Consumers Power Company

James W Cook
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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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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.

James W. Cook

JWC/WRB/cd

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

CC: CBechhoefer, ASLB Panel
LBernabei, GAP
FPCowan, ASLB Panel
JHarbour, ASLB Panel
AS&L Appeal Panel
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INPO Records Center
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AI A0021 Priority: 02 Trend Code: B-3, K-9 S.U. PGM000

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QUALITY ASSURANCE PROGRAM

MANAGEMENT CORRECTIVE ACTION REPORT

MCAR-1 REPORT NO. MCAR 70

JOB NO. 7220 Q NO. _____ DATE 7/29/83

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 ☒ ENGINEERING ☒ CONSTRUCTION ☒ QA MANAGEMENT ☐ _____

☐ PROCUREMENT

ISSUED BY for Project QA Engineer 7-29-83 Date

II REPORTABLE DEFICIENCY See note on page 2.

☐ NO ☒ YES

NOTIFIED CLIENT 7/29/83 (WR Bird) Date

Project Manager 7/29/83 Date

III CAUSE

CORRECTIVE ACTION TAKEN

AUTHORIZED BY _____ Date

STANDARD DISTRIBUTION

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

ADDITIONAL DISTRIBUTION - AS APPROPRIATE

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 _____ Date
(If Section II Applies)

CORRECTIVE ACTION IMPLEMENTED

VERIFIED BY _____ Project QA Engineer Date

*Describe in space provided and attach reference document.

AAPD-0161

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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 CPCo 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 programatic requirements.

Bechtel Associates Professional Corporation

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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.

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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 conservatisms 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.

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.

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
S.L. Sobkowski
Civil Group Supervisor

Approved by: E.M. Hughes
E.M. Hughes
Project Engineer

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

Concurrence by: K O Bailey
for E.H. Smith
Engineering Manager

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

RCH/HH/mmc*