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RELATED CORRESPONDENCE

August 19, 1977

Dr. J. Venn Leeds, Jr., Esq.
10807 Atwell
Houston, Texas 77096

Dr. Emmeth A. Luebke
Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory Comm.
Washington D. C. 20555

50-329
50-330

Frederic J. Coufal, Esq.
Chairman
Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory Comm.
Washington D. C. 20555

RE: Midland Proceeding - Unit 1 Tendon Sheathing

Gentlemen:

Enclosed is the final report on the misplacement of the tendon sheathing for Midland Unit 1.

As you will note, the repair has been completed and the Bechtel nonconformance has been closed out. This report completes the documentation required by the NRC on this item. There was no impact on the construction schedule as a result of this repair. When the final cost of the repair is obtained, I will supply you with that information.

When the final report on the Unit 2 liner bulge is completed, I will provide the Board with a copy of that report.

Very truly yours,

R. Rex Renfrow III

RRR/rf

Enclosure

cc: Service List (w/Encl.)

RELATED CORRESPONDENCE

Consumers Power Company

Stephen H. Howell
Vice President

General Offices: 1945 West Parnall Road, Jackson, Michigan 49201 • Area Code 517 788-0453

August 12, 1977
Howe-140-77

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

MIDLAND NUCLEAR PLANT - UNIT NO 1 TENDON SHEATHING
FINAL REPORT - DOCKET NO 50-329

References:
1. Letter, S H Howell to J G Keppler, "Midland Nuclear Plant - Unit No 1 Tendon Sheathing Interim Report - Docket No 50-329," Serial Howe-82-77, dated May 19, 1977.
2. Letter, S H Howell to J G Keppler, "Midland Nuclear Plant - Unit No 1 Tendon Sheathing Interim Report - Docket No 50-329," Serial Howe-112-77, dated June 20, 1977.
3. Letter, R F Heishman to S H Howell, Docket No 50-329 and Docket No 50-330, dated July 27, 1977.
4. Letter, J M Klacking to W R Bird, Letter No HQA-77-316, dated July 28, 1977.
5. Letter, J G Keppler to S H Howell, Docket No 50-329, dated April 29, 1977.

References 1 and 2 were interim reports which provided a description of the deficiency, an analysis of the safety implications, and the proposed method of repair. This is a final report and includes corrective actions taken to preclude recurrence of a similar situation.

The Nuclear Regulatory Commission was advised of the repair method in an interim report (attached to Reference 2) and in a technical meeting in Ann Arbor on June 30, 1977. Reference 3 documented both the June 29 NRC inspection of the repair area and the NRC participation in the June 30 meeting in Ann Arbor where it was agreed that Consumers Power could proceed with the repair. The repair was completed on July 22, 1977 and Bechtel Nonconformance (NCR) 778 was closed out at that time.

Corrective action taken by Bechtel Power Corporation is documented and verified in Reference 4 and its attachment (both enclosed).

Cupe

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In addition to the Bechtel corrective action, Consumers Power Company expanded its inspection program to include all embedments for Class 1 structures prior to release for concrete placement. This is consistent with the Consumers Power Company commitment documented in item 3 of Reference 5.

Also, there has been an on-going joint effort by Consumers Power Company and Bechtel to reevaluate all Bechtel Quality Control Instructions (QCIs) with the objective of improving the completeness and specificity of inspection procedures and acceptance criteria. Reevaluations have been completed for all QCIs covering first-line inspection activities and drafts of these revised QCIs are being re-reviewed with a target date of September 15, 1977 for their final approval and implementation. However, the QCI covering the installation of post-tensioning components (C-9.00) had been revised and received final approval on April 20, 1977, incorporating the corrective actions indicated in Reference 4.

In view of the above, Consumers Power Company believes adequate and comprehensive corrective action has been taken and submits this as a final report in this matter.

CC: Dr Ernst Volgenau, USNRC (15)

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

BCC: BMMarguglio/WRBird/JHMaclaren/HWSlager/File: 16.0
GSKeeley, P14-408B
JLBacon, M-1085A
TCCooke, Midland
JLCorley, Midland
File: 0.4.9.11
RRRenfrow, IL&B
RLCastleberry, Bechtel, AA
JMKlacking, Bechtel, AA
PAMartinez, Bechtel, AA

Bechtel Power Corporation

777 East Eisenhower Parkway
Ann Arbor, Michigan

Mail Address: P.O. Box 1000, Ann Arbor, Michigan 48105

July 28, 1977

Mr. W. R. Bird
CONSUMERS POWER COMPANY
1945 West Parnall Road
Jackson, Michigan 49201

Midland Units 1 and 2
Consumers Power Company
Bechtel Job 7220
CLOSURE OF MCAR-17
File: Q-2100

Dear Mr. Bird:

Attached is a Bechtel IOM verifying closure of MCAR-17 on Misplaced Tendon Sheathing. An Engineering Final Report was transmitted to CPCo on 6/17/77 describing the deficiency, corrective action and safety implication. Bechtel QA has verified that corrective actions to prevent recurrence have been implemented.

Sincerely,

J. M. Klacking
Project QA Engineer

JMK/nev
HQA-77-316

Response: No

Attachment

CC: R. C. Bauman

Bechtel Power Corporation

Inter-office Memorandum

To P. A. Martinez

Date July 28, 1977

Subject Midland Project - Job 7220
Closure Verification of MCAR-17
Misplaced Tendon Sheathing
File: Q2100, MCAR-17

From J. M. Klacking

Of Quality Assurance

At Ann Arbor
6(B) Section 1

Copies to

J. B. Violette
T. M. Leverette
F. Hermeston
E. A. Rumbaugh
J. Milandin
J. F. Newgen
R. L. Castleberry
J. P. Connolly
G. L. Richardson

Reference: A) Project Engineering's "Final Report" dated 6/13/77 and revised 6/17/77

B) Bechtel Letter w/attachment to CPCo, BLC-4079, dated 5/10/77

The subject MCAR is now closed based on conclusions, per Reference A, that the original design criteria could be met by rerouting one sheathing from below to above the penetration with minor alignment adjustments to the sheathing directly above. Alignment of the three sheathing directly below the penetration will also be revised. An evaluation by [illegible]CO indicates that the friction losses in the affected tendons have been reduced due to this revised alignment and the capability of the containment structure to resist forces has been improved.

Strength losses due to cuts in the penetration gusset plates and the cut-offs of rebars, both necessitated by the rerouting of the tendon sheathings, have been fully replaced by the modifications discussed in Reference A. Therefore, there is no adverse safety implication.

Corrective actions have been implemented to preclude recurrence of misplaced tendon sheathing as indicated in Reference B. These include requirements for:

1. Survey notes to receive initials verifying position of each individual sheathing.

2. Field Engineering to take a copy of the sheathing drawings with them during installation and check off each sheathing for correct configuration.

3. Quality Control to mark up a sheathing drawing during placement checkout to verify correct configuration and number of sheathing.

Additionally, Quality Control and Construction Division Managers' discussions with all Bechtel field construction personnel were conducted emphasizing the responsibilities of construction quality control, field engineering and supervision at the Midland jobsite.

Bechtel QC has exemplified the policy of stressing inspection acceptance be made on the basis of evidence which clearly demonstrates that the hardware is in exact agreement with applicable drawings and specifications by revisions to QCIs.

Bechtel QC is kept current on schedule changes by area Supervision and Field Engineering personnel as part of their normal communications. Additionally, QC personnel attend daily scheduling meetings where changes to the published three week schedule are discussed. The importance of this communication flow is continually stressed to all concerned parties.

J. M. Klacking

JMK/EGB/nev
HQA-77-314

Response: No

Attachment: MCAR-17