



Consumers
Power
Company

19MB/50.55(e)

James W Cook
Vice President - Projects, Engineering
and Construction

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

L-05 #2

July 31, 1981

Mr J G Keppler, Regional Director
Office of Inspection & Enforcement
US Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137



MIDLAND PROJECT -
DOCKET NOS 50-329 AND 50-330
SHEAR REINFORCEMENT AT MAJOR CONTAINMENT PENETRATIONS
FILE: 0.4.9.53 SERIAL: 12066

Reference: J W Cook letter to J G Keppler, Same Subject, Serial 11993,
dated May 15, 1981

This letter, as is the referenced letter, is an interim 50.55(e) report
concerning the adequacy of shear reinforcements at major containment
penetrations.

Attachment 1 provides a description of the corrective actions being taken
to correct the condition.

Another report, either interim or final, will be sent on or before
December 14, 1981.

James W. Cook

WRB/lr

Attachment (1): MCAR 51, Interim Report 2, "Shear Reinforcement at
Containment Building Major Penetrations," dated
July 17, 1981

CC: Director of Office of Inspection & Enforcement
Att Mr Victor Stello, USNRC (15)

Director, Office of Management
Information & Program Control, USNRC (1)

RJCook, USNRC Resident Inspector
Midland Nuclear Plant (1)

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CC: CBechhoefer, ASLB Panel
RSDecker, ASLB Panel
FPCowan, ASLB Panel
AS&L Appeal Panel
MMCherry, Esq
MSinclair
BStamiris
CRStephens, USNRC
WDPaton, Esq, USNRC
FJKelly, Esq, Attorney General
SHFreeman, Esq, Asst Attorney General
WHMarshall
GJMerritt, Esq, TNK&J

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Attachment 1
Serial 12066
81-05 #2

SUBJECT: MCAR 51 (issued 4/21/81)
Shear Reinforcement at Containment Building Major Penetrations

INTERIM REPORT 2

Date: July 17, 1981

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

Introduction

The discrepancies discussed in this report concern the amount of radial shear reinforcement provided around the containment building major penetrations.

Background

While examining drawings for the containment shell, it was determined that there is less radial shear tie reinforcement around the equipment hatch, personnel lock, and the emergency airlock penetrations than in other projects of similar design. The design for these areas was completed in November 1973, the drawings for the equipment hatch were issued for construction in July 1974, and the containment walls for Units 1 and 2 were constructed in 1976 and 1977.

Investigative Action

The equipment hatch and personnel lock calculations have been reviewed, including the finite element model for the equipment hatch. Radial shear stresses at a vertical and a horizontal section around the equipment hatch were calculated for the corresponding governing load combination:

$$(1.05D + F + 1.5P + T_A)$$

where

D = dead load

F = prestressing load

P = accident pressure load

T_A = thermal loads based on a temperature corresponding to accident pressure

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MCAR 51
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These shear stresses were found to meet the acceptance criteria.

Because some of the modeling assumptions and input parameters made in the original analysis can be questioned, an independent analysis and design check of the equipment hatch, personnel lock, and other major penetrations are being made to confirm the findings of the calculation review.

Corrective Action

Based upon the results of the ongoing analysis, the need for design modifications, if any, will be established. Review and confirmation of the design adequacy of all major penetrations will continue and findings from this effort will be presented in the next interim report.

In the course of this review, discrepancies in Section 3.8.1.5.1.3 of the FSAR were noted and will be amended. In addition, any other changes deemed necessary as a result of this review will be made.

Safety Implications

If the results of the ongoing analysis indicate a deficiency in the design, this deficiency could possibly adversely affect the safety of the Midland plant.

Reportability

This condition was reported to the NRC by Consumers Power Company as "potentially reportable" under 10 CFR 50.55(e) on April 17, 1981.

Submitted by: LED DT Switzer

Approved by: M. Elamby FOR L.H. CURTIS

Concurrence by: K. Bailey

SS/LED/bjm