

*Portland Plant 2/15*

50-329/330 OM, OL

Exhibits for Oral Deposition  
of Paul Hood on February 19, 1981

Exhibits 25-32



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FROM: <b>Chairman Ahearne</b> <i>INFO COPY</i>		ACTION CONTROL	DATES	CONTROL NO.
TO: <b>Stello</b>		COMPL DEADLINE	<b>2-10-81</b>	<b>10094</b>
DESCRIPTION <input type="checkbox"/> LETTER <input checked="" type="checkbox"/> MEMO <input type="checkbox"/> REPORT <input type="checkbox"/> OTHER		ACKNOWLEDGMENT		DATE OF DOCUMENT
Questions re possible need for additional enforcement action in Midland		INTERIM REPLY		<b>1-14-81</b>
CLASSIFIED DATA		FINAL REPLY		PREPARE FOR SIGNATURE OF:
DOCUMENT/COPY NO.	CLASSIFICATION	FILE LOCATION		<input type="checkbox"/> CHAIRMAN
NUMBER OF PAGES	CATEGORY	SPECIAL INSTRUCTIONS OR REMARKS		
POSTAL REGISTRY NO.	<input type="checkbox"/> NSI <input type="checkbox"/> RD <input type="checkbox"/> FRD	<b>PRIORITY</b> <i>H. J. [Signature]</i> <i>Stello</i> <i>FRANK M</i> <i>DATE</i>		
ASSIGNED TO:	DATE	INFORMATION ROUTING	LEGAL REVIEW	<input type="checkbox"/> FINAL <input type="checkbox"/> COPY
<b>Stello</b>	<b>1-28-81</b>	<b>Dircks</b> <b>Cornell</b> <b>Rehm</b> <b>Denton</b> <b>Shaper</b>	ASSIGNED TO:	NO LEGAL OBJECTIONS NOTIFY:
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NRC FORM 232  
(7-79)

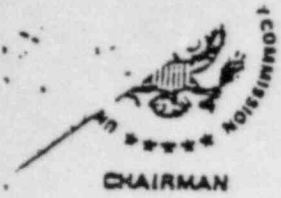
EXECUTIVE DIRECTOR FOR OPERATIONS  
PRINCIPAL CORRESPONDENCE CONTROL

*Hand dep. 2-17-81*  
*2-17-81 copy*

NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

U  
CIA 8101141

January 14, 1981



MEMORANDUM FOR: Victor Stello, Director, IE  
FROM: John Ahearne *J. Ahearne*  
SUBJECT: POSSIBLE NEED FOR ADDITIONAL ENFORCEMENT ACTION IN  
MIDLAND

Attached are some notes on a telephone conversation with James G. Keppler, Director, Region III. It includes a statement concerning Midland that: "He wanted the work stopped until the problem is solved." The cover memorandum represents that: "With regard to the summary of the discussion, Mr. Keppler notes that while there are some technical inaccuracies, the substance of the discussion is portrayed correctly."

1. What is your position concerning the need to stop construction at Midland effective immediately?
2. What are Mr. Keppler's concerns and how have they been addressed?
3. If you now believe construction should be stopped effective immediately, what steps are you taking to do so and what is the basis for your change in position?

Attachment:  
As stated


cc:  Commissioner Gilinsky  
Commissioner Hendrie  
Commissioner Bradford  
OGC  
EDO

Rec'd Off. EDO  
Date... 1/28/81  
Time... 12:35

December 29, 1980

OFFICE OF THE  
COMMISSIONER

MEMO TO: Samuel J. Chilk  
Secretary

FROM: Thomas R. Gibbon   
Legal Assistant  
to Commissioner Bradford

SUBJECT: POSSIBLE EX PARTE CONTACT IN MIDLAND PROCEEDING, DOCKET #  
50-3290M AND # 50-3300M

On July 30, 1980, I had extensive discussions with James G. Keppler, Director of Region III, and other Region III personnel on general NRC enforcement issues. During the course of these general discussions, we touched briefly upon the Midland case. I have recently reviewed my notes of these conversations and have now realized that the Midland conversation could be considered an ex parte contact. Accordingly, I request that pursuant to 10 CFR 2.780, you serve a copy of this memo and the attached summary of discussion upon all the parties in the Midland proceeding and also place these documents in the PDR. With regard to the summary of the discussion, Mr. Keppler notes that while there are some technical inaccuracies, the substance of the discussion is portrayed correctly.

Attachment:  
As stated

cc: James G. Keppler

Kepler also stated that the Commissioners needed to express  
in one form or another the philosophy that once something is found  
wrong at the construction site, construction will stop in that  
area until the item was resolved. He gave the example of Midland  
where it was found that the diesel generator building had settled  
excessively. They also found that there was no Q/A program on  
any substance related to the basic foundation of the site. He  
said there really wasn't a Q/A program in this area. In response  
to this, the NRC issued an order which said that this should  
be remedied or work would be stopped in 30 days. The company  
requested a hearing and, therefore, stayed the order. Midland  
is continuing work today which will make resolution of the  
settlement problem much more difficult. Kepler said that the  
staff had not yet made up their minds on whether the fix proposed  
by Midland is acceptable. Therefore, the project continues to  
be built and the problem gets worse. He wanted the work stopped  
until the problem is solved.

Draft of  
Mon. 12/3/79  
AM

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of

CONSUMERS POWER COMPANY  
(Midland Nuclear Power Plant,  
Units 1 and 2)

Docket No. 50-329  
50-330

ORDER MODIFYING CONSTRUCTION PERMITS

I

The Consumers Power Company (the Licensee) is a holder of Construction Permits No. CPPR-81 and No. CPPR-82 which authorize the construction of two pressurized water reactors in Midland, Michigan. The construction permits expire on \_\_\_\_\_.

II

On August 22, 1978, the Licensee informed the NRC Resident Inspector at the Midland site that unusual settlement of the Diesel Generator Building had been detected. The Licensee reported the matter under 10 CFR 50.55(e) of the Commission's regulations telephonically on September 7, 1978. This notification was followed by a series of interim reports dated September 29, 1978, November 7, 1978, December 21, 1978, January 5, 1979, February 23, 1979, April 3, 1979, June 25, 1979, August 10, 1979, September 5, 1979, and November 2, 1979.

Following the September notification, inspectors from Region II, Office of Inspection and Enforcement, conducted an investigation over the period of October, 1978 through March, 1979. This investigation found a breakdown in the quality assurance related to soil construction activities in that (1) a lack of control and supervision of plant fill activities contributed to inadequate compaction of foundation material; (2) corrective action regarding nonconformances related to plant fill was insufficient or inadequate as evidenced by repeated deviations from specification requirements; (3) certain design bases and construction specifications

*Handwritten signature and date: 2-17-81*

related to foundation-type, material properties and compaction requirements were not followed; (4) there was a lack of clear direction and support between the contractor's engineering office and construction site as well as within the contractor's engineering office; and (5) the FSAR contains inconsistent, incorrect, and unsupported statements with respect to foundation type, soil properties and settlement values. The details of these findings are described in the inspection reports 50-329/78-12, 50-330/78-12 (November 14, 1978) and 50-329/78-20, 50-330/78-20 (March 19, 1979) which were sent to the Licensee on November 17, 1978 and March 22, 1979 respectively.

The items of noncompliance arising out of the NRC investigation are described in Appendix A to this Order. In addition as described in Appendix B to this Order a Material False Statement was made in the FSAR in that the FSAR falsely stated that "All fill and backfill were placed according to Table 2.5-9." This statement is material in that this portion of the FSAR would have been found unacceptable without further Staff analysis and questions if the Staff had known that Category I structures had been placed in fact on random fill rather than the controlled compacted cohesive fill stated to have occurred in the FSAR.

As a result of the questions raised during the NRC investigation of the Diesel Generator Building settlement, additional information was necessary to evaluate the impact of plant safety caused by soil conditions under and surrounding structures in and on plant fill and the Licensee's quality assurance program. On March 21, 1979, the Director, Office of Nuclear Reactor Regulation, formally requested under 10 CFR 50.54(f) of the Commission's regulations information concerning these matters to determine whether action should be taken to modify, suspend or revoke the construction permits. Additional information was requested by the Staff in letters dated

September 11, 1979 and November 19, 1979. The Licensee responded to these letters, under oath, in letters dated April 24, 1979, May 31, 1979, July 9, 1979, September 13, 1979, and November 13, 1979. The Licensee has not yet responded to the November 19, 1979 requests.

After reviewing material provided by the Licensee in response to the Staff questions arising out of its investigation, the Staff cannot conclude at this time that the safety issues associated with remedial action taken or planned to be taken by the Licensee to correct the soil deficiencies will be acceptable. Without the resolution of these issues the Staff does not have reasonable assurance that the Midland facility can be constructed and operated without undue risk to the health and safety of the public.

III

Under the Atomic Energy Act of 1954, as amended, and the Commission's regulations, activities under construction permits or portions thereof may be suspended should the Commission find information which would warrant the Commission to refuse to grant a construction permit on an original application. I find that the quality assurance deficiencies surrounding the settlement of the Diesel Generator Building and the soil activities at the Midland site, the false statement in the FSAR, and the unresolved safety issue concerning the adequacy of the remedial action to correct the deficiencies in the soil work are adequate bases to refuse to grant a construction permit and that, therefore, suspension of certain activities under Construction Permits No. CPPR-81 and No. CPPR-82 is warranted until the safety issues are resolved.

IV

Accordingly, pursuant to the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR Parts 2 and 50, IT IS HEREBY ORDERED THAT ~~the~~ <sup>subject</sup> ~~to Part IV of the Order~~ Construction Permits No. CPPR-81 and No. CPPR-82 be modified as follows:



(1) The Licensee shall submit an amendment application seeking approval of the remedial actions associated with the soil activities for Category 1, pipes, buildings and other structures in and on plant fill material.

(2) Pending the issuance of the amendment of Construction Permits No. CPPR-81 and CPPR-82 approving the remedial action, Construction Permits No. CPPR-81 and CPPR-82 are modified to prohibit, after the date of this Order (added to make the suspension retroactive if the hearing is dragged out such that the Licensee is building at its own risk during the hearing);

(a) any placing, compaction, or excavating safety-

~~related soils~~ *soil related - as noted*

(b) all construction work related to the Diesel Generator Building and the tank farm areas; ~~(and other Class II~~

~~structures on plant fill);~~

(c) physical implementation of remedial action for correction of soil-related problems including but not limited to:

(i) dewatering systems

(ii) underpinning of service water building

(iii) caissons in valve pit area

(iv) compaction and loading activity

(d) <sup>fill</sup> construction work in ~~safety-related soils~~ such as field

installation of conduits and piping

(3) Paragraph (2) above shall not apply to any <sup>LOP</sup>expir<sup>ation</sup>, sampling, or testing of soil samples associated with determining actual soil properties;

on site which has the approval of the Director of Region III,  
Office of Inspection and Enforcement,

V

The Licensee or any interested person may within 20 days of the date of this Order request an hearing with respect to all or any part of this amendment. This amendment will become effective on the expiration of the period during which the Licensee may request a hearing, or in the event a hearing is requested, on the date specified in an Order made followin the hearing.

VI

In the event a hearing is requested, the issues to be considered at such hearing shall be:

- (1) whether the facts set forth in Part II and III of this Order are true; and
- (2) whether this Order should be sustained.

FOR THE NUCLEAR REGULATORY COMMISSION

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Victor Stello, Jr., Director  
Office of Inspection and Enforcement

Attachments:

Appendix A  
Appendix B

Dated at Bethesda, Maryland,  
this \_\_\_\_ day of December, 1979.

APPENDIX ANOTICE OF VIOLATION

Consumers Power Company

Docket No. 50-329

Docket No. 50-330

This refers to the investigation conducted by the Office of Inspection and Enforcement at the Midland Nuclear Power Plant, Units 1 and 2, Midland, Michigan, at your offices in Jackson, Michigan, and at Bechtel Corporation, Ann Arbor, Michigan of activities authorized by NRC License No. CFP-81 and No. CFP-82.

Based on the results of the investigation conducted during the period December 11, 1978 through January 25, 1979, it appears that certain of your activities were not conducted in full compliance with NRC requirements as noted below. These items are infractions.

1. 10 CFR 50, Appendix B, Criterion III requires, in part, that measures shall be established and executed to assure that regulatory requirements and the design basis as specified in the license application for structures are correctly translated into specifications, drawings, procedures and instructions. Also, it provides that measures shall be established for the identification and control of design interfaces and for coordination among participating design organizations.

Check T7P09  
 And AGAINST license  
 STATE since March  
 - how he got out - report  
 See evidence of non-compliance  
 with 70 CFR 2.200

CPCo Topical Report CPC-1-A policy No. 3, Section 3.4 states, in part, "the assigned lead design group or organization (i.e., the NSSS supplier A&E supplier, or CPCo) assure that designs and materials are suitable and that they comply with design criteria and regulatory requirements."

CPCo is committed to ANSI N45.2 (1971), Section 4.1, which states, in part, "measures shall be established and documented to assure that the applicable specified design requirements, such as a design basis, regulatory requirements . . . are correctly translated into specifications, drawings, procedures, or instructions."

Contrary to the above, measures did not assure that design bases were included in drawings and specifications nor did they provide for the identification and control of design interfaces. As a result, inconsistencies were identified in the license application and in other design basis documents as set forth below:

- a. The FSAR is internally inconsistent in that FSAR Figure 2.5-4B indicates settlement of the Diesel Generator Building to be on the order of 3" while FSAR Section 3.8.5.5 (structural acceptance criteria) indicates settlements on shallow spread footings

## Appendix A

founded on compacted fill to be on the order of 1/2" or less. The Diesel Generator Building is supported by a continuous shallow spread footing.

- b. The design settlement calculations for the diesel generator and berated water storage tanks were performed on the assumption of uniform mat foundations while these foundations were designed and constructed as spread footing foundations.
- c. The settlement calculations for the Diesel Generator Building indicated a load intensity of 3000 PSF while the FSAR, Figure 2.5-47, shows a load intensity of 4000 PSF, as actually constructed.
- d. The settlement calculations for the Diesel Generator Building were based on an index of compressibility of the plant fill between elevations 603 and 634 of 0.001. These settlement values were shown in FSAR Figure 2.5-48. However, FSAR, Table 2.5-16, indicates an index of compressibility of the same plant fill to be 0.003.
- e. FSAR, Amendment 3, indicated that if filling and backfilling operations are discontinued during periods of cold weather, all

frozen soil would be removed or recompacted prior to the resumption of operations. Bechtel specification C-210 does not specifically include instructions for removal of frozen/ thawed compacted material upon resumption of work after winter periods.

- f. PSAR Amendment 3 indicates that cohesionless soil (sand) would be compacted to 85% relative density according to ASTM D-2049. However, Bechtel specification C-210, Section 13.7.2 required cohesionless soil to be compacted to not less than 80% relative density.

2. 10 CFR 50, Appendix B, Criterion V requires, in part, that activities affecting quality shall be prescribed and accomplished in accordance with documented instructions, procedures or drawings.

CPCo Topical Report CPC-1-A Policy No. 5, Section 1.0 states, in part, that, "Instructions for controlling and performing activities affecting quality of equipment or operation during design, construction and operations phase of the nuclear power plant such as procurement manufacturing, construction, installation, inspection, testing . . . are documented in instructions, procedures, specifications . . . these documents provide qualitative and quantitative acceptance criteria for determining important activities have been satisfactorily accomplished.

CFCo is committed to ANSI N45.2 (1971), Section 6 which states, in part, "activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings."

- a. Contrary to the above, instructions provided to field construction for substituting lean concrete for Zone 2 material did not address the differing foundation properties which would result in differential settlement of the Diesel Generator Building.
- b. Also, contrary to the above, certain activities were not accomplished according to instructions and procedures, in that:
  - (1) The compaction criteria used for fill material was 20,000 ft-lbs (Bechtel modified proctor test) rather than a compactive energy of 56,000 ft-lbs as specified in Bechtel Specification C-210, Section 13.7.
  - (2) Soils activities were not accomplished under the continuous supervision of a qualified soils engineer who would perform in-place density tests in the compacted fill to verify that all materials are placed and compacted in accordance

with specification criteria. This is required by Bechtel Specification C-501 as well as PSAR, Amendment 3 (Dames and Moore Report, page 16).

3. 10 CFR 50, Appendix B, Criterion X requires, in part, that a program for inspection of activities affecting quality shall be established and executed to verify conformance with the documented instructions, procedures and drawings for accomplishing the activity.

CPCo Topical Report CPC 1-A Policy No. 10, Section 3.1, states, in part, that "work activities are accomplished according to approved procedures or instructions which include inspection hold points beyond which work does not proceed until the inspection is complete or written consent for bypassing the inspection has been received from the organization authorized to perform the inspections."

CPCo is committed to ANSI N45.2 (1971), which states, in part, "A program for inspection of activities affecting quality shall be established and executed by or for the organization performing the activity to verify conformance to the documented instructions, procedures, and drawings for accomplishing the activity."



Contrary to the above, Quality Control Instruction C-1.02, the program for inspection of compacted backfill issued on October 18, 1976, did not provide for inspection hold points to verify that soil work was satisfactorily accomplished according to documented instructions.

4. 10 CFR 50, Appendix B, Criterion XVI requires, in part, that measures shall be established to assure that conditions adverse to quality such as failures, deficiencies, defective material and nonconformances are promptly identified and corrected. In case of significant conditions adverse to quality, measures shall assure that corrective action is taken to preclude repetition.

CPCs Topical Report CPC-1-A Policy No. 16, Section 1.0 states, in part, "corrective action is that action taken to correct and preclude recurrence of significant conditions adverse to the quality of items or operations. Corrective action includes an evaluation of the conditions that led to a nonconformance, the disposition of the nonconformance and completion of the actions necessary to prevent or reduce the possibility of recurrence."

Contrary to the above, measures did not assure that soils conditions of adverse quality were promptly corrected to preclude repetition.  
For example:

## Appendix B

NOTICE OF VIOLATION

Consumers Power Company

Docket No. 50-329

Docket No. 50-330

This refers to the investigation conducted by the Office of Inspection and Enforcement at the Midland Nuclear Power Plant, Units 1 and 2, Midland, Michigan, at your offices in Jackson, Michigan, and at Bechtel Corporation, Ann Arbor, Michigan, of activities authorized by NRC License No. CPPR-81 and No. CPPR-82.

During this investigation conducted on various dates between December 11, 1978 and January 25, 1979, the following apparent item of noncompliance was identified.

The Midland Final Safety Analysis Report (FSAR) contains the following:

Section 2.5.4.5.3, Fill, states: "All fill and backfill were placed according to Table 2.5-9."

Table 2.5-9, Minimum Compaction Criteria, contains the following:

Appendix B

- 2 -

<u>"Function</u>	<u>Zone (1) Designation</u>	<u>Soil Type</u>	<u>Compaction Criteria</u>	
			<u>Degree</u>	<u>ASTM Designation</u>
Support of structures		Clay	95%	ASTM D 1557-66T (modified) <sup>(2)</sup>

(1) For zone designation see Table 2.5-10.

(2) The method was modified to get 20,000 foot-pounds of compactive energy per cubic foot of soil."

Section 2.5.4.10.1, Bearing Capacity, states: "Table 2.5-14 shows the contact stress beneath footings subject to static and static plus dynamic loadings, the foundation elevation, and the type of supporting medium for various plant structures."

Table 2.5-14, Summary of Contact Stresses and Ultimate Bearing Capacity for Mat Foundations Supporting Seismic Category I and II Structures, contains, in part; the following:

<u>"Unit</u>	<u>Supporting Soils</u>
Diesel Generator Building	Controlled compacted cohesive fill."

This information is false, in that materials other than controlled compacted cohesive fill-clay were used to support the diesel generator building and material presented concerning the supporting soils influenced the staff review of the FSAR.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

Mark Up of  
Version 1 going  
to Version 2

In the Matter of  
CONSUMERS POWER COMPANY  
(Midland Nuclear Power Plant,  
Units 1 and 2)

Docket No. 50-329  
50-330

ORDER MODIFYING CONSTRUCTION PERMITS

I

The Consumers Power Company (the Licensee) is a holder of Construction Permits No. CPPR-81 and No. CPPR-82 which authorize the construction of two pressurized water reactors in Midland, Michigan. The construction permits expire on October 1, 1981 ~~and~~ and October 1, 1982, ~~that for~~ Unit 2 and Unit 1 respectively.

On August 22, 1978, the Licensee informed the NRC Resident Inspector at the Midland site that unusual settlement of the Diesel Generator Building had been detected. The Licensee reported the matter under 10 CFR 50.55(e) of the Commission's regulations telephonically on September 7, 1978. This notification was followed by a series of interim reports dated September 29, 1978, November 7, 1978, December 21, 1978, January 5, 1979, February 23, 1979, April 3, 1979, June 25, 1979, August 10, 1979, September 5, 1979, and November 2, 1979.

Following the September notification, inspectors from Region III, Office of Inspection and Enforcement, conducted an investigation over the period of October, 1978 through March, 1979. This investigation found a breakdown in the quality assurance related to soil construction activities in that (2) a lack of control and supervision of plant fill activities contributed to inadequate compaction of foundation material; (4) corrective action regarding nonconformances related to plant fill was insufficient or inadequate as evidenced by repeated deviations from specification requirements; (1) certain design bases and construction specifications

② from page 2. Footnote 50.55  
2-6-78

related to foundation-type, material properties and compaction requirements were not followed; (4) there was a lack of clear direction and support between the contractor's engineering office and construction site as well as within the contractor's engineering office; and (5) the FSAR contains inconsistent, incorrect, and unsupported statements with respect to foundation type, soil properties and settlement values. The details of these findings are described in the inspection reports 50-329/78-12, 50-330/78-12 (November 14, 1978) and 50-329/78-20, 50-330/78-20 (March 19, 1979) which were sent to the Licensee on November 17, 1978 and March 22, 1979 respectively.

The items of noncompliance arising out of the NRC investigation are described in Appendix A to this Order. In addition as described in Appendix B to this Order a Material False Statement was made in the FSAR in that the FSAR falsely stated that "All fill and backfill were placed according to Table 2.5-9." This statement is material in that this portion of the FSAR would have been found unacceptable without further Staff analysis and questions if the Staff had known that Category I structures had been placed in fact on random fill rather than the controlled compacted cohesive fill stated to have occurred in the FSAR.

As a result of the questions raised during the NRC investigation of the Diesel Generator Building settlement, additional information was necessary to evaluate the impact of plant safety caused by soil conditions under and surrounding structures in and on plant fill and the Licensee's quality assurance program. On March 21, 1979, the Director, Office of Nuclear Reactor Regulation, formally requested under 10 CFR 50.54(f) of the Commission's regulations information concerning these matters to determine whether action should be taken to modify, suspend or revoke the construction permits. Additional information was requested by the Staff in letters dated

September 11, 1979 and November 19, 1979. The Licensee responded to these letters, under oath, in letters dated April 24, 1979, May 31, 1979, July 9, 1979, September 13, 1979, and November 13, 1979. The Licensee has not yet responded to the November 19, 1979 requests.

Several of the Staff's requests were directed to the determination and justification of acceptance criteria to be applied to various remedial measures taken and proposed by the licensee. Such criteria, coupled with the details of the remedial action are necessary for the Staff to judge the technical adequacy and proper implementation of the proposed action. The information provided by the licensee fails to provide such criteria.

Therefore, after <sup>the</sup> material provided by the Licensee in response to the Staff questions arising out of its investigation, the Staff cannot conclude at this time that the safety issues associated with remedial action taken or planned to be taken by the Licensee to correct the soil deficiencies will be acceptable. Without the resolution of these issues the Staff does not have reasonable assurance that the ~~affected portions of the~~ <sup>will</sup> Midland facility ~~will~~ be constructed and operated without undue risk to the health and safety of the public.

III

Under the Atomic Energy Act of 1954, as amended, and the Commission's regulations, activities under construction permits or portions thereof may be suspended should the Commission find information which would warrant the Commission to refuse to grant a construction permit on an original application. We find that the quality assurance deficiencies surrounding the settlement of the Diesel Generator Building and the soil activities at the Midland site, the false statement in the FSAR, and the unresolved safety issue concerning the adequacy of the remedial action to correct the deficiencies in the soil work are adequate bases to refuse to grant a construction permit and that, therefore, suspension of certain activities under Construction Permits No. CPPR-81 and No. CPPR-82 is warranted until the related safety issues are resolved.

IV

Accordingly, pursuant to the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR Parts 2 and 50, IT IS HEREBY ORDERED THAT the Construction Permits No. CPPR-81 and No. CPPR-82 be modified as follows:

(1) The Licensee shall submit an amendment application seeking approval of the remedial actions associated with the soil activities for Category 1 pipes, buildings and other structures in and on plant fill material.

(2) Pending the issuance of the amendment of Construction Permits No. CPPR-81 and CPPR-82 approving the remedial action, Construction Permits No. CPPR-81 and CPPR-82 are modified to prohibit, after the date of this Order, ~~added to make the suspension retroactive if the hearing is dragged out such that the Licensee is building at its own risk during the~~

*soil materials beneath*

(a) any placing, compaction, or excavating ~~safety~~ *related soils, at immediate, surrounding, safety related structures and systems;*

(b) ~~all construction work related to the Diesel Generator Building and the tank farm areas; ~~and other tank farm structures on plant fills~~~~

(c) ~~physical implementation of remedial action for correction of soil-related problems including but not limited to:~~

- (i) dewatering systems
- (ii) underpinning of service water building
- (iii) caissons in valve Pit area
- (iv) compaction and loading activities

(d) ~~construction work in ~~soil~~~~ *soil materials beneath* such as field installation of conduits and piping

(3) Paragraph (2) above shall not apply to any ~~exp~~<sup>lo-</sup>oration, sampling, or testing of soil samples associated with determining actual soil properties



on site which has the approval of the Director of Region III,  
Office of Inspection and Enforcement,

V

The Licensee or any interested person may within 20 days of the date of this Order request an hearing with respect to all or any part of this amendment. This amendment will become effective on the expiration of the period during which the Licensee may request a hearing, or in the event a hearing is requested, on the date specified in an Order made following the hearing.

VI

In the event a hearing is requested, the issues to be considered at such hearing shall be:

- (1) whether the facts set forth in Part II ~~of~~ of this Order are true; and
- (2) whether this Order should be sustained.

← | FOR THE NUCLEAR REGULATORY COMMISSION | ←

*Harold R. Denton, Director  
Office of Nuclear Reactor Regulation*

Victor Stello, Jr., Director  
Office of Inspection and Enforcement

Attachments:

- Appendix A
- Appendix B

Dated at Bethesda, Maryland,  
this \_\_\_\_ day of December, 1979.

~~Forwarded To: Thornburg~~

APPENDIX A  
~~Appendix~~

NOTICE OF VIOLATION

Consumers Power Company

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

This refers to the investigation conducted by the Office of Inspection and Enforcement at the Midland Nuclear Power Plant, Units 1 and 2, Midland, Michigan, at your offices in Jackson, Michigan, and at Bechtel Corporation, Ann Arbor, Michigan of activities authorized by NRC License No. CPPR-81 and No. CPPR-82.

Based on the results of the investigation conducted during the period December 11, 1978 through January 25, 1979, it appears that certain of your activities were not conducted in full compliance with NRC requirements as noted below. These items are infractions.

1. 10 CFR 50, Appendix B, Criterion III requires, in part, that measures shall be established and executed to assure that regulatory requirements and the design basis as specified in the license application for structures are correctly translated into specifications, drawings, procedures and instructions. Also, it provides that measures shall be established for the identification and control of design interfaces and for coordination among participating design organizations.

CPCo Topical Report CPC-1-A, Policy No. 3, Section 3.4 states, in part, "the assigned lead design group or organization (i.e., the NSSS supplier, A&E supplier, or CPCo) assure that designs and materials are suitable and that they comply with design criteria and regulatory requirements."

CPCo is committed to ANSI N45.2 (1971), Section 4.1, which states, in part, "measures shall be established and documented to assure that the applicable specified design requirements, such as a design basis, regulatory requirements . . . are correctly translated into specifications, drawings, procedures, or instructions."

Contrary to the above, measures did not assure that design bases were included in drawings and specifications nor did they provide for the identification and control of design interfaces. As a result, inconsistencies were identified in the license application and in other design basis documents. Specific examples are set forth below:

- a. The FSAR is internally inconsistent in that FSAR Figure 2.5-48 indicates settlement of the Diesel Generator Building to be on the order of 3" while FSAR Section 3.8.5.5 (structural acceptance criteria) indicates settlements on shallow spread footings



founded on compacted fill to be on the order of 1/2" or less. The Diesel Generator Building is supported by a continuous shallow spread footing.

- b. The design settlement calculations for the diesel generator and borated water storage tanks were performed on the assumption of uniform mat foundations while these foundations were designed and constructed as spread footing foundations.
- c. The settlement calculations for the Diesel Generator Building indicated a load intensity of 3000 PSF while the FSAR, Figure 2.5-47, shows a load intensity of 4000 PSF, as actually constructed.
- d. The settlement calculations for the Diesel Generator Building were based on an index of compressibility of the plant fill between elevations 603 and 634 of 0.001. These settlement values were shown in FSAR Figure 2.5-48. However, FSAR, Table 2.5-16, indicates an index of compressibility of the same plant fill to be 0.003.
- e. PSAR, Amendment 3, indicated that if filling and backfilling operations are discontinued during periods of cold weather, all

frozen soil would be removed or recompacted prior to the resumption of operations. Bechtel specification C-210 does not specifically include instructions for removal of frozen/ thawed compacted material upon resumption of work after winter periods.

f. PSAR Amendment 3 indicates that cohesionless soil (sand) would be compacted to 85% relative density according to ASTM D-2049. However, Bechtel specification C-210, Section 13.7.2 required cohesionless soil to be compacted to not less than 80% relative density.

2. 10 CFR 50, Appendix B, Criterion V requires, in part, that activities affecting quality shall be prescribed and accomplished in accordance with documented instructions, procedures or drawings.

CPCo Topical Report CPC-1-A, Policy No. 5, Section 1.0 states, in part, that, "Instructions for controlling and performing activities affecting quality of equipment or operation during design, construction and operations phase of the nuclear power plant such as procurement manufacturing, construction, installation, inspection, testing . . . are documented in instructions, procedures, specifications . . . these documents provide qualitative and quantitative acceptance criteria for determining important activities have been satisfactorily accomplished."

CPCo is committed to ANSI N45.2 (1971), Section 6 which states, in part, "activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings."

- a. Contrary to the above, instructions provided to field construction for substituting lean concrete for Zone 2 material did not address the differing foundation properties which would result in differential settlement of the Diesel Generator Building.
- b. Also, contrary to the above, certain activities were not accomplished according to instructions and procedures, in that:
  - (1) The compaction criteria used for fill material was 20,000 ft-lbs (Bechtel modified proctor test) rather than a compactive energy of 56,000 ft-lbs as specified in Bechtel Specification C-210, Section 13.7.
  - (2) Soils activities were not accomplished under the continuous supervision of a qualified soils engineer who would perform in-place density tests in the compacted fill to verify that all materials are placed and compacted in accordance

with specification criteria. This is required by Bechtel Specification C-501 as well as PSAR, Amendment 3 (Dames and Moore Report, page 16).

3. 10 CFR 50, Appendix B, Criterion X requires, in part, that a program for inspection of activities affecting quality shall be established and executed to verify conformance with the documented instructions, procedures and drawings for accomplishing the activity.

CPCo Topical Report CPC 1-A, Policy No. 10, Section 3.1, states, in part, that "work activities are accomplished according to approved procedures or instructions which include inspection hold points beyond which work does not proceed until the inspection is complete or written consent for bypassing the inspection has been received from the organization authorized to perform the inspections."

CPCo is committed to ANSI N45.2 (1971), which states, in part, "A program for inspection of activities affecting quality shall be established and executed by or for the organization performing the activity to verify conformance to the documented instructions, procedures, and drawings for accomplishing the activity."

Contrary to the above, Quality Control Instruction C-1.02, the program for inspection of compacted backfill issued on October 18, 1976, did not provide for inspection hold points to verify that soil work was satisfactorily accomplished according to documented instructions.

4. 10 CFR 50, Appendix B, Criterion XVI requires, in part, that measures shall be established to assure that conditions adverse to quality such as failures, deficiencies, defective material and nonconformances are promptly identified and corrected. In case of significant conditions adverse to quality, measures shall assure that corrective action is taken to preclude repetition.

CPCo Topical Report CPC-1-A, Policy No. 16, Section 1.0 states, in part, "corrective action is that action taken to correct and preclude recurrence of significant conditions adverse to the quality of items or operations. Corrective action includes an evaluation of the conditions that led to a nonconformance, the disposition of the nonconformance and completion of the actions necessary to prevent or reduce the possibility of recurrence."

Contrary to the above, measures did not assure that soils conditions of adverse quality were promptly corrected to preclude repetition. For example:



- a. As of January 25, 1979, moisture control in fill material had not been established nor adequate direction given to implement this specification requirement. The finding that the field was not performing moisture control tests as required by specification C-210 was identified in Quality Action Request SD-40, dated July 22, 1977.
  
- b. Corrective action regarding nonconformance reports related to plant fill was insufficient or inadequate to preclude repetition as evidenced by repeated deviations from specification requirements. For example, nonconformance reports No. CPCo QF-29, QF-52, QF-68, QF-147, QF-174, QF-172 and QF-199 contain numerous examples of repeated nonconformances in the same areas of plant fill construction.

APPENDIX B  
Appendix A

NOTICE OF VIOLATION

Consumers Power Company

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

This refers to the investigation conducted by the Office of Inspection and Enforcement at the Midland Nuclear Power Plant, Units 1 and 2, Midland, Michigan, at your offices in Jackson, Michigan, and at Bechtel Corporation, Ann Arbor, Michigan, of activities authorized by NRC License No. CPPR-81 and No. CPPR-82.

During this investigation conducted on various dates between December 11, 1978 and January 25, 1979, the following apparent item of noncompliance was identified.

The Midland Final Safety Analysis Report (FSAR) contains the following:

Section 2.5.4.5.3, Fill, states: "All fill and backfill were placed according to Table 2.5-9."

Table 2.5-9, Minimum Compaction Criteria, contains the following:

<u>"Function</u>	<u>Zone (1) Designation</u>	<u>Soil Type</u>	<u>Compaction Criteria</u>	
			<u>Degree</u>	<u>ASTM Designation</u>
Support of structures		Clay	95%	ASTM D 1557-66T (modified) <sup>(2)</sup>

- (1) For zone designation see Table 2.5-10.
- (2) The method was modified to get 20,000 foot-pounds of compactive energy per cubic foot of soil."

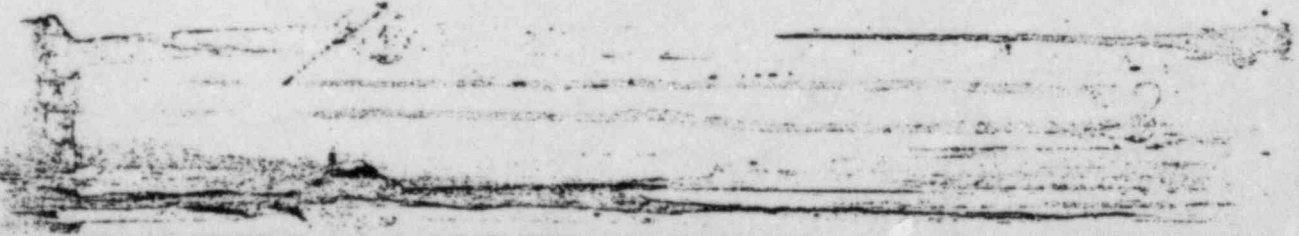
Section 2.5.4.10.1, Bearing Capacity, states: "Table 2.5-14 shows the contact stress beneath footings subject to static and static plus dynamic loadings, the foundation elevation, and the type of supporting medium for various plant structures."

Table 2.5-14, Summary of Contact Stresses and Ultimate Bearing Capacity for Mat Foundations Supporting Seismic Category I and II Structures, contains, in part; the following:

<u>"Unit</u>	<u>Supporting Soils</u>
Diesel Generator Building	Controlled compacted cohesive fill."

This information is false, in that materials other than controlled compacted cohesive fill-clay were used to support the diesel generator building and material presented concerning the supporting soils influenced the staff review of the FSAR.

"Any material free of humus, organic or other deleterious material." It was ascertained that materials other than "clay" or "controlled compacted cohesive fill" were used for support of structures.





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

January 2, 1981

MEMORANDUM FOR: N. C. Moseley, Director, Division of Program  
 Development and Appraisal

FROM: James G. Keppler, Director

SUBJECT: SALP BOARD RESULTS FOR MIDLAND UNITS 1 & 2  
 FACILITY - NOVEMBER 1980

The Systematic Assessment of Licensee Performance Board (SALP) for the Midland 1 & 2 facility convened on November 3, 1980. The Board concluded that, although significant quality assurance/quality control problems were identified during the appraisal period, the licensee's overall regulatory performance was acceptable. The Board recommended that all areas addressed in the appraisal continue to be inspected at the current frequency with three exceptions . . . an increased inspection frequency has been recommended in the categories of Quality Assurance, Management and Training; Substructures and Foundations; and Safety-Related Components (HVAC).

A Management meeting was held at the Holiday Inn, Jackson, Michigan on November 24, 1980.

The results of the SALP evaluation, the recommended plan of action for Region III, and the report covering the meeting with the licensee are enclosed for your use.

*James G. Keppler*  
 James G. Keppler  
 Director

Enclosures: As stated

cc w/encl:  
 J. S. Sniezek, IE:HQ  
 D. Hood, PM, NRR  
 Regional Directors

*XC:*  
*J. Hilbray*  
*W. Paton*  
*J. Knight*  
*J. Hene*  
*A. Cappucci*  
*J. Rindler*  
*R. Maysles*  
*Made*  
*copy*  
*Jan*

*Hand received 3/1/81*  
*2-7-81 W. H. H.*

ACTION PLAN

Facility: Midland 1 & 2

Appraisal Date: November 24, 1980

1. Escalated Enforcement Action

- a. Escalated enforcement action pending on safety-related components in HVAC system (subcontractor - Zack Company).
- b. Show cause Order was issued on soils related problems December 6, 1979.

2. Inspection Program Changes (include increased or decreased frequency)

- a. Increased inspection - QA Management and Training
- b. Increased inspection - Substructure and Foundations
- c. Increased inspection - Safety-Related Components (HVAC)

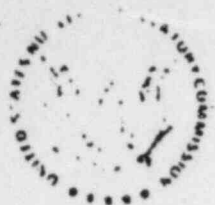
3. Management Meetings Planned

Management meetings were held on December 2, 1980 and December 17, 1980 at RIII to review CPCo Midland QA reorganization activities. Additional meetings will be held to review final status of the QA reorganization and adequacy of QA/QC staff.

4. Status of Action From Previous Appraisals

None

James S. Keagle  
Regional Director



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

Koc-

DEC 18 1980

80-35  
80-36

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:

This refers to the management meeting held on November 24, 1980, at the Holiday Inn in Jackson, Michigan relative to our evaluation of activities authorized by NRC Construction Permits No. CPPR-81 and No. CPPR-82 attended by myself and others of my staff, and by yourself and other members of your staff.

The subjects discussed during the meeting are included in the Office of Inspection and Enforcement Meeting Report and the Licensee Performance Evaluation which are enclosed with this letter.

It is our view that this meeting was effective in communicating to you and your staff the results of our evaluation of your performance of licensed activities. Also, we hope it provided you with a better understanding of our inspection program and objectives.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosures will be placed in the NRC's Public Document Room.

Consumers Power Company

- 2 -

No reply to this letter is required; however, should you have any questions concerning this matter, we will be pleased to discuss them with you.

Sincerely,

James G. Keppler  
Director

Enclosure: IE Inspection  
Reports No. 50-329/80-35  
and No. 50-330/80-36

cc w/encl:  
Central Files  
Reproduction Unit NRC 20b  
PDR  
Local PDR  
NSIC  
TIC  
Ronald Callen, Michigan  
Public Service Commission  
Myron M. Cherry

RIII

*ack*  
Sutphin/sd  
12/12/80

RIII

*ack*  
Knop

RIII

*ck*  
Fiorelli

RIII

*ack*  
Cook

RIII

*ack*  
Norellus

RIII

*ack*  
Keppler

U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Reports No. 50-329/80-35; 50-330/80-36

Docket Nos. 50-329; 50-330

Licenses No. CPPR-81; CPPR-82

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

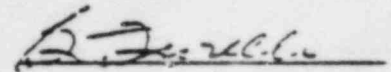
Facility Name: Midland Nuclear Power Station, Unit 1 and Unit 2

Meeting At: Holiday Inn, Jackson, MI

Meeting Conducted: November 24, 1980

NRC Participants: J. G. Keppler, Director  
G. Fiorelli, Chief, Reactor Construction and  
Engineering Support Branch  
R. C. Knop, Chief, Projects Section 1, RC&ES  
D. Hood, Project Manager, NRR  
R. Sutphin, Project Inspector, RC&ES  
R. Cook, Resident Inspector, RC&ES  
E. Gallagher, Reactor Inspector, RC&ES

Approved By: G. Fiorelli, Chief  
Reactor Construction and  
Engineering Support Branch



Meeting Summary

Management Meeting on November 24, 1980 (Reports No. 50-329/80-35  
and No. 50-330/80-36)

Areas Discussed: Management meeting held at the NRC's request to discuss the regulatory performance of the activities at Midland Nuclear Station Unit 1 and 2 as concluded in the Systematic Assessment of Licensee Performance (SALP) program.

Results: A summation of the licensee performance evaluation was presented. Areas of concern were discussed with corporate management. The performance at Midland Unit 1 and 2 was considered to be adequate.



## DETAILS

### 1. Persons Contacted

#### Consumers Power Company

S. H. Howell, Executive Vice President  
J. W. Cook, Vice President - Midland Project  
G. S. Keeley, Project Manager - Midland Project  
B. W. Marguglio, Director Environmental Service and Quality Assurance  
W. R. Bird, Manager - QA - Midland Project

### 2. Areas Discussed

- a. A summary of the SALP program was presented, including the development, the basis for evaluation, and its purpose.
- b. The results of the NRC's evaluation of the licensee's performance were discussed. (A copy of the evaluation is enclosed).
- c. Several topics related to enforcement, the inspection program, and regulatory planning were discussed with the licensee.

### 3. Major Observations

- a. Within the areas reviewed during this appraisal period, the non-compliance history for issued inspection reports was low, however, when the items of noncompliance relative to the investigation of Zack activities at the Midland site are added, the numbers are high. The investigation report for the Zack activities is under review for escalated enforcement.
- b. Of the twelve construction deficiency reports of problems reported by the licensee in accordance with 10 CFR 50.55(e) requirements, four were deemed to be within the control of the licensee.
- c. The NRC acknowledged that the licensee had undertaken a major re-organization to improve licensee control of activities, however, some problems persist. (See Inspection Reports No. 50-329/80-36 and No. 50-330/80-37.)
- d. No significant problems were identified during the evaluation. They were:
  - (1) RPV Anchor Bolts - two meetings were held relative to these bolts. It was recognized that these problems originated in the period of 1973.

- (2) Qualification of QC inspectors for containment post tensioning work - additional training and instruction was required to bring the inspectors up to an acceptable level after identification of the problem by the NRC. The meetings in RIII were documented in an inspection report.
- (3) Investigation of HVAC Zack Company activities - a lengthy investigation was conducted at the site. Bechtel and Consumers Power Company were aware of continuing problems with quality requirements, but did not stop the work. The investigation report is under review for escalated enforcement action.

The licensee was informed that the types of concerns which contributed to the three related problems were similar to those identified in previous years. While we recognized that CPCo had taken actions to improve its QA/QC operation through reorganization and restructure, additional efforts were warranted.

4. Overall Assessment

The overall performance of Consumers Power Company during the appraisal period, as related to the Midland Unit 1 and Unit 2 plants, is considered adequate.

5. Planned NRC Actions

Increased inspection effort is planned in the areas of: Quality Assurance, Management and Training; Soils; and HVAC.

Enclosure: SALP Evaluation

REGION: III

LICENSEE PERFORMANCE EVALUATION (CONSTRUCTION)

Facility: Midland Units 1 and 2

Licensee: Consumers Power Company

Unit Identification:

<u>Docket No.</u>	<u>CP No./Date of Issuance</u>	<u>Unit No.</u>
50-329	CPPR-81, December 15, 1972	1
50-330	CPPR-82, December 15, 1972	2

Reactor Information:	<u>Unit 1</u>	<u>Unit 2</u>	<u>Unit 3</u>
NSSS	B&W	B&W	
MWt	2452	2452	

Appraisal Period: July 1, 1979 to June 30, 1980

Appraisal Completion Date: November 3, 1980

Review Board Members:

J. G. Keppler, Director, RIII  
G. Ficirelli, Chief, Reactor Construction and Engineering Support Branch, RIII  
R. C. Knop, Chief, Projects Section 1, RC&ES, RIII  
D. W. Hayes, Chief, Engineering Support Section 1, RC&ES, RIII  
E. J. Gallagher, Reactor Inspector  
K. R. Naidu, Reactor Inspector  
R. J. Cook, Resident Inspector  
C. M. Erb, Reactor Inspector  
P. A. Barrett, Reactor Inspector  
E. W. Lee, Reactor Inspector  
K. D. Ward, Reactor Inspector  
I. T. Yin, Reactor Inspector

A. Number and Nature of Noncompliance Items

Noncompliance Category	Unit 1 *	Unit 2 *
Violations	-	-
Infractions	11 (10)	10 (10)
Deficiencies	1	2

Areas of Noncompliance	Unit 1 (Points)	Unit 2 (Points)
Criterion II	10	10
Criterion III	10	10
Criterion IV	10 (10)	10 (10)
Criterion V	30 (10)	30 (10)
Criterion V	2	2
Criterion VI	10	10
Criterion IX	30 (10)	20 (10)
Criterion XIII	10	10
Criterion XVII	(10)	2 (10)
Criterion VII	(10)	(10)
Criterion VIII	(10)	(10)
Criterion X	(10)	(10)
Criterion XV	(10)	(10)
Criterion XVI	(10)	(10)
Criterion XVIII	(10)	(10)

\* Items of noncompliance not yet issued with respect to the investigation of Zack Company activities at the Midland site.

B. Number and Nature of Deficiency Reports

Twelve Construction Deficiency Reports (CDR's) were received by the regional office during the period of July 1, 1979 through June 30, 1980. The nature of these reports covers a broad range of material and construction problems as listed below:

1. Containment coolers, water supply problem
2. Small break/RC Pump operation interaction
3. States sliding links, defective clip (Electrical)
4. Tendon wire length problem
5. Station batteries inadequate
- \*6. Hilti drop-in anchors
- \*7. RPV anchor bolt failures
8. Boration system inadequacies
9. Gould starters
- \*10. Epoxy coating of primary shielding walls
11. Letdown coolers supports over-stressed
- \*12. NSSS components wiring problem

\*Indicates may have been licensee controllable

C. Escalated Enforcement Actions

Civil Penalties

None

Orders

December 6, 1979, an order modifying construction permits No. CPPA-81 and CFFR-82 was issued by the NRC prohibiting certain construction activities relating to soils problems.

Immediate Action Letters

March 21, 1980 an immediate action letter was issued by the Region III office of Inspection and Enforcement concerning stop work by the Zack Corporation of all safety related heating and ventilating equipment installations.

D. Management Conferences Held During Past Twelve Months

1. Second Corporate Management Meeting - January 11, 1980 in Consumers Power Company corporate office.
2. Qualifications of QC Inspectors - Post Tensioning - October 25, 1979 in RIII office.
3. Management Problems covering HVAC and Reactor Vessel Anchor Bolts - May 2, 1980 in RIII office.

E. Justification of Evaluations of Functional Areas Categorized as Requiring an Increase in Inspection Frequency/Score (See evaluation sheet)

1. Quality Assurance, Management and Training will receive an increase in inspection frequency to verify that the reorganized QA unit is performing adequately and that identified problems are resolved.
2. Soils will receive an increase in inspection frequency to assure that corrective actions associated with the Diesel Generator building and other areas are effective.
3. HVAC will receive an increase in inspection frequency to assure that corrective actions associated with the installation of the HVAC systems are adequate to insure adequate installation of those systems.

Inspection  
Frequency and/or Scope

FUNCTIONAL AREA	Increase	No. Change	Decrease
1. Quality Assurance, Management & Training	X		
2. Substructure & Foundations	X		
3. Concrete		X	
4. Liner (Containment & Others)		X	
5. Safety-Related Structures		X	
6. Piping & Hangers (Reactor Coolant , & Others)		X	
7. Safety-Related Components (Vessel, Internals & HVAC)	X (HVAC)		
8. Electrical Equipment		X	
9. Electrical (Tray & Wire)		X	
10. Instrumentation		X	
11. Fire Protection		X	
12. Preservice Inspection		X	
13. Reporting			

*[Signature]*  
(Designated Regional Manager)

Date *[Signature]*

val

FEB 13 1981

MEMORANDUM FOR: Chairman Ahearne

THRU: William J. Dircks, Executive Director for Operations

FROM: Victor Stello, Jr., Director, Office of Inspection  
and Enforcement

SUBJECT: POSSIBLE NEED FOR ADDITIONAL ENFORCEMENT ACTION IN MIDLAND

In response to your memorandum dated January 14, 1981, the following background information is provided. Mr. Keppler reported in the enclosed memorandum to me dated August 14, 1980 that on July 30-August 1, 1980 Mr. Gibbon, Legal Assistant to Commissioner Bradford, visited the Region III Office. He accompanied Region III inspectors on an inspection at the Perry site and met with Mr. Keppler and other members of the Region III principal staff to discuss a number of issues confronting NRC and Region III.

One of the subjects brought up by Mr. Gibbon was the NRC Construction Inspection Program. Mr. Gibbon's interest in construction inspection was directed toward the role the Commissioners might play to improve NRC enforcement capabilities that would result in better licensee performance in the construction of nuclear power plants. The potential ex parte contact that was recently brought to the attention of the Midland ASLB and involved parties represented only a few minutes in the overall discussions with Mr. Gibbon, which lasted the better part of the morning.

The recommendation that was discussed with Mr. Gibbon, which resulted in the mention of Midland, was that NRC should consider stopping a specific construction activity in a timely manner, as a matter of policy, when a significant safety-related problem has been identified and when NRC is unable to support the licensee's proposed corrective actions. The focus of this recommendation was aimed at NRC policy for future cases, not at reopening the Midland issue. Mr. Keppler has stated that the reasoning behind this recommendation was obviously based on NRC experiences at Midland. In March 1979, Region III notified Headquarters in writing of the initial concerns on the need to resolve this issue. Specifically, Region III questioned continuation of construction activities when the cause of the settlement problem had not been determined and suggested consideration of an NRR directive or show cause order which would expedite evaluations of the safety significance of the problem. It was Headquarters view, at that time, that a more appropriate action was for NRR to issue a 10 CFR 50.54(f) letter. Subsequently, NRR issued a 10 CFR 50.54(f) letter to the licensee to resolve the issue, but it was not until November 1979 that NRC attention was again focused on the adequacy of the basic design as affected by "random fill" soil. At that time

*Handwritten:*  
2-17-81  
VCS/170

Region III recommended that enforcement action in the form of a civil penalty be taken to resolve that concern. I considered such action to be inadequate and, upon my personal initiative, an Order was issued jointly by the Directors of IE and NRR requiring the licensee to show cause why it should not be required to seek an Amendment regarding remedial actions associated with the soils foundation problem or stop further safety-related work in this area. Since the Order was not made immediately effective, the licensee challenged the Order, the Order was stayed, and the licensee has continued to work. Even today, the staff is still not in a position to agree or disagree with the licensee.

The personal view of Mr. Keppler on this subject is that, although construction problems rarely pose a safety-related concern requiring immediate cessation of work, it is not in the best interest of NRC or the licensee to allow questionable work to continue for a long period of time. I differ with this view. I believe that it may be in the best interests of the NRC, the licensee, and the public, especially the ratepayer, to allow construction to continue when, as in the Midland case, the NRC staff most expert in the technical disciplines involved are of the opinion that continued construction will not prohibit an acceptable level of safety being achieved prior to operation. Mr. Keppler also believes that, from a practical standpoint, the degree of construction completion is seemingly bound to influence regulatory action in that reduced, yet acceptable, safety margins may be approved by the staff. My view in this matter is that a lesser margin of safety shown to exist by more rigorous and detailed analytical analysis than that used to justify a larger numerical margin, is often more conservative and is routinely used in the licensing process to assure adherence to requirements.

There are some legal constraints on the Commission's authority to summarily suspend activities under a construction permit. Immediately effective suspensions are lawful only in cases of willfulness or those in which the public health, interest, or safety require such action. In an appropriate case a valid finding to support an immediately effective suspension of work during construction can be made. See, for example, the order to show cause issued to Consumers Power Company immediately suspending Cadwelding activities at the company's Midland construction site. However, language in the United States Supreme Court's PRDC decision should be carefully considered in determining whether a particular circumstance warrants an immediately effective suspension at the construction permit stage. There, noting that the licensee, PRDC, had "been on notice long since that it proceeds with construction at its own risk, and that all its funds may go for naught", the Court rejected the notion that "the Commission cannot be counted on, when the time comes [at the OL stage] to make a definitive safety finding, wholly to exclude the consideration that PRDC will have made an enormous investment". 367 U.S. at 415. It is my position that required regulatory actions will be taken as necessary at the operating license stage.

Within the context of the above, your specific questions are addressed as follows:



Question 1 - What is your position concerning the need to stop construction at Midland effective immediately?

Response - I do not believe there is a need to stop construction at Midland effective immediately. This was my view at the time the show cause Order was issued jointly with NRR in November 1979, and remains my position at this time. Furthermore, NRR was and is the lead Office for evaluation of design acceptability, and I have been informed by NRR that it was in November 1979, and currently is, of the opinion that construction at the Midland site need not be halted.

Question 2 - What are Mr. Keppler's concerns and how have they been addressed?

Response - Mr. Keppler has stated that his fundamental concern is that permitting construction to continue may result in safety-related problems associated with subsequently installed systems and equipment (e.g., excessive pipe stresses and questionable seismic response). In addition, he believes that permitting construction to continue after a major unanswered safety question is identified may lead to the natural tendency to "engineer away" expensive modifications by accepting reduced, yet acceptable, safety margins. His concerns will be addressed in the staff analyses and testimony being prepared for the forthcoming hearing.

Question 3 - If you now believe construction should be stopped effective immediately, what steps are you taking to do so and what is the bases for your change in position?

Response - As stated in the response to question 1, it is my position that construction need not be stopped effective immediately.

I hope that these responses are sufficient for your inquiry. Please let me know if I may be of further assistance.

Original Signed by  
V. Stello

Victor Stello, Jr.  
Director  
Office of Inspection  
and Enforcement

Enclosure:  
Memo, Keppler to Stello  
dated 8/14/80

cc: Commissioner Gilinsky  
Commissioner Hendrie  
Commissioner Bradford  
OGC  
SECY  
PE



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

ENCLOSURE 1

August 14, 1980

MEMORANDUM FOR: Victor Stello, Jr., Director, Office of Inspection  
and Enforcement

FROM: James G. Koppler, Director

SUBJECT: VISIT TO REGION III BY THOMAS GIBBON

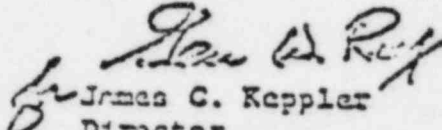
On July 30, 1980, Thomas Gibbon (Commissioner Bradford's Legal Assistant) visited the Region III Office. He then accompanied our inspectors on a construction inspection at the Perry facility on July 31 and August 1, 1980.

While in Region III, Mr. Gibbon met with the Regional Director and members of the principal staff and discussed a number of problem areas confronting the NRC and Region III. Areas of primary interest discussed were as follows:

1. NRC's Construction Inspection Program - of particular interest was our perceived lack of timeliness in identifying problems and what role the Commission should play in improving the Commission's enforcement capabilities to achieve quality in the construction area. Mr. Gibbon requested Region III to provide recommendations to him regarding our thoughts in this matter. Our comments will be coordinated with RSI.
2. Environmental Qualification of Electrical Equipment - Mr. Gibbon indicated that Commissioner Bradford viewed this as a major problem and was interested in our impressions of the effectiveness of the regional industry meetings. We told him that the Region III meeting went well and that a forceful message had been delivered to the industry that the NRC will not tolerate further delays in dealing with this problem.
3. Radioactive Material in the Public Domain - in response to Mr. Gibbon's inquiry into our major problem areas, our experiences with radioactive materials in the public domain in general were discussed. It was pointed out that the number of instances where radioactivity was being found in the public sector was large, the Regions were expending considerable manpower on these problems, and no real progress has been achieved primarily due to lack of policy in this area. The case of West Chicago was discussed specifically and Mr. Gibbon requested details concerning that case. The transmittal of this information will be coordinated with PPMI.

4. Loss of Personnel - Our concerns for the loss of key inspection personnel were also discussed. In particular, it was pointed out that some of these losses resulted from the inability to pay specialist type inspectors and their supervisors at a rate equivalent to project personnel (both reactor and nonreactor positions). It was emphasized that IE management was very much concerned about this disparity and was actively pursuing the matter with the Office of Administration.

Mr. Cordell Williams, who was with Mr. Gibbon on the inspection accompaniment, believes Mr. Gibbon was impressed with both the scope and depth of our inspection effort. During his accompaniment he raised questions in connection with the inspection program, management support and interface with NRR.

  
James C. Keppler  
Director

cc: R. C. DeYoung, IE  
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