

February 5, 1982

Mr. Dennis Saunders  
P.O. Box 2101  
Midland, MI 48640

Dear Mr. Saunders:

Mr. Bert Davis, Deputy Regional Administrator of the NRC Region III office stated that you were interested in any followup action that has transpired since our Notice of Violation. Attached is a copy of all the correspondence that is available relating to the Notice of Violation.

We hope we have resolved your concerns. If we can be of any further assistance, please let us know.

D. H. Lawson  
Chief, Materials & Process  
Section



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

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Docket No. 50-329  
Docket No. 50-330

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

Gentlemen:

Thank you for your letter dated September 9, 1981, informing us of the steps you have taken to correct the item of noncompliance which we brought to your attention in Inspection Reports No. 50-329/81-14; 50-330/81-14 forwarded by our letter dated August 7, 1981.

We disagree with the statement in your letter that, "we believe that the item of noncompliance as stated does not exist". Our conclusion was based on the findings stated in Paragraphs 2.a., b., and c. of the above RIII inspection reports as paraphrased below:

- a. From March 1979 to November 1980, there was no procedure for engineering review of redline drawings.
- b. At the time of inspection, the engineering procedures for the review of red line drawings were considered to be inadequate.
- c. At the time of inspection, the site design engineers were designing hangers and restraints without confirmed preliminary design loads.

Since our review of your response did not change our position that this is a Severity Level V violation, we do not consider your letter to be fully responsive in that you failed to document (1) corrective action to be taken to avoid further noncompliance, and (2) the date when full compliance was or will be achieved.

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Consumers Power Company

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We further disagree with your statement that, "... in-depth investigations, both by Consumers Power Company and Bechtel, have shown no evidence of technical deficiencies relating to redlines". You reported seven significant deficiencies as the result of your in-depth review of the design analysis and calculation packages, including the engineering reviews of redline drawings for small bore piping systems, since the issuance of our Immediate Action Letter dated May 22, 1981. Details of your findings are documented in Paragraph 1, Item 6 of the RIII inspection reports listed above.

As discussed during the management meeting held at the site on July 24, 1981, please advise this office of the results of your investigation efforts to identify whether or not there are similar problems existing in other site activities.

We request that you provide written response within 25 days of the date of this letter to this office addressing the matters discussed above. Your cooperation with us is appreciated.

Sincerely,

Original signed by  
A. Bert Davis

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

v/ltr dtd 8/7/81:  
Document Control Desk (RIDS)  
District Inspector, RIII  
1000 E. Michigan  
Ann Arbor, Michigan  
Public Service Commission  
M. Chery  
Barbara Stamiris

RIII  
10/23/81

RIII  
Boyd  
10/23/81

RIII  
Danielson Williams  
10/23/81 1426/A

RIII  
Norelius  
10/26/81

RIII  
Davis  
10/27

RIII  
Keppler  
10/27



Consumers  
Power  
Company

James W Cook  
Vice President - Projects, Engineering  
and Construction

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

September 9, 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 -  
INSPECTION REPORT NO 50-329 AND 50-330/81-14  
FILE: 0.4.2 SERIAL: 13664

Reference: J G Keppler letter to J W Cook. dated August 7, 1981

This letter, including all attachments, provides Consumers Power Company's response to the referenced letter which transmitted the subject Inspection Report and which requested our written statement regarding one item of noncompliance described in Appendix A of the reference.

Consumers Power Company

By James W. Cook  
James W Cook

Sworn and subscribed to before me this 9th day of September, 1981.

Beverly A. Avery  
Beverly A. Avery  
Notary Public, Jackson County, Michigan  
My commission expires January 16, 1985

WRB/lr

CC: RJCook, USNRC Resident Inspector  
Midland Nuclear Plant

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CONSUMERS POWER COMPANY'S RESPONSE TO NOTICE OF VIOLATION DESCRIBED IN NRC INSPECTION REPORT DOCKET NO 50-329/81-14 AND 50-330/81-14

1. Appendix A (Item of Noncompliance 329/81-14 and 330/81-14) states in part, "Contrary to the above, procedures used by your resident engineers to review and approve field initiated redline drawings for small bore piping and piping supports were not in accordance with your Field Change Request procedures, and as a result, field initiated redline drawings were not receiving design control reviews commensurate with those applied to the original design."

Consumers Power Company's Response

It is agreed that the procedures used by resident engineering for review and approval of redlines are not in agreement with the field change request procedure. They are reviewed in accordance with the applicable redline procedure as we discussed in our July 24, 1981, meeting. This procedure requires incorporation of redlines by revising the original design document. All revisions to drawings require reviews commensurate with those applied to the original design.

As noted in our response above, we believe that the item of noncompliance as stated does not exist. We therefore request that you reconsider the classification of this as an item of noncompliance.

Section II of the Inspection Report addresses the review conducted in regards to field change redlining procedures. The three observations described on page 7 are addressed as follows:

Item 2a - Inspection Report Page 7 states, "From March 1979, since the formation of the Site Small Pipe group, to November 1980, there was no established procedure for handling the review and approval of FE redline drawings that were issued per FIP 1.112 and FIP 1.110 requirements."

Consumers Power Company's Response

We agree with this statement; however, it should be noted that this deficiency is noted by Bechtel and corrective measures were taken to document the practice at the time in a formal procedure implemented on November 7, 1980. It should further be noted that in-depth investigations, both by Consumers Power Company and Bechtel, have shown no evidence of technical deficiencies relating to redlines.

2b - Inspection Report Page 7 states, "The present EDPI-4.46.9 used to review and approve redline drawings does not distinguish between major or minor design changes. If FE requested changes are significant, FE should not sign off the redline drawings for construction, but should have FCRs to be approved by the corporate engineering office, as required by -2.14.1."

Consumers Power Company's Response

This procedural enhancement was agreed upon in our July 24, 1981 meeting and the procedure has been revised and submitted for your review. This revision includes the criteria to distinguish between major and minor design changes and instructions on proper disposition of major and minor design changes. In accordance with our past practice, we agree that significant changes initially identified on redline drawings will be processed in accordance with the options described in EDPI 4.46.9, which include FCRs.

C. Item 2c - Inspection Report Page 7 states in part, "The Small Pipe Group REs did not recognize that some of the redline hanger drawings without confirmed design loadings supported by the pipe system stress CPDCs were in violation of EDPI-4.46.9 Paragraph 2, "Definition," which states that, "A redline is a field mark-up work print which is transmitted from project construction to project engineering to request a change in project-approved engineering drawings." In order to issue a project-approved engineering drawing, there should be documented engineering per Bechtel EDP-4.37, MED 4.37-0, and MED 4.37-6 (See Region III Inspection Reports No 50-329/81-12; 50-330/81-12). The present practice of the RE reviewing hanger structural calculations resulting from redline changes is questionable. For some of the hangers, the design loads were without documented basis since a system CPDC had not been established prior to structural assembly design."

Consumers Power Company's Response

During the NRC inspection of the site small pipe design activities the week of May 18, it was recognized that there was a lack of procedural controls. Immediate action letter was issued on May 22, 1981, and remedial actions were undertaken and the situation was subsequently corrected. We agreed that some of the hangers, the design loads were without documented basis. A system CPDC had not been established prior to structural assembly design. Pipe support load sheets had been prepared for the hanger assembly piping stress analysts although a piping stress CPDC may not have existed at the time. The loads were based either upon Specification 722C-K-343(2) standard spans, or were calculated but inadequately documented.

A comprehensive and intensive program was established to provide CPDC's with the piping isometrics. The details of this program and the completion of its completion has been fully disclosed to the NRC both through discussion and formal correspondence. Resident engineering recognition implications of redlines during the early stages of the CPDC effort. At that time, additional restrictions were placed on the engineering redline review process to ensure that the intent of immediate action letter of May 22, 1981, was met. The policy of discussion was discussed with the Region III Staff when the subject was raised. We believed that our interim practice based on the policy of that practice met with your satisfaction and the subject of additional design changes was discussed at the July 27, 1981 meeting including the specific understandings of additional changes to be added to the redlining procedures as documented in our letter dated July 27, 1981.

The completion of the calculational reviews and the establishment of the CPDC's has provided evidence of the design adequacy of the small pipe supports. As the stress CPDC's were being completed, new support loads were also being evaluated. In most cases, loads decreased indicating the conservatism in the original designs. In no case was a physical change to a hanger required due to the original absence of CPDC's. It is our belief that this demonstrates the adequacy of controls and the viability of the redlining procedures to support the site design effort.

WRB/JWC/lr

DHD

JAN 26 1982

Docket No. 50-329  
Docket No. 50-330

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

Gentlemen:

Thank you for your letter dated November 20, 1981, providing us additional details regarding the steps you have taken to correct the noncompliance which we brought to your attention in Inspection Reports No. 50-329/81-14; 50-330/81-14 forwarded by our letter dated August 7, 1981. We will examine these matters during a subsequent inspection. At that time we will thoroughly examine the contents of your indepth review of design and calculation packages and respond to the request in Paragraph 2 of your letter requesting us to reconsider our position on the technical deficiencies identified during your indepth review.

Your cooperation with us is appreciated.

Sincerely,

Original Signed By C.E. Norelius

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

cc w/ltr dtd 11/20/81:  
DMB/Document Control Desk (RIDS)  
Resident Inspector, RIII  
Ronald Callen, Michigan  
Public Service Commission  
Myron M. Cherry  
Barbara Stamiris  
Mary Sinclair  
Wendell Marshall

RIII <i>Yin</i> Yin/so 12/1/81	RIII <i>CJ</i> Jones 1-25-82	RIII <i>Boyd</i> Boyd 1-25-82	RIII <i>Danielson</i> Danielson 1/23/82	RIII <i>Williams</i> Williams 1/23/82	RIII <i>Norelius</i> Norelius 1/25/82
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**Consumers  
Power  
Company**

James W Cook  
Vice President - Projects, Engineering  
and Construction

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

November 20, 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 -  
INSPECTION REPORT NO 50-329/81-14 AND 50-330/81-14  
FILE: 0.4.2 SERIAL: 14618

- References:
1. NRC letter, C E Norelius to J W Cook, dated October 28, 1981
  2. Consumers Power letter Serial 13664, J W Cook to J G Keppler, dated September 9, 1981
  3. NRC letter, J G Keppler to J W Cook, dated August 7, 1981

This letter, including all attachments, provides Consumers Power Company's response to Reference 1, which rejected portions of our response (Reference 2) to one item of noncompliance described in Appendix A of Reference 3.

Consumers Power Company

By James W. Cook  
James W Cook

Sworn and subscribed to before me on this 20th day of November, 1981.

Beverly A. Avery Beverly A. Avery  
Notary Public, Jackson County, Michigan  
My commission expires Jan 16, 1985

WRB/lr

CC: RJCook, USNRC Resident Inspector  
Midland Nuclear Plant (1)

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CONSUMERS POWER COMPANY'S RESPONSE TO  
US NUCLEAR REGULATORY COMMISSION, REGION III  
LETTER DATED OCTOBER 28, 1981  
DOCKET NUMBERS 50-329 AND 50-330

1. The second paragraph of the Region III letter of October 28, 1981, states:

"We disagree with the statement in your letter that, 'we believe that the item of noncompliance as stated does not exist.' Our conclusion was based on the findings stated in Paragraphs 2a, 2b and 2c of the above RIII inspection reports as paraphrased below:

- a. From March 1979 to November 1980, there was no procedure for engineering review of redline drawings.
- b. At the time of inspection, the engineering procedures for the review of redline drawings were considered to be inadequate.
- c. At the time of inspection, the site design engineers were designing hangers and restraints without confirmed preliminary design loads.

Since our review of your response did not change our position that this is a Severity Level V violation, we do not consider your letter to be fully responsive in that you failed to document: 1) corrective action to be taken to avoid further noncompliance, and 2) the date when full compliance was or will be achieved."

CONSUMERS POWER COMPANY'S RESPONSE

Upon further review and consideration of the detailed findings set forth in Paragraphs 2a, 2b and 2c of Inspection Reports 50-329/81-14 and 50-330/81-14, it is acknowledged that the described conditions do constitute an item of noncompliance as stated in these Inspection Reports. Accordingly, as requested, the following information concerning the actions taken to correct those described conditions and the item of noncompliance is provided:

- A. Item 2a, page 7 of Inspection Report 50-329/81-14 and 50-330/81-14 states:

"From March 1979, since the formation of the Site Small Pipe group, to November 1980, there was no established procedure for handling the review and approval of FE redline drawings that were issued per FIP 1.112 and FIP 1.110 requirements."

Corrective Action Taken

Bechtel Management audit AAMA-2, conducted in August of 1980, initially identified this deficiency. As a result of that audit, EDPI 4.46.9 was initiated to document the redline practices in effect at the time. This deficiency was corrected with the issue and implementation of Revision 0 of EDPI 4.46.9 on November 7, 1980.

- B. Item 2b, page 7 of Inspection Report 50-325/81-14 and 50-330/81-14 states:

"The present EDPI-4.46.9 used by RE to review and approve redline drawings does not distinguish between major or minor design changes. If FE requested changes are significant, the RE should not sign off the redline drawings for construction but should request FCRs to be approved by the corporate engineering office, as required by EDPI-2.14.1."

Corrective Action Taken

As was agreed in our July 24, 1981, meeting, EDPI 4.46.9 has been revised to include definitive criteria for distinguishing between major and minor design changes and to provide instructions to Resident Engineering for dispositioning each such category of change. These instructions do not permit Resident Engineering Small Pipe and Hanger Group approval of proposed redline changes which are categorized as major; rather, three alternate methods of proceeding, including the processing of an FCR, are provided. Revision 2 of EDPI 4.46.9, incorporating the above described changes, was issued and implemented on August 24, 1981.

- C. Item 2c, page 7 of Inspection Report 50-329/81-14 and 50-330/81-14 states:

"The Small Pipe Group did not recognize that some of the redline hanger drawings without confirmed design loadings supported by the pipe system stress CPDCs were in violation of EDPI-4.46.9, Paragraph 2, 'Definition,' which states that:

'A redline is a field mark-up work print which is transmitted from project construction to project engineering to request a change in project-approved engineering drawings.'

In order to issue a project-approved engineering drawing, there should be documented CPDCs per Bechtel EDP-4.37, MED 4.37-0, and MED 4.37-6 (see Region III Inspection Reports No 50-329/81-12; 50-330/81-12). The present practice of the RE reviewing hanger structural calculations resulting from redline changes is questionable. For some of the hangers, the design loads were without documented basis since a system CPDC had not been established prior to structural assembly design."

Corrective Action Taken

We understand the basis of the above described concern with redline drawings to be the fact that several of the small bore pipe and piping suspension system designs performed at the site had not been prepared, reviewed and approved in accordance with established design control procedures. Specifically, it was found that some drawings had been issued for construction without the required Committed Preliminary Design Calculations (CPDCs). This procedural

violation was identified during the NRC inspection of May 18-22, 1981, and was the subject of the NRC Immediate Action Letter dated May 22, 1981.

Based on the Immediate Action Letter of May 22, 1981, remedial action was undertaken. A comprehensive and intensive program was established to provide CPDCs for all the piping isometrics. The details of this program and the scheduling of its completion has been fully disclosed to the NRC, both by discussion and formal correspondence. Resident Engineering recognized the implications of redlines during the early stages of the CPDC review effort. At that time, additional restrictions were placed on the resident engineering redline review process to ensure that the intent of your Immediate Action Letter of May 22, 1981, was met. In addition, on July 27, 1981, a hold was placed on installation of small bore piping whose isometric drawing was not supported by a CPDC. The policy of redlining was discussed with the Region III staff when the subject was subsequently raised. We believed that our interim practice and the documentation of that practice met with your satisfaction based on the July 24, 1981, meeting, including the specific understandings of additional specificity to be added to the redlining procedures as documented in our letter to you dated July 27, 1981.

The remedial program of calculational reviews and the establishment of CPDCs for all piping isometrics was completed on August 5, 1981. Consequently, the review of hanger structural calculations resulting from redline changes are based on design loads documented by the system CPDC in all cases.

Based on the actions taken in 1A, B and C on the previous pages, we consider the plant has been in compliance on this matter since August 24, 1981.

2. The second paragraph of the Region III letter of October 28, 1981, states:

"We further disagree with your statement that: "...indepth investigation, both by Consumers Power Company and Bechtel, have shown no evidence of technical deficiencies as the result of your indepth review of the design analysis and calculation packages, including the engineering reviews of redline drawings for small bore piping systems, since the issuance of our Immediate Action Letter dated May 22, 1981. Details of your findings are documented in Paragraph 1, Item 6 of the Region III inspection reports listed above."

#### CONSUMERS POWER COMPANY'S RESPONSE

We believe there may be a minor misunderstanding on this matter. As indicated, seven significant discrepancies were identified as the

result of our indepth review of the design analysis and calculation packages and were reported to you in accordance with the Immediate Action Letter dated May 22, 1981. However, it is important to note that none of these discrepancies were related to the redlining of drawings; all were related to other issues. This fact was brought to your attention during our July 24, 1981, meeting. Accordingly, we consider our statement to be a true and accurate representation of the situation and request you to reconsider your position on this matter.

3. The fourth paragraph of the Region III letter of October 28, 1981, states:

"As discussed during the management meeting held at the site on July 24, 1981, please advise this office of the results of your investigation efforts to identify whether or not there are similar problems existing in other site activities."

#### CONSUMERS POWER COMPANY'S RESPONSE

Three audits were conducted at the site between June and November 1981 of all Site design activities. Two other areas on site were identified as having similar problems. The first was the Instrument Tubing Support Group, which was identified by Consumers Power as not having adequate procedures to govern the Field Engineering preparation and Resident Engineering's review of calculations and drawings. Work was stopped in this area until approved procedures to prepare and review calculations and drawings for instrument tubing and supports were generated. It should be noted that the audit was timed to review these activities just as they were being initiated. The second area was the site Resident Engineering Civil Group. It was identified by Bechtel Quality Engineering that calculations had been performed as back-up information, but they had not been formally approved. All of the calculations involved were subsequently reviewed and necessary approvals were given. It should be noted that no procedural changes were initiated as a result of this deficiency since the audit finding was for a procedural violation. Our investigation revealed no other similar problems.

Design activities being conducted in the other Resident Engineering groups were found to be done in accordance with the EDPs, and the procedures were also found to be adequate.