

Consumers Power Company

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October 2, 1983

83-07 #1

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

MIDLAND ENERGY CENTER PROJECT DOCKET NOS 50-329 AND 50-330 OVERLOADING OF CLASS 1E MOTOR CONTROL CENTERS (MCC'S) FILE: 0.4.9.79 SERIAL: 23802

On September 2, W R Bird notified Mr J Harrison and Mr R Gardner of your staff of a 50.55(e) reportable condition concerning overloading of Class 1E Motor Control Centers during a design basis event. This letter is a final report in that the process and part corrective actions are completely described in the attached report, along with the schedule for releasing the design change package to modify the hardware.

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JWC/WRB/1r

Attachments: 1) MCAR-1, Report No 71, dated September 1, 1983

2) MCAR-71, Final Report, dated September 15, 1983, "Overloading of Class 1E Motor Control Centers (MCCs)"

CC: Document Control Desk, NRC Washington, DC

> RJCook, NRC Resident Inspector Midland Nuclear Plant

DHood, USNRC NRR

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	QUALITY ASSURANCE PROC	BRAM	
	MANAGEMENT CORRECTIVE AC	TION REPORT	
COMPORATION	MCAR-1	REPORT NO.	/1
OB NO. 7220	Q NO	DATE_	9/1/83
DESCRIPTION (Inclu	uding references):		grand and the
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) Determine root caus	e of deficiency and take appropriate corr	ective action to pre	clude recurrence.
Issue Interim or fl	nal report by 9/16/83.		
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Attachment 2 Serial: 23802

128599 MCAR 71 (Issued 9/1/83)

OVERLOADING OF CLASS 1E MOTOR CONTROL CENTERS (MCCs)

FINAL REPORT

Date: September 15, 1983

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

INTRODUCTION

This provides the final status and course of corrective action required pursuant to MCAR 71.

DESCRIPTION OF DEFICIENCY

Midland FSAR, Subsection 8.1.4.3, states that any design basis event does not cause loss of electric power to more than one load group, surveillance device, or protection system device sufficient to jeopardize the safety of the unit. Contrary to this, the loading that would be present on redundant MCCs OB45 and OB46 as a result of a fuel pool accident or LOCA could be enough to trip the circuit breakers supplying MCCs OB45 and OB46, or the circuit breakers supplying 1B23/2B23, and 1B24/2B24. Consequently, power to the redundant loads fed from the MCCs would be lost following these design basis events.

MCC OB45 and OB46 are subfed from MCCs 1B23/2B23 and 1B24/2B24. MCCs OB45 and OB46 each feed a fuel handling area emergency exhaust fan (OVV-86A or B) and a fuel handling exhaust heating coil (OVE-04A or B). The heating coil is interlocked to the fan and runs only when the fan is operating and high humidity is present. The combined current requirements of the fan and the heating coil is approximately 250 amperes.

Upon occurrence of a fuel pool accident, the fans are automatically started (reference FSAR Table 8.3-1). The load of the fan and the heating coil, in conjunction with other running loads, could exceed the 300-ampere circuit breaker trip rating.

A similar condition could exist following occurrence of a LOCA when the fuel handling area emergency exhaust fans are manually started (reference FSAR Subsection 9.4.5.2.3).

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MCAR 71 Final Report Page 2

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SUMMARY OF INVESTIGATION AND HISTORICAL BACKGROUND

This deficiency was identified while performing a periodic load study of the electrical distribution system. The potential impact of this condition on the safety of plant operations was also reviewed.

ANALYSIS OF SAFETY IMPLICATIONS

The combination of loads that would be expected to be present after a fuel pool accident or LOCA could exceed the 300-ampere trip rating of the circuit breakers feeding MCCs OB45 and OB46 resulting in the loss of those MCCs. In addition, the combination of loads could exceed the trip rating of the load center circuit breakers feeding MCCs 1B23, 1B24, 2B23, or 2B24, resulting in the loss of Class 1E circuits fed from those MCCs. This condition, had it remained uncorrected, could have adversely affected the safety of operations at the Midland plant.

PROBABLE CAUSE

The root cause has been determined to be a an isolated case where the combined effect of a change to the mode of operation and an increase in equipment rating was not factored into in the design.

CORRECTIVE ACTION

 Design change package 3439 is scheduled to be issued on October 14, 1983, to resolve the deficiency.

The action required to resolve the above concern entails exchanging MCC feeds which involves replacement of eight cables. MCCs OB45 and OB46 will be fed directly from load centers 1B17, 2B17, 1B18, and 2B18. MCCs 1B89, 1B90, 2B89, and 2B90, which are presently fed from the load centers and have a significantly lighter load, will be fed from MCCs 1B23, 1B24, 2B23, and 2B24, respectively.

- All Class lE MCCs have been reviewed to ensure that loading conditions for these devices are in accordance with the FSAR and system design criteria. No other deficiencies have been identified.
- 3. In March 1983, instructions (in accordance with Engineering Department Procedure 4.37) were issued which require that the cummulative effects of design changes are assessed and recorded. The assessment is recorded on a "change notice log" which is incorporated into the applicable calculations. Engineering action, if required, is taken accordingly.

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REPORTABILITY

Based on the safety implications, this deficiency was reported to the NRC in accordance with Title 10 of the Code of Federal Regulation Part 50.55(e) on September 2, 1983.

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