions being taken and our planned completion date.

Description of the Deficiency

General Electric (GE) notified CEI in a letter dated October 11, 1984, that the adjustment of the low voltage shutoff and turnon for GE dedicated Class 1E inverters was set too high. The original manufacturer, Power Mark, a division of Topaz, set the adjustment too high. In the GE dedication process, an operable range of 105 to 140 volts DC was being checked for instead of the required range of 100 to 140 volts. Typically, GE specifies a DC bus voltage range from 108 to 132 volts with momentary voltage dips to 105 volts DC during the startup of large DC loads. This results in a condition where the inverter may not start or restart until the voltage is increased to 118 volts DC since there is a 13 volt offset above 105 volts.

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Analysis of Safety Implication

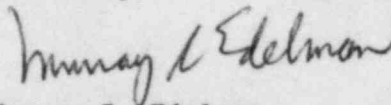
Because the allowable momentary dip of the input bus voltage for the inverters is equal to the preset inverter low voltage cutoff, 105 volts, an allowable voltage dip could result in an inverter trip and a failure to restart during a design basis accident. The subject inverters are used to power 24 volt DC instrument buses in the Reactor Core Isolation Cooling (RCIC) and various Emergency Core Cooling Systems (ECCS). Failure of the inverters during a design basis accident could result in a loss of the RCIC or ECCS functional capability to perform their intended safety function.

Corrective Action

Nonconformance Report (NR) NDS-0098 was issued by Project Organization to track the Topaz inverters. GE issued Field Disposition Instructions (FDI) WOB0 and WOBW to provide for testing of the inverter trip and restart voltages and to adjust the settings as necessary for Unit 1. Unit 2 will be covered in the same manner by FDI's WRXD and WRXJ. All affected inverters will be adjusted so they will not trip at voltages between 100 and 140 volts DC and will resume operation when input voltage increases to 108 volts DC.

We presently expect completion of the corrective actions associated with this item by March 15, 1985.

Sincerely,



Murray R. Edelman
Vice President
Nuclear Group

MRE:pab

cc: Mr. J. A. Grobe
USNRC, Site Office

Mr. D. E. Keating
USNRC, Site Office

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