



Consumers
Power
Company

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July 22, 1983

83-04 #1

Mr J G Keppler, Regional Administrator
US Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

MIDLAND NUCLEAR COGENERATION PLANT -
DOCKET NOS 50-329 AND 50-330
FOGG INTERLOCK RELAYS - AUXILIARY FEEDWATER SYSTEM
FILE: 0.4.9.76 SERIAL: 23740

On June 22, 1983, W R Bird and J P Knight of Consumers Power Company notified R Gardner of your staff of a 50.55(e) reportable condition concerning lack of DC backed power supplies for the FOGG interlock relays in the Auxiliary Feedwater System.

Attachment 1 to this letter provides an analysis of the deficiency and the corrective actions being taken with regard to this matter.

Another letter, either interim or final, will be sent on or before September 2, 1983.

James W. Cook

JWC/WRB/cd

Attachment 1: MCAR-68, Interim Report 1, dated July 11, 1983

CC: Document Control Desk, NRC
Washington, DC

RJCook, NRC Resident Inspector
Midland Nuclear Plant

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CC: CBechhoefer, ASLB Panel
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121550

121577 Subject: MCAR 68 (issued 6/24/83)

Lack of DC backed power supplies for the FOGG interlock relays in the Auxiliary Feedwater System.

INTERIM REPORT NO. 1

Date: July 11, 1983

Project: Consumers Power Company
Midland Plant Units 1 and 2
Bechtel Job 7220

Introduction

This report provides interim status and the course of corrective action required pursuant to MCAR 68.

Description of Deficiency

The Midland Plant Units 1 and 2 FSAR, subsection 10.4.9.1.1, safety design basis five, requires the turbine driven AFW pump to be capable of meeting the feedwater requirements for two hours upon loss of all offsite, normal onsite, and emergency onsite AC power (station blackout).

A design review of the Auxiliary Feedwater System, revealed that the FOGG interlock relays (Ref. schematic diagram E-158(Q) Rev. 14, sh. 41 and 42) are powered from Class 1E AC supplies that are not DC backed, and therefore are lost during station blackout. Deenergizing the FOGG relays will cause valves 1M03177A&B and 2M03277A&B to shut, cutting off the steam supply to the Auxiliary Feedwater Turbine.

SUMMARY OF INVESTIGATION AND HISTORICAL BACKGROUND:

This deficiency was discovered during the Midland independent design and construction verification program.

ANALYSIS OF SAFETY IMPLICATIONS

A complete loss of AC power would cause inoperability of the steam supply isolation valves and would result in loss of feedwater to the steam generators and the inability to safely cool down the reactor coolant system during a station blackout.

Probable Cause

Valves 1M03177A&B and 2M03277A&B were supplied from Class 1E DC power as required by logic diagram J-234(Q), Rev 5, for operation during station blackout.

When designing the FOGG interlock relay circuits, power supplies equivalent to those required for the above valves should have been used. This appears to be a unique instance where the need for the DC backed power was omitted in the detailed design.

Corrective Action

1. Revise and issue schematic diagram E-158(Q) and associated connection and panel drawings to provide the FOGG interlock relay circuit with Class 1E DC backed 120V AC power.
2. Engineering will review all safety related systems to ensure that interlocks for valves and prime movers requiring Class 1E DC backed power are supplied from the appropriate power supplies in accordance with the FSAR and system requirements, unless otherwise justified.
3. Engineers preparing schematic diagrams in the future will be formally instructed to include in their checklist verification that appropriate power supplies are used in accordance with system design requirements for individual components and any required interlocks.

Reportability

Based on the safety implications this deficiency is considered reportable in accordance with Title 10 of the code of Federal Regulation Part 50.55(e).

Submitted by:

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