



Consumers
Power
Company

James W Cook
Vice President - Projects, Engineering
and Construction

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

March 29, 1984

84-03 #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
CONCRETE EXPANSION ANCHORS INSTALLED IN METAL DECKING
FILE: 0.4.9.90 SERIAL: 28058

On February 28, 1984, Consumers Power Company notified your staff of a potential 10CFR50.55(e) condition involving the installation of concrete expansion anchors in metal decking.

This letter is an interim 10CFR50.55(e) report. The attachment to this letter describes the concern and summarizes the investigation and corrective action taking place.

Another report, either interim or final, will be sent on or before May 25, 1984.

James W. Cook

JWC/AHB/lr

Attachment 1: MCAR-82, Initial Issue, dated March 1, 1984

8404090329 840329
PDR ADOCK 05000329
S PDR

APR 2 1984

OC0384-0028A-MP01

IE27
11

CC: Document Control Desk, NRC
Washington, DC

RJCook, NRC Resident Inspector
Midland Nuclear Plant

DSHood, NRC Office of NRR
Bethesda, MD

INPO Records Center

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

Mr 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 POWER
CORPORATIONQUALITY ASSURANCE PROGRAM
MANAGEMENT CORRECTIVE ACTION REPORT

84-03 #1

MCAR-1

REPORT NO. 82

JOB NO. 7220

Q NO. _____

DATE March 1, 1984

I* DESCRIPTION (Including references):

Consumers Power Company (CPCo) identified a potential safety concern regarding the use of concrete expansion anchors installed between the ribs of metal decking (ref: QAR H-10 and SCRE-95). Specifically, it was found that the procedures which addressed this type of installation did not explicitly delineate the sequence of applying torque and grout to an anchor installed through the valley portion of metal decking (ref: 7220-C-305Q.
(continued on page 2)

* RECOMMENDED ACTION (Optional)

1. Continue the test program to determine whether bolt capacity and functionality meets design requirements.
2. Identify anchors bolts installed in the valley of metal decking which may have been torqued after grout cure.

(continued on page 2)

REFERRED TO ☒ ENGINEERING ☐ CONSTRUCTION ☐ QA MANAGEMENT ☐ _____☐ PROCUREMENTISSUED BY GE Crosby 3/1/84

**This concern was reported to the NRC by CPCo as a for Project QA Engineer Date
potentially reportable condition on 2/28/84.

II REPORTABLE DEFICIENCY

NOTIFIED CLIENT _____

☐ NO**☒ YES

[Signature] 3/1/84
Project Manager Date

III CAUSE

CORRECTIVE ACTION TAKEN

AUTHORIZED BY _____
Date

STANDARD DISTRIBUTION

ADDITIONAL DISTRIBUTION - AS APPROPRIATE

DIVISION QA MANAGER
MANAGER OF QA - BPC
GPD - QA MANAGER
LAPD QA MANAGER
SFPD QA MANAGER
PROJECT MANAGER
CLIENT

ENGINEERING MANAGER
PROJECT ENGINEER
QE SUPERVISOR

CONSTRUCTION MANAGER
PROJ SUPT/PROJ CONSTR MANAGER
CHIEF CONSTR QC ENGINEER

DIVISION PROCURENT MGR
PROJ PROCUREMENT MGR
PROCUREMENT SUPPLIER QUALITY MGR AND
DIV SUPPLIER QUALITY MGR

FORMAL REPORT TO CLIENT _____
(If Section II Applies) Date

CORRECTIVE ACTION IMPLEMENTED

VERIFIED BY _____
Project QA Engineer Date

*Describe in space provided and attach reference document.

144166

1. DESCRIPTION (continued):

As a result, in some cases where grouting under a base plate was required (i.e., in the valley portion of metal decking), the torquing of anchor bolts was performed after the grout had reached its design strength. This raised the concern that where bolt torque is applied after the grout has hardened, the bond between the grout and anchor may prevent proper setting of the anchor's expansion wedges.

The concern is that a maximum displacement of up to 1/2 inch (depending on bolt size) may occur before the anchor bolt expansion wedges are set. This additional displacement has an indeterminate effect, without additional study, on the supported system (e.g., piping, etc.).

During the investigative phase of this condition, an additional potential area of concern was identified regarding the shear capacity of expansion anchors installed through metal decking. Specifically, certain bolts may possibly experience a reduction in shear capacity due to a reduced shear cone in the grout because of the minimum edge distance between the anchor bolt and the edge of the grout or concrete.

Although no final conclusion as to safety concern has been made at this time, the above conditions are considered indeterminate until such time as further test results and evaluation can justify a more definitive conclusion.

RECOMMENDED ACTION (continued):

3. Identify anchor bolts installed in metal decking which may have potential shear capacity reductions.
4. Based on items 2 and 3 above, initiate proper controls and remedial action in accordance with project NCR procedures.
5. Review and revise procedures, as applicable, to provide process corrective action.
6. Determine root cause of problem and provide corrective action to preclude recurrence.
7. Based on determination of root cause, perform further investigations, as applicable, to determine if similar or related conditions of this type exist on the Midland project.
8. Issue the first report, interim or final, by April 15, 1984 (concurrence from client was obtained for this date).