



**Consumers
Power
Company**

James W Cook
Vice President - Projects, Engineering
and Construction

General Offices: 1945 West Parnall Road, Jackson, MI 49201 • (517) 788-0453

July 6, 1984

83-14 #4

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
DIESEL GENERATOR PIPING ANALYSIS
FILE: 0.4.9.86 SERIAL: 30354

JMB

PRINCIPAL STAFF	
RA	DRP
D/RA	DRS
RC	DRSS
PAO	ML
SGA	OL
EIC	OI
DRMA	FILE

Aug 13

Attachments are in this file
(prints)

References: J W Cook letters to J G Keppler, Same Subject:

- (1) Serial 26664, dated January 13, 1984
- (2) Serial 28000, dated January 30, 1984
- (3) Serial 30018, dated April 20, 1984

This letter, as were the referenced letters, is an interim 10CFR50.55(e) report involving differential settlement between the diesel generator structure and the diesel generator pedestal. The attachment to this letter describes the investigations that have occurred and the corrective actions that are taking place.

Based on the results of engineering investigations, this condition is considered to be reportable under the requirements of 10CFR50.55(e).

Another report, either interim or final, will be sent on or before September 28, 1984.

J. Mooney for JWCook

JWC/AHB/lr

Attachment: MCAR-78, Interim Report 4, dated July 6, 1984

CC: Document Control Desk, NRC
Washington, DC

DSHood, US NRC
Office of NRR

Midland NRC Resident Office
Midland Nuclear Plant

INPO Records Center

OC0784-0013A-MP01

B407230098 B40706
PDR ADOCK 05000329
S PDR

~~IED 7~~
JUL 12 1984

OM/OL SERVICE LIST

Mr Frank J Kelley
Attorney General of the
State of Michigan
Ms Carole Steinberg
Assistant Attorney General
Environmental Protection Division
720 Law Building
Lansing, MI 48913

Mr Myron M Cherry, Esq
Suite 3700
Three First National Plaza
Chicago, IL 60602

Mr Wendell H Marshall
RFD 10
Midland, MI 48640

Mr Charles Bechhoefer, Esq
Atomic Safety & Licensing
Board Panel
U S Nuclear Regulatory Commission
East-West Towers, Room E-413
Bethesda, MD 20014

Dr Frederick P Cowan
6152 N Verde Trail
Apt B-125
Boca Raton, FL 33433

Mr Fred C Williams
Isham, Lincoln & Beale
1120 Connecticut Ave, NW, Suite 840
Washington, DC 20036

Mr James E Brunner, Esq
Consumers Power Company
212 West Michigan Avenue
Jackson, MI 49201

Atomic Safety & Licensing
Appeal Board
U S Nuclear Regulatory Commission
Washington, DC 20555

Mr C R Stephens (3)
Chief, Docketing & Services
U S Nuclear Regulatory Commission
Office of the Secretary
Washington, DC 20555

Ms Mary Sinclair
5711 Summerset Street
Midland, MI 48640

Mr William D Paton, Esq
Counsel for the NRC Staff
U S Nuclear Regulatory Commission
Washington, DC 20555

Atomic Safety & Licensing
Board Panel
U S Nuclear Regulatory Commission
Washington, DC 20555

Ms Barbara Stamaris
5795 North River Road
Rt 3
Freeland, MI 48623

Dr Jerry Harbour
Atomic Safety & Licensing
Board Panel
U S Nuclear Regulatory Commission
East-West Towers, Room E-454
Bethesda, MD 20014

Mr M I Miller, Esq
Isham, Lincoln & Beale
Three First National Plaza
52nd Floor
Chicago, IL 60602

Mr D F Judd
Babcock & Wilcox
PO Box 1260
Lynchburg, VA 24505

Mr Steve Gadler, Esq
2120 Carter Avenue
St Paul, MN 55108

Mr P Robert Brown
Clark, Klein & Beaumont
1600 First Federal Bldg
Woodward Ave
Detroit, MI 48226

John DeMeester, Esq
Dow Chemical Building
Michigan Division
Midland MI 48640

Ms Lynne Bernabei
Government Accountability Project
1901 Q Street, NW
Washington, DC 20009

3/14/84

Bechtel Associates Professional Corporation

SUBJECT: MCAR 78

INTERIM REPORT 4

DATE: July 6, 1984

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

Introduction

This report provides the status and course of action required by Management Corrective Action Report (MCAR) 78.

Description of Concern

Requirements for differential settlement between the diesel generator building structure and diesel generator pedestals were not accounted for in the design of piping, equipment, conduits, and pipe supports.

Historical Background and Investigation

The NRC verbally notified Consumers Power Company on December 2, 1983, that an allegation was made regarding consideration of differential settlement in piping design. Consumers Power Company notified Bechtel on December 9, 1983, about this allegation. In reviewing this allegation, Bechtel determined that the possibility that differential settlement may not have been fully considered in the design was first identified during internal Bechtel engineering safety evaluation discussions on November 21, 1983.

Bechtel notified Consumers Power Company on December 13, 1983, that there was validity to the allegation, and Consumers Power Company notified the NRC on the following day that the condition was considered potentially reportable under the Code of Federal Regulations, 10 CFR 50.55(e). On December 19, 1983, MCAR 78 was issued to address and resolve this deficiency.

A schematic sketch (SK-M-2542, Rev C) has been prepared showing interconnections to the diesel generator pedestal and building and is attached to this report.

Analysis of Safety Implications

A review has been completed of all commodities. The only commodities adversely affected are:

MCAR 78
Interim Report 4

Page 2

1. Service water piping connected to the diesel generator jacket water cooler exchangers (1E-25A, 2E-25A, 1E-25B, and 2E-25B)

The resulting nozzle loads from the settlement analysis using the currently designed system were transmitted to the vendor for review and subsequently found unacceptable.

2. Expansion joints between the diesel generator and exhaust silencer piping (yes 1XJ-5201A and C, 1XJ-5201B and D, 2XJ-5201A and C, and 2XJ-5201B and D)
3. Pipe restraints attached to the non-Q maintenance platform supports (1-652-2-21, 23, 25, 27, 29, 31, 33, and 35)

Root Cause

Misunderstanding of the design requirements associated with the diesel generator building (pedestal/floor slab/building) configuration.

Corrective Action

1. The service water piping system has been reanalyzed using required settlement data. Design modifications necessary to accommodate acceptable nozzle loadings have been made to the pipe support system. The support redesign was completed and issued in May 1984.
2. An investigation has been completed to determine where a similar condition may exist considering the settlement boundary between the diesel generator pedestal, floating slab, and interior walls. All commodities were found to be acceptable excepted as noted. Nonconformance Report B-00011 was issued June 19, 1984, to document the nonconforming hardware and to track corrective action on expansion joints YES 1XJ-5201A & C, 1XJ-5201B and D, 2XJ-5201A and C, and 2XJ-5201B and D. Nonconformance Report B-00012 was issued June 19, 1984, to document the action on pipe restraints 1-652-2-21, 23, 25, 27, 29, 31, 33, and 35. Nonconformance Report C-02163 was issued March 29, 1984, to document corrective action of nozzles on equipment 1E-25B, 2E-25B, 1E-25A, 2E-25A.
3. Specification 7220-M-345, Rev 7, December 30, 1983, was revised to incorporate loads due to single, nonrepeated anchor movement (SNAM) loading effects.

Bechtel Associates Professional Corporation

155250

MCAR 78
Interim Report 4

Page 3

4. The process by which FSAR requirements are incorporated into the final design documentation was evaluated and found adequate.
5. Project engineering has identified all structures subject to differential settlement.
6. Project engineering will verify that the effects of differential settlement identified in Item 5 were considered. This task will be completed by July 13, 1984.
7. Retrain engineering personnel as appropriate, based on the results of Item 6 above.

Reportability

This deficiency was reported to the NRC by Consumers Power Company as a potential reportable condition under 10 CFR 50.55(e) on December 14, 1983.

BS/MH/rar*(PD)

Submitted by:

E.B. Poser for
E.B. Poser
Project Engineering Manager

Approved by:

B. Klein for
B.R. Klein
Plant Design Chief Engineer

Approved by:

E.H. Smith
E.H. Smith
Engineering Manager

Concurrence by:

M.A. Dietrich for
M.A. Dietrich
Project Quality Assurance
Engineer

Attachment: SK-M-2542, Rev D