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orig + 1

TO: Distribution
 FROM: MJSchaeffer, MPQAD *mjt*
 DATE: February 25, 1982

SUBJECT: SPECIAL ELECTRICAL OVERINSPECTION

Enclosed is the report on the results of the Special Electrical Overinspection requested by the NRC to support their testimony as to the adequacy of the certification/qualification process of Bechtel Electrical Quality Control Inspectors.

- Distribution:
- WRBird, P14-418A
 - JWCook, P26-336B
 - RCook, NRC Inspector on Site
 - PCorcoran, Bechtel-Midland
 - MLCurland, Midland
 - LHCurtis, Bechtel-Ann Arbor
 - LEDavis, Bechtel-Midland
 - MADietrich, Bechtel-Midland
 - BWMarguglio, Midland
 - DBMiller, Midland
 - JARutgers, Bechtel-Ann Arbor
 - ESmith, Bechtel-Midland

MJS/da

bcc RGardner, NRC Region III .

RESULTS OF THE SPECIAL ELECTRICAL OVERINSPECTION
REQUESTED BY NRC

I. Introduction

- A. NRC requested that MPQAD perform special overinspections of the inspections made by 4 Bechtel Electrical Quality Control Engineers whose certifications were questioned by NRC because of the amount of training which was documented in their certification files.
- B. NRC requested also that MPQAD perform special overinspections of the inspections made by any other Bechtel Electrical Quality Control Engineers whose original inspections were impacted by any then existing Nonconformance Reports originated by MPQAD. This resulted in the identification of 5 additional Bechtel Electrical Quality Control Engineers whose inspections were to be subject to the MPQAD special overinspection.
- C. In a telephone conversation with Mr William Little of the NRC, it was agreed that 250 of these overinspections could be accomplished by Bechtel Electrical Quality Control Engineers, other than the 9 Engineers whose work was subject to this special overinspection.
- D. MPQAD performed overinspections of 1,118 original inspections for cable pulls, cable terminations and cable tray supports. Each of these original inspections was documented on a Bechtel Quality Control Inspection Report (QCIP).
- E. Bechtel Quality Control overinspected 250 cable pulls which were originally inspected by one Engineer. Each of these original inspections also was documented on a QCIR.
- F. Therefore, 1,368 original inspections were overinspected by either MPQAD or Bechtel Quality Control.

II. Cable Pulls

- A. For each cable pull, 24 characteristics were overinspected by either MPQAD or Bechtel Quality Control. These characteristics are enumerated in Table 1.
- B. MPQAD overinspected 834 cable pulls and Bechtel Quality Control overinspected 250 cable pulls, for a total of 1,084.

- C. Therefore, a total of 26,016 cable pull characteristics were overinspected ($24 \times 1,084$).
- D. There were 101 nonconforming via characteristics and 66 nonconforming recordings of cable reel numbers, for a total of 167 nonconforming characteristics. Therefore, 0.64 percent ($167 \div 26,016$) of the cable pull characteristics were nonconforming.
- E. There were 61 misrouted individual cables in 1 or more vias, resulting in 5.6 percent ($61 \div 1,084$) of the cables being misrouted at 1 or more points.

III. Cable Terminations

- A. For each cable termination, 12 characteristics were overinspected, as enumerated in Table 2.
- B. MPQAD overinspected 282 cable terminations.
- C. Therefore, a total of 3,384 characteristics (12×282) were overinspected.
- D. There were 2 nonconforming characteristics, or 0.06 percent ($2 \div 3,384$).
- E. Each of the termination nonconformances was on a different cable. Therefore, 0.71 percent ($2 \div 282$) of the terminations was nonconforming with regard to 1 characteristic.

IV. Cable Tray Supports

For each of the 2 cable tray support overinspections, there are 8 inspection characteristics, resulting in the overinspection of 16 characteristics. There were no nonconformances.

V. Totals

For all jobs overinspected, there were 169 individual nonconforming characteristics, from a total of 29,416 individual characteristics. Therefore, 0.57 percent ($169 \div 29,416$) of the characteristics were nonconforming.

VI. Disposition

- A. Of the 169 individual nonconforming characteristics, 147 were dispositioned by Bechtel Project Engineering to be "used as is." The basis for this disposition for the cable routing nonconformances is that they have no impact on separation, segregation, physical loading and thermal loading and, therefore, no impact, whatsoever, on plant safety. The disposition of these cable routing nonconformances also calls for the drawings to be changed to reflect the "as built" conditions.
- B. Twelve characteristics were dispositioned to be "reworked." Ten of these were for cable pulls involving 4 different cables. The other 2 were for cable terminations. In each of these cases, Bechtel Project Engineering stated that there was no public safety impact, ie, that these nonconformances could not have caused an accident or impeded the ability to ameliorate the consequences of an accident. As a matter of fact, in the opinion of Bechtel Project Engineering, it was doubtful that any of these nonconformances would have impaired the functionability of the circuits involved. Attachment A provides the specifics of the Bechtel Project Engineering disposition and the justification for that disposition.

VII. Conclusions

On the basis of the above information, the undersigned believe that the Bechtel certification process for the 9 Bechtel Quality Control Engineers was adequate. In the interest of further improvement, on-the-job training is now being documented and MPQAD, on a sampling basis, is over-viewing the Bechtel Quality Control Engineer certification process. However, in each case for which the ANSI N45.2.6-1973 education and experience criteria are not met, MPQAD is now over-viewing the Bechtel certifications.

 M J Schnaeffer
 Electrical I&C Section Head, MPQAD

 Date

 E L Jones
 Electrical/I&C IE&TV Group Supervisor
 MPQAD

 Date

TABLE 1 - CHARACTERISTICS ASSOCIATED WITH CABLE PULL

| <u>Type of Characteristic</u> | <u>Number of Each Type of Characteristic</u> |
|--|--|
| Cable jacket color band | 1 |
| Cable jacket color stripe | 1 |
| Cable identification tagging at each end | 2 |
| Cable reel number | 1 |
| Minimum cable bend radius ^(a) | 1(a) |
| Cable vias ^(b) | 15(b) |
| Cable ties ^(a) | 1(a) |
| Cable tray damage | 1 |
| Cable damage | <u>1</u> |
| TOTAL | <u>24</u> |

(a) There are multiple points at which the cables are bent or at which the cables are tied but, in the interest of conservation, these are each counted as one characteristic.

(b) For each cable pull, it is estimated that there is an average of 15 vias. This is considered to be a conservative estimate, although it was not arrived at by an actual count of the vias for each of the jobs overinspected.

TABLE 2 - CABLE TERMINATION CHARACTERISTICS

| <u>Type of Characteristic</u> | <u>Number of Each Type of Characteristic</u> |
|--|--|
| Cable scheme number identification | 1 |
| Cable type identification | 1 |
| Cable code identification | |
| Cable reel number | 1 |
| Cable minimum bend radius | 1 |
| Cable permanent identification tag | 1 |
| Lug integrity | 1 |
| Termination integrity | 1 |
| Crimp integrity | 1 |
| Correct termination per wiring diagram | 1 |
| Shield and drain wires | 1 |
| Insulation | <u>1</u> |
| TOTAL | <u>12</u> |

Bechtel Associates Professional Corporation

777 East Eisenhower Parkway
Ann Arbor, Michigan

Mail Address: P. O. Box 1000, Ann Arbor, Michigan 48106

059360

BLC 12497



February 18, 1982

Consumers Power Company
P. O. Box 1963
3500 E. Miller Road
Midland, Michigan 48640

Attention: B. W. Marguglio

Subject: Midland Plant Units 1 & 2
Consumers Power Company
Bechtel Job 7220
Additional Response to CPCo
NCR M-01-9-2-016 and Bechtel
NCR 3996

CONSUMERS POWER COMPANY
RECEIVED
FEB 18 1982

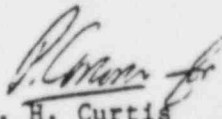
FIELD QUALITY ASSURANCE
MIDLAND, MICHIGAN

References: A) CPCo NCR M-01-9-2-016 dated
February 17, 1982
B) Bechtel NCR 3996 dated
February 17, 1982

As requested, the following is additional information to the response which we provided to the above-referenced NCRs.

Cables 1DQ157A, 1DQ396D, 1DQ396F, 1DQ396H, 1DQ396L, 1DQ396T, 1DQ177E, (NCR M-01-9-2-016) 1DQ403E, 1BQ403D, and 2BB5626A (NCR 3996) have been reviewed for control/power and instrument cables being routed together. Based on an induced voltage calculation for the power cable (2BB5626A), cable characteristics, and length of run, engineering has determined that if these cables were to have been left in the as-installed condition, they would not adversely affect the safety operation of the plant through its design life.

If you have any questions on the subject, please advise.


L. H. Curtis
Project Engineering Manager

LHC/PJC/GDW/sil

Written Response Required: No

cc: M. Schaffer
D. Turnbull
W. Bird
D. Taggart

Gardner



TO: Distribution
FROM: *M. J. Schaeffer*
MJSchaeffer, MPQAD
DATE: March 24, 1982
SUBJECT: SPECIAL ELECTRICAL OVERINSPECTION (REVISED REPORT)

Enclosed is the revised report on the results of the Special Electrical Overinspection requested by the NRC to support their testimony as to the adequacy of the certification/qualification process of Bechtel Electrical Quality Control Inspectors.

This report was revised to reflect that a total of 55 cables were misrouted, in lieu of 61, which was originally reported on the now superseded report dated February 25, 1982.

- Distribution:
- WRBird, P14-418A
 - JWCook, P26-336B
 - RCook, NRC Inspector on Site
 - PCorcoran, Bechtel-Midland
 - MLCurland, Midland
 - LHCurtis, Bechtel-Ann Arbor
 - LEDavis, Bechtel-Midland
 - MADietrich, Bechtel-Midland
 - RGardner, NRC Region III
 - BWMarguglio, Midland
 - DBMiller, Midland
 - JARutgers, Bechtel-Ann Arbor
 - ESmith, Bechtel-Midland

123 1982

RESULTS OF THE SPECIAL ELECTRICAL OVERINSPECTION
REQUESTED BY NRC

I. Introduction

- A. NRC requested that MPQAD perform special overinspections of the inspections made by 4 Bechtel Electrical Quality Control Engineers whose certifications were questioned by NRC because of the amount of training which was documented in their certification files.
- B. NRC requested also that MPQAD perform special overinspections of the inspections made by any other Bechtel Electrical Quality Control Engineers whose original inspections were impacted by any then existing Nonconformance Reports originated by MPQAD. This resulted in the identification of 5 additional Bechtel Electrical Quality Control Engineers whose inspections were to be subject to the MPQAD special overinspection.
- C. In a telephone conversation with Mr William Little of the NRC, it was agreed that 250 of these overinspections could be accomplished by Bechtel Electrical Quality Control Engineers, other than the 9 Engineers whose work was subject to this special overinspection.
- D. MPQAD performed overinspections of 1,118 original inspections for cable pulls, cable terminations and cable tray supports. Each of these original inspections was documented on a Bechtel Quality Control Inspection Report (QCIR).
- E. Bechtel Quality Control overinspected 250 cable pulls which were originally inspected by one Engineer. Each of these original inspections also was documented on a QCIR.
- F. Therefore, 1,368 original inspections were overinspected by either MPQAD or Bechtel Quality Control.

II. Cable Pulls

- A. For each cable pull, 24 characteristics were overinspected by either MPQAD or Bechtel Quality Control. These characteristics are enumerated in Table 1 (attached).
- B. MPQAD overinspected 834 cable pulls and Bechtel Quality Control overinspected 250 cable pulls, for a total of 1,084.

- C. Therefore, a total of 26,016 cable pull characteristics were overinspected ($24 \times 1,084$).
- D. There were 91 nonconforming via characteristics and 66 nonconforming recordings of cable reel numbers, for a total of 157 nonconforming characteristics. Therefore, 0.60 percent ($157 \div 26,016$) of the cable pull characteristics were nonconforming.
- E. There were 55 misrouted individual cables in 1 or more vias, resulting in 5.07 percent ($55 \div 1,084$) of the cables being misrouted at 1 or more points.

III. Cable Terminations

- A. For each cable termination, 12 characteristics were overinspected, as enumerated in Table 2 (attached).
- B. MPQAD overinspected 282 cable terminations.
- C. Therefore, a total of 3,384 characteristics (12×282) were overinspected.
- D. There were 2 nonconforming characteristics, or 0.06 percent ($2 \div 3,384$).
- E. Each of the termination nonconformances was on a different cable. Therefore, 0.71 percent ($2 \div 282$) of the terminations was nonconforming with regard to 1 characteristic.

IV. Cable Tray Supports

For each of the 2 cable tray support overinspections, there are 8 inspection characteristics, resulting in the overinspection of 16 characteristics. There were no nonconformances.

V. Totals

For all jobs overinspected, there were 159 individual nonconforming characteristics, from a total of 29,416 individual characteristics. Therefore, 0.54 percent ($159 \div 29,416$) of the characteristics were nonconforming.

VI. Disposition

- A. Of the 157 individual nonconforming characteristics, 145 were dispositioned by Bechtel Project Engineering to be "used as is." The basis for this disposition for the cable routing nonconformances is that they have no impact on separation, segregation, physical loading and thermal loading and, therefore, no impact, whatsoever, on plant safety. The disposition of these cable routing nonconformances also calls for the drawings to be changed to reflect the "as built" conditions.
- B. Twelve characteristics were dispositioned to be "reworked." Ten of these were for cable pulls involving ten different cables. The other two were for cable terminations. In each of these cases, Bechtel Project Engineering stated that there was no public safety impact, ie, that these nonconformances could not have caused an accident or impeded the ability to ameliorate the consequences of an accident. As a matter of fact, in the opinion of Bechtel Project Engineering, it was doubtful that any of these nonconformances would have impaired the functionability of the circuits involved. Attachment A provides the specifics of the Bechtel Project Engineering disposition and the jurisdiction for that disposition.

VII. Conclusions

On the basis of the above information, the undersigned believe that the Bechtel certification process for the nine Bechtel Quality Control Engineers was adequate. In the interest of further improvement, on-the-job training is now being documented and MPQAD, on a sampling basis, is overviewing the Bechtel Quality Control Engineer certification process. However, in each case for which the ANSI N45.2.6-1973 education and experience criteria are not met, MPQAD is now overviewing the Bechtel certifications.

M. J. Schaeffer
M J Schaeffer, Section Head
Electrical/I&C, MPQAD

3/26/82
Date

E. W. Jones
E W Jones, Group Supervisor
Electrical/I&C, MPQAD

3/26/82
Date

TABLE 1 - CHARACTERISTICS ASSOCIATED WITH CABLE PULL

| <u>Type of Characteristic</u> | <u>Number of Each Type of Characteristic</u> |
|--|--|
| Cable jacket color band | 1 |
| Cable jacket color stripe | 1 |
| Cable identification tagging at each end | 2 |
| Cable reel number | 1 |
| Minimum cable bend radius (a) | 1 (a) |
| Cable vias (b) | 15 (b) |
| Cable ties (a) | 1 (a) |
| Cable tray damage | 1 |
| Cable damage | <u>1</u> |
| TOTAL | <u>24</u> |

(a) There are multiple points at which the cables are bent or at which the cables are tied but, in the interest of conservatism, these are each counted as one characteristic.

(b) For each cable pull, it is estimated that there is an average of 15 vias. This is considered to be a conservative estimate, although it was not arrived at by an actual count of the vias for each of the jobs overinspected.

TABLE 2 - CABLE TERMINATION CHARACTERISTICS

| <u>Type of Characteristic</u> | <u>Number of Each Type of Characteristic</u> |
|--|--|
| Cable scheme number identification | 1 |
| Cable type identification | 1 |
| Cable code identification | |
| Cable reel number | 1 |
| Cable minimum bend radius | 1 |
| Cable permanent identification tag | 1 |
| Lug integrity | 1 |
| Termination integrity | 1 |
| Crimp integrity | 1 |
| Correct termination per wiring diagram | 1 |
| Shield and drain wires | 1 |
| Insulation | <u>1</u> |
| TOTAL | <u><u>12</u></u> |

Bechtel Associates Professional Corporation

777 East Eisenhower Parkway
Ann Arbor, Michigan

Mail Address: P. O. Box 1000, Ann Arbor, Michigan 48106

059360

BLC 12497

February 18, 1982

Consumers Power Company
P. O. Box 1963
3500 E. Miller Road
Midland, Michigan 48640

Attention: B. W. Marguglio

Subject: Midland Plant Units 1 & 2
Consumers Power Company
Bechtel Job 7220
Additional Response to CPGC
NCR M-01-9-2-016 and Bechtel
NCR 3996

CONSUMERS POWER COMPANY

RECEIVED

FEB 18 1982

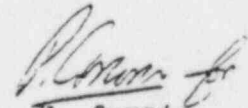
FIELD QUALITY ASSURANCE
MIDLAND, MICHIGAN

References: A) CPGC NCR M-01-9-2-016 dated
February 17, 1982
B) Bechtel NCR 3996 dated
February 17, 1982

As requested, the following is additional information to the response which we provided to the above-referenced NCRs.

Cables 1DQ157A, 1DQ396D, 1DQ396F, 1DQ396E, 1DQ396L, 1DQ396T, 1DQ177E, (NCR M-01-9-2-016) 1DQ403E, 1BQ403D, and 2BB5626A (NCR 3996) have been reviewed for control/power and instrument cables being routed together. Based on an induced voltage calculation for the power cable (2BB5626A), cable characteristics, and length of run, engineering has determined that if these cables were to have been left in the as-installed condition, they would not adversely affect the safety operation of the plant through its design life.

If you have any questions on the subject, please advise.


L. H. Curtis
Project Engineering Manager

LEC/PJC/GDW/s11

Written Response Required: No

cc: M. Schaffer
D. Turnbull
W. Bird
D. Taggart



④

Gardner

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
7199 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

APR 20 1982

Docket No. 50-329(DETP) *102-329*
Docket No. 50-330(DETP)

Consumers Power Company
ATTN: Mr. James W. Cook
Vice President
Midland Project
1945 West Parnall Road
Jackson, MI 49201

Gentlemen:

This refers to the routine safety inspection conducted by Messrs. R. Gardner and R. B. Landsman of this office on March 17-19, 1982, of activities at Midland Nuclear Power Plant, Units 1 and 2, authorized by NRC Construction Permits No. CPPR-81 and No. CPPR-82 and to the discussion of our findings with Mr. Marguglio at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

During this inspection, certain of your activities appeared to be in non-compliance with NRC requirements, as specified in the enclosed Appendix. A written response is required.

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter, the enclosures, and your response to this letter will be placed in the NRC's Public Document Room. If this report contains any information that you (or your contractors) believe to be exempt from disclosure under 10 CFR 9.5(a)(4), it is necessary that you (a) notify this office by telephone within ten (10) days from the date of this letter of your intention to file a request for withholding; and (b) submit within twenty-five (25) days from the date of this letter a written application to this office to withhold such information. If your receipt of this letter has been delayed such that less than seven (7) days are available for your review,

~~8205110357~~

APR 26 1982

Consumers Power Company

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please notify this office promptly so that a new due date may be established. Consistent with Section 2.790(b)(1), any such application must be accompanied by an affidavit executed by the owner of the information which identifies the document or part sought to be withheld, and which contains a full statement of the reasons which are the bases for the claim that the information should be withheld from public disclosure. This section further requires the statement to address with specificity the considerations listed in 10 CFR 2.790(b)(4). The information sought to be withheld shall be incorporated as far as possible into a separate part of the affidavit. If we do not hear from you in this regard within the specified periods noted above, a copy of this letter, the enclosures, and your response to this letter will be placed in the Public Document Room.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

Original Signed by C.E. Norelius

C. E. Norelius, Director
Division of Engineering and
Technical Programs

Enclosures:

- 1. Appendix, Notice of Violation
- 2. Inspection Reports
No. 50-329/82-06(DETP)
and No. 50-330/82-06(DETP)

cc w/encls:

DMB/Document Control Desk (RIDS)
Resident Inspector, RIII
The Honorable Charles Bechhoefer, ASLB
The Honorable Jerry Harbour, ASLB
The Honorable Frederick P. Cowan, ASLB
The Honorable Ralph S. Decker, ASLB
Michael Miller
Ronald Callen, Michigan
Public Service Commission
Myron M. Cherry
Barbara Stamiris
Mary Sinclair
Wendell Marshall

Colonel Steve J. Gadler (P.E.)

RIII

RIII

RIII

RIII

RIII

RIII

RIII

RNS

Gardner/so

Landman

Williams

Little

Boyd

Keop

Norelius

4/9/82

Appendix

NOTICE OF VIOLATION

Consumers Power Company

Docket No. 50-329

Docket No. 50-330

As a result of the inspection conducted on March 17-19, 1982, and in accordance with the NRC Enforcement Policy, 47 FR 9987 (March 9, 1982), the following violations were identified:

1. 10 CFR 50, Appendix B, Criterion II states, in part, "The quality assurance program shall provide control over activities affecting the quality of the identified structures, systems, and components, to an extent consistent with their importance to safety. Activities affecting quality shall be accomplished under suitably controlled conditions."

Consumers Power Company Quality Assurance Program Policy No. 2, Revision 11, Paragraph 1.0 states, in part, "The Quality Assurance Program assures that activities affecting quality are accomplished by use of appropriate equipment and under suitable environmental conditions. The program establishes the requirements for special controls, processes, test equipment..."

Contrary to the above, the Midland Project Quality Assurance Department has not adequately established a Quality Assurance Program which provides controls over the installation of underpinning instrumentation. This condition is exemplified by the installation of underpinning instrumentation cables without documented procedures, approved drawings, or the development and implementation of inspection and audit requirements.

This is a Severity Level IV violation (Supplement II).

2. 10 CFR 50, Appendix B, Criterion X states, in part, "A program for inspection activities affecting quality shall be established and executed by or for the organization performing the activity to verify conformance with the documented instructions, procedures, and drawings for accomplishing the activity."

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Consumers Power Company Quality Assurance Program Policy No. 10, Revision 11, Paragraph 1.0 states, in part, "Inspection and surveillance are performed to assure that activities affecting quality comply with documented instructions, design documents..."

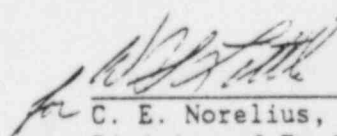
Contrary to the above, licensee construction quality control inspections performed during the period of October 9, 1978 and July 21, 1981 failed to verify conformance of cable pulling activities with documented instructions as follows:

- a. Paragraph 2.6 of Project Quality Control Instruction E-4.0 states, in part, "Verify that the cable is correctly installed in the identified vias as specified on the cable pull card." Fifty-five Class 1E cables were inspected and accepted even though the cables were not routed in accordance with the cable pull cards.
- b. Paragraph 2.1 of Project Quality Control Instruction E-4.0 states, in part, "Verify that the cable to be installed... is identified by a reel number which incorporates the purchase order number and the manufacturer's reel number." Sixty-six Class 1E cables were inspected and accepted even though non-conforming cable reel numbers were recorded on inspection records.

This is a Severity Level IV violation (Supplement II).

Pursuant to the provisions of 10 CFR 2.201, you are required to submit to this office within thirty days of the date of this Notice a written statement or explanation in reply, including for each item of noncompliance: (1) corrective action taken and the results achieved; (2) corrective action to be taken to avoid further noncompliance; and (3) the date when full compliance will be achieved. Consideration may be given to extending your response time for good cause shown.

April 21, 1982
Dated


C. E. Norelius, Director
Division of Engineering and
Technical Programs

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-329/82-06(DETP); 50-330/82-06(DETP)

Docket Nos. 50-329; 50-330

Licenses No. CPPR-81; CPPR-82

Licensee: Consumers Power Company
1945 West Parnall Road
Jackson, MI 49201

Facility Name: Midland Nuclear Power Plant, Units 1 and 2

Inspection At: Midland Site, Midland, MI

Inspection Conducted: March 17-19, 1982

Inspectors: *R. N. Gardner*
R. N. Gardner

4/12/82

C.C. Williams for:
R. B. Landsman

4/13/82

Approved By: *C.C. Williams*
C. C. Williams, Chief
Plant Systems Section

4/13/82

Inspection Summary

Inspection on March 17-19, 1982 (Reports No. 50-329/82-06(DETP);
50-330/82-06(DETP))

Areas Inspected: Verification of QA program for auxiliary building remedial
soils instrumentation and a review of a previously identified item.

Results: Of the areas inspected, two items of noncompliance were identified -
Severity Level IV, Lack of QA Program; Severity Level IV, Lack of Adequate
Inspection.

8205710406

DETAILS

Persons at Exit Interview

Consumers Power Company (CPCo)

B. Marguglio, QA Director
W. Bird, QA Manager
M. Corland, MPQAD, Site Superintendent
D. E. Horn, MPQAD, Civil Section Head
M. J. Schaeffer, MPQAD, Electrical Section Head
R. E. Savo, MPQAD, IE&TV Civil Supervisor
*J. Mooney, Project Office
*J. Schaub, Engineering

Bechtel Power Corporation

*A. Boos, Assistant Project Manager
M. A. Dietrich, PQAE
S. Kirker, QC Civil

NRC

R. Cook, Resident Inspector

Other licensee and contractor personnel were routinely contacted during the course of the inspection.

*Denotes those attending the exit interview by telecon.

1. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (329/81-12-08; 330/81-12-09): During a previous inspection, it was determined that the Midland Project Quality Assurance Department (MPQAD) was identifying numerous non-conforming conditions pertaining to items that had been previously inspected and accepted by the electrical contractor's Quality Control (QC) inspectors. As a result of the inspectors' concerns with this matter, the licensee was requested to perform the following:

- a. Verify the adequacy of the training, qualification, and examination of personnel.

The licensee has conducted two audits of the Bechtel QC department. Audit No. M-01-24-01 was conducted during the period of June 2 to July 3, 1981. Audit No. M-01-72-1 was conducted during the period of November 2-6, 1981. These audits evaluated the adequacy of the Bechtel QC training and certification program. As a result of the audits, the following improvements have been made in the area of QC inspector training and certification.

- (1) Bechtel is now documenting on-the-job training as part of the certification/training process for QC inspectors.
- (2) MPQAD site personnel are overseeing Bechtel's certification process to ensure that the certification of QC inspectors meets Midland Project requirements.

The inspector selected three QC inspectors to be questioned concerning two Quality Control Instructions (QCI's) to which they had previously been certified. The QCI's pertained to cable pulling and cable terminations. The selected QC inspectors were each hired in 1981, had no prior QC experience, and were certified within approximately three months of their reporting date. In answering the inspector's questions, the QC inspectors demonstrated acceptable knowledge in the two areas.

- b. Determine if previous inspections performed by the QC inspectors, against whom MPQAD had initiated nonconformance reports, were acceptable.

The licensee has reported to the inspector that MPQAD and Bechtel QC personnel have performed overinspections of 1,084 Class 1E cables pulled and inspected during the period of October 9, 1978 to July 21, 1981. During these overinspections, MPQAD and Bechtel QC inspectors have identified 55 misrouted cables. This is contrary to the inspection requirements of Paragraph 2.6 of Project Quality Control Instruction (PQCI) E-4.0 which states, in part, "Verify that the cable is correctly installed in the identified vias as specified on the Cable Pull Card." In performing the overinspections, MPQAD personnel and Bechtel QC personnel have identified 66 instances in which nonconforming cable reel numbers were recorded on inspection documents. This is contrary to the inspection requirements of Paragraph 2.1 of PQCI E-4.0 which states, in part, "Verify that the cable to be installed...is identified by a reel number which incorporates the purchase order number and the manufacturer's reel number."

The inspector informed the licensee that this unresolved item is escalated to an item of noncompliance with 10 CFR 50, Appendix B, Criterion X, as described in Appendix A of the report transmittal letter. (329/82-06-01; 330/82-06-01)

2. Observation of Underpinning Instrumentation Installation Activities

- a. At the conclusion of the March 10, 1982, meeting in Bethesda, Maryland between licensee representatives, NRR Licensing representatives, and NRC Region III representatives, all remaining underpinning activities were classified as "Q." The purpose of this inspection was to observe underpinning instrumentation installation activities and determine the conformance of these activities with documented instructions, procedures, and drawings. During this inspection, it was determined that the licensee had

initiated underpinning instrumentation cable pulling activities on March 11, 1982. In observing the instrumentation cable pulling activities, the inspectors determined the following:

- (1) Cable pulling activities were being conducted without approved instructions or procedures.
- (2) Cable routing was being conducted in accordance with an unapproved drawing. (C-1493(Q))
- (3) Inspection and audit requirements for cable pulling activities were not developed or implemented.
- (4) Measures had not been established for the selection and review for acceptability of purchased underpinning instrumentation.

The inspectors questioned MPQAD personnel concerning the Quality Assurance program established to control the cable pulling activities. The inspectors were informed that no Quality Assurance program had been established to provide controls over these activities.

This failure to establish a Quality Assurance program which provides controls over the installation of underpinning instrumentation cables is considered to be in noncompliance with 10 CFR 50, Appendix B, Criterion II as described in Appendix A of the report transmittal letter. (329/82-06-02; 330/82-06-02)

Subsequent to the inspectors' identification of this matter, the licensee's QA staff informed the inspectors that cable pulling would be stopped. On the following day, the inspectors observed that cable pulling was continuing. Based on discussions with licensee personnel, it was determined that some confusion existed on the part of the licensee as to whether this activity was "Q" or not. The licensee requested another day to decide if this activity was "Q" or not.

Based on this evaluation, the licensee again informed the inspectors that cable pulling would be suspended. However, licensee personnel indicated that no formal stop work would be issued. The licensee was informed that the Region was considering the initiation of escalated enforcement action on this matter pending a meeting to be held in the Region III office. See IE Report No. 82-05.

- b. The inspectors determined from reviewing Drawings C-1490 and C-1491 that there were nine outstanding FCR's on each drawing. These FCR's are, by site procedures, taped onto the back of each drawing. To say the least, it is confusing to review let alone figure out what the designers intent really is. The inspectors further determined that site Procedure MED 4.62 controls

the revisions of drawings with changes. The procedure requires that a drawing be revised after five DCN's have been issued and after ten FCN's have been issued. However, it only requires for FCR's that a drawing be revised after 180 days have elapsed. It does not have a limit on the number of FCR's that can be issued on a drawing before requiring a revision. The licensee agreed to review their criteria for outstanding FCR's in Procedure MED 4.62. Pending results of their review, this item remains open. (329/82-06-03; 330/82-06-03)

Open Items

Open items are matters, not otherwise categorized in the report, that require followup during future inspections. Open items disclosed during this inspection are discussed in Section 2, Paragraph b.

Exit Interview

The inspectors met with licensee representatives (denoted under Persons at Exit Interview) at the conclusion of the inspection on March 19, 1982. The inspectors summarized the scope and findings of the inspection. The licensee acknowledged the information.