

THE CINCINNATI GAS & ELECTRIC COMPANY



November 9, 1983
LOZ-83-0199

J. WILLIAMS, JR.
SENIOR VICE PRESIDENT
NUCLEAR OPERATIONS

Docket No. 50-358

U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Attention: Mr. J.G. Keppler
Regional Administrator

Gentlemen:

RE: WM. H. ZIMMER NUCLEAR POWER STATION - UNIT 1
10CFR50.55(e), ITEM E-50, ANNUNCIATOR SYSTEM
REPLACEMENT LIGHT BULBS
W.O. 57300, JOB E-5590, FILE NO. 956C, E-50

This letter constitutes an interim report concerning the subject condition initially reported to the Commission on August 23, 1983 as a potentially reportable deficiency. CG&E has determined that this condition is reportable under 10CFR50.55(e).

Our last report, LOZ-83-0159, dated September 21, 1983, stated that the electrical short and resulting fire which occurred during the bulb replacement was caused by the unclipped light bulb filament lead wires (whiskers) protruding from the solder connection at the base of the annunciator bulbs. Although it was found that removal of these whiskers lowered the number of short circuits, it did not completely eliminate the problem. Further investigation leads CG&E to conclude that the two contact blades in the Drake 4390 socket are sharp and produce metal shavings from the soft solder terminals during the twisting motion used to insert the bulbs. These shavings apparently cause the short circuit in the socket. Since the lamps operate at 132 VDC, once the arc is initiated it is sustained and may eventually lead to a fire. In addition, the dimmer rheostat which limits the current flow in the lamp circuit could be contributing to this condition. Instead of being self clearing or tripping the circuit breaker protecting the lamp box during a short circuit condition, the rheostat allows the electric current to be sustained thus creating a condition that can eventually ignite the socket.

Although the annunciator system is not a nuclear safety-related system, the annunciator lamp boxes are installed in both

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safety and nonsafety related panels in the Main Control Room. A fire in an annunciator lamp box could adversely affect the safe operation of the plant if the fire grew to a size that could jeopardize nearby safety-related cables, panel wiring, or panel equipment, or could affect the performance of the control room operators. The lamp socket problem is a significant deficiency in the final design of the annunciator lamp boxes and based on the above analysis is reportable under 10CFR50.55(e).

The corrective actions stated in our last report; using alternate bulbs and checking for the loose lead wire prior to issuance for installation will be continued. CG&E is also considering the following additional corrective actions to eliminate the annunciator fire condition:

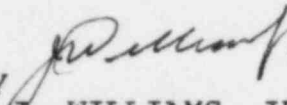
1. Re-design of the annunciator lamp circuits.
2. Replacement or redesign of the lamp boxes.

A follow-up report will be submitted by January 16, 1984.

We trust the above will be found acceptable as an interim report under 10CFR50.55(e).

Very truly yours,

THE CINCINNATI GAS & ELECTRIC COMPANY

BY 
J. WILLIAMS, JR.
SENIOR VICE PRESIDENT

DJS/sfr

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cc: NRC Office of Inspection & Enforcement
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