



Consumers  
Power  
Company

James W Cook  
Vice President - Projects, Engineering  
and Construction

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

August 29, 1983

83-06 #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  
ELECTRICAL RACEWAY SYSTEM NONCONFORMANCES  
FILE: 0.4.9.78 SERIAL: 23770

On July 29, 1983 W R Bird notified Mr R Gardner of your staff of a 10CFR50.55(e) condition involving nonconformances in safety-related electrical raceway systems.

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

As discussed in Attachment 2, Bechtel Project Engineering has concluded that deficiencies which would have any significant effect on the safety of plant operations are not likely to exist. This conclusion is based on engineering evaluation of a significant portion of existing raceway systems.

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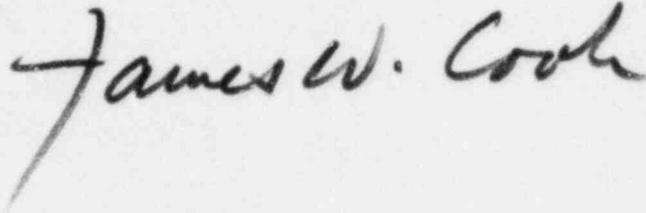
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OC0883-0012A-MP01

IE2711

Consumers Power Company supports the Bechtel conclusion. However, a final determination will be made when the construction review program and 100% quality control reinspection have been completed.

Another report, either interim or final, will be sent on or before October 28, 1983.



JWC/WRB/cj

CC: Document Control Desk, NRC  
Washington, DC

RJCook, NRC Resident Inspector  
Midland Nuclear Plant

Attachments: 1) MCAR-1, Report No 70, dated July 29, 1983  
2) MCAR-70, Final Report, dated August 23, 1983

3  
Serial 23770  
83-06 #1

CC: CBechhoefer, ASLB Panel  
LBernabei, GAP  
FPCowan, ASLB Panel  
JHarbour, ASLB Panel  
AS&L Appeal Panel  
MMCherry, Esq  
MSinclair  
BStamiris  
CRStephens, USNRC  
WDPaton, Esq, USNRC  
FJKelley, Esq, Attorney General  
SHFreeman, Esq, Asst Attorney General  
WHMarshall  
GJMerritt, Esq, TNK&J  
INPO Records Center  
Great Lakes QA Managers

AI A0G21

Priority: 02

Trend Code: B-3, K-9

S.U. PGM000

		23843 QUALITY ASSURANCE PROGRAM <b>MANAGEMENT CORRECTIVE ACTION REPORT</b>	
JOB NO. <u>7220</u>		MCAR-1 REPORT NO. <u>MCAR 70</u>	
Q NO. _____		DATE <u>7/29/83</u>	
I* DESCRIPTION (Including references): Various discrepancies have been identified regarding electrical raceway (includes cable tray and conduit) and raceway supports: 1. Raceway and raceway supports not installed in accordance with the design. 2. Project Engineering drawings for cable tray supports lack proper specificity and/or completeness to assure correct installation and inspection. (continued)			
* RECOMMENDED ACTION (Optional)			
1. Project Engineering to develop and implement a plan to review cable tray support drawings for lack of specific design criteria and revise to clarify the design where necessary. 2. Construction to develop and implement a status assessment plan for Field Engineering review and QC inspection of raceway and raceway supports, including training of appropriate personnel. 3. Engineering and construction to determine the root cause of the discrepancies and take action to prevent recurrence.			
REFERRED TO <input checked="" type="checkbox"/> ENGINEERING		<input checked="" type="checkbox"/> CONSTRUCTION	
<input type="checkbox"/> PROCUREMENT		<input checked="" type="checkbox"/> QA MANAGEMENT	
ISSUED BY <u>Joe Chesby</u>		<u>7-29-83</u>	
for Project QA Engineer		Date	
II REPORTABLE DEFICIENCY See note on page 2.		NOTIFIED CLIENT <u>7/29/83 (WRB/HR)</u>	
<input type="checkbox"/> NO		<input checked="" type="checkbox"/> YES	
PROJECT MANAGER <u>John W. [Signature]</u>		<u>7/29/83</u>	
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		Date	
* Describe in space provided and attach reference document.			

123843

Description continued:

3. Raceway and raceway supports previously inspected and accepted by field quality control have been subsequently found to be nonconforming to the design.

The above deficiencies were initially addressed by NCR M01-9-3-033, SCRE 78 and CCo MCAR/R DN-2.

NOTE:

Engineering analysis on the problems noted to date have not resulted in any safety concerns; however, it is recommended that this condition be reported because many of the raceway and raceway supports have not been evaluated which causes their present status to be indeterminant. During the status assessment plan, all nonconformances (not including design change items) will be documented on a nonconformance report and processed in accordance with programmatic requirements.

## Bechtel Associates Professional Corporation

126548

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SUBJECT: MCAR 70  
Discrepancies Regarding Electrical Raceway and Raceway  
Supports

## FINAL REPORT

DATE: August 23, 1983

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

Introduction

This provides the status and the course of corrective action required by Management Corrective Action Report (MCAR) 70.

Description of Deficiencies

MCAR 70 concerns deficiencies in electrical raceway and raceway supports. These deficiencies fall into three categories:

1. Raceway and raceway supports not installed in accordance with the design documents
2. Design drawings for cable tray supports that are not specific or complete
3. Raceway and raceway supports previously inspected and accepted by quality control that have been subsequently found not conforming to the design documents

These concerns have already been addressed by Nonconformance Report, NCR-M01-9-3-033, Safety Concern and Reportability Evaluations, SCRE 78 and Consumers Power Company Management Corrective Action Report, MCAR/R DN-2.

Investigative Background

This concern was identified during an overinspection by the Midland Project Quality Assurance Department (MPQAD) of electrical raceway and raceway supports in the auxiliary building.

Analysis of Safety Implications

A safety evaluation was performed for the cases identified in SCRE 78, and specifically to investigate the nonconforming conditions identified in NCR-M01-9-3-033 and MCAR/R DN-2.

# Bechtel Associates Professional Corporation

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August 23, 1983  
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Engineering evaluated the electrical raceway and raceway support discrepancies. Calculations were performed to evaluate the structural adequacy of the existing conditions. In all cases, the raceway and raceway supports were shown to have margins sufficient to ensure adequacy and no conditions were found that would affect the safe operations of the Midland plant.

A separate review, which to date has included more than 50% of the raceway supports, has identified no safety concerns and no conditions more severe than the nonconformances identified above. This is due to conservatism in design and analytical techniques. A seismic raceway and support status assessment program has been developed to ensure that as-constructed conditions will be in accordance with design requirements and any nonconformance reports (NCRs) will be evaluated in accordance with the Consumers Power Company program to assign disposition to NCRs.

## Probable Cause

### 1. Construction Nonconformances

Supports were not installed in accordance with the design. This was due to congestion, which created many constructibility problems, and to the practice of attaching conduits to cable tray supports without engineering approval.

Engineering approval was not obtained before changing the support configuration, nor was clarification obtained when drawings were not clear or complete.

### 2. Engineering

Some cable tray support drawings did not have sufficient detail to allow for adequate installation.

### 3. Quality Control

Inspection procedures were not followed.

# Bechtel Associates Professional Corporation

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## Corrective Action

### 1. Construction

A seismic raceway and support status assessment program will be used for reviewing raceway seismic supports for compliance with current design documents. Field procedures will be revised and personnel trained to these revised procedures. The program for completing this work will be implemented after approval by Consumers Power Company. This is anticipated by September 30, 1983.

### 2. Engineering

The cable tray support drawings (E-700 series) are being reviewed for specificity and/or completeness and revised where the review indicates additional or revised information is needed. Completion of this effort is scheduled for December 30, 1983.

### 3. Quality Control

All Seismic Category I raceway and raceway supports will be subject to 100% quality control reinspection upon completion of construction's review program. Reinspection will be performed as part of the construction completion program (CCP) by the quality control organization, which is now part of MPQAD. Quality control procedures have been revised as necessary and personnel trained to the latest revisions.

## Actions to Preclude Recurrence

Future activities related to installation and inspection of Seismic Category I raceway and raceway supports, including training of appropriate personnel, will be performed in accordance with the design documents and the requirements of the seismic raceway and support status assessment program.

Design personnel have been formally directed to provide sufficient detail on the engineering drawings to permit adequate installation.

# Bechtel Associates Professional Corporation

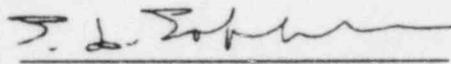
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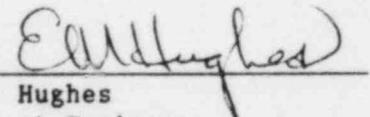
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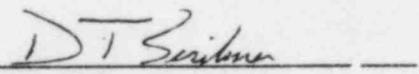
## Reportability

The condition was reported to the NRC on July 29, 1983.

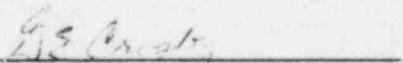
The safety of operation of the Midland plant is not affected for the specific cases analyzed. Due to the conservatisms in the design and analytical techniques, no safety concern has been identified.

Submitted by:   
S.L. Sobkowski  
Civil Group Supervisor

Approved by:   
E.M. Hughes  
Project Engineer

Concurrence by:   
for T.E. Johnson  
Chief Civil Engineer

Concurrence by:   
for E.H. Smith  
Engineering Manager

Concurrence by:   
for M.A. Dietrich  
Project Quality Assurance  
Engineer

RCH/HH/mmc\*