

Distribution:

Docket File (2)	IE (3)
NRC PDR (2)	SM Kay
Local PDR (2)	MSe vice
TIC	SS Branch Chiefs
PSB File	LWR Branch Chiefs
SMacKay Reading	JPanzarella
RCDeYoung	ACRS (16)
RHeineman	DEisenhut
MWilliams	TBAbernathy, DTIE
LCrocker	ASchwencer
JRBuchanan, ORNL	

Docket Nos. 50-329 and 50-330 JAN. 26 1976

Consumers Power Company
 ATTN: Mr. S. H. Howell
 Vice President
 212 West Michigan Avenue
 Jackson, Michigan 49201

Gentlemen:

The enclosed comments and requests for information are in response to your letters of October 10, 1975 and October 15, 1975, regarding the implementation of Regulatory Guides 1.26, 1.29 and 1.94 at your Midland Plant. These guides deal with quality group and seismic classifications and concrete placement.

Your response to this request by February 6, 1976 will allow us to complete our review by March 12, 1976. Please inform us within seven (7) days after receipt of this letter of your confirmation of this date or the date you will be able to meet.

Please contact us if you have any questions regarding the information requested.

Sincerely,
 Original signed by

KARL KNIEL

for

A. Schwencer, Chief
 Plant Systems Branch
 Division of Operating Reactors

Enclosure:
 Request for Additional
 Information

cc: see page 2

THIS DOCUMENT CONTAINS
 POOR QUALITY PAGES

8006090.667 A

OFFICE →	DOR: PSB SDM	DOR: C/PSB NS KA			
SURNAME →	SMacKay:ph	ASchwencer	1/26/76		
DATE →	1/29/76	1/26/76			

JAN. 26 1976

Consumers Power Company

- 2 -

cc w/encl:

Howard J. Vogel, Esq.
Knittle & Vogel
814 Flour Exchange Building
310 Fourth Avenue
Minneapolis, Minnesota 55415

Myron M. Cherry, Esq.
Jenner & Block
1 IBM Plaza
Chicago, Illinois 60611

Harold F. Reis, Esq.
Lowenstein, Newman, Reis & Axelrad
1025 Connecticut Avenue, N. W.
Washington, D. C. 20036

Honorable William H. Ward
Assistant Attorney General
Topeka, Kansas 66601

Irving Like, Esq.
Reilly, Like & Schneider
200 West Main Street
Babylon, New York 11702

James A. Kendall, Esq.
135 N. Saginaw Road
Midland, Michigan 48640

OFFICE →

SURNAME →

DATE →

MIDLAND PLANT, UNITS 1 AND 2Docket Nos. 50-329/330REQUEST FOR ADDITIONAL INFORMATIONREGULATORY GUIDES 1.26 AND 1.29

- 211.1 Figure 4.1-1 of Amendment 26 to the PSAR indicated that the feedwater ring header has been constructed to the ANSI Power Piping Code B31.1.0. This component was purchased in 1968 and thus predates current regulatory requirements which requires construction to ASME Section III, Class 2.
- In order to assure an acceptable level of quality for this component, identify the nondestructive examinations performed on the welds of the feedwater ring header.
- 211.2 Identify those portions of the Makeup and Purification System that provide seal injection cooling water to the reactor coolant pumps and are constructed to ASME Section III, Class 3 and Seismic Category 1 requirements.
- 211.3 Identify those valves in fluid systems important to safety that you classify as "remote manual" and are not in conformance with position C.1.d in Regulatory Guide 1.26. Identify each valve by valve number and the appropriate Piping and Instrumentation diagram on which it is shown.
- 211.4 Identify those valves in fluid systems that form a part of the reactor coolant pressure boundary and are not in conformance with position C.2.d in Regulatory Guide 1.26. Identify each valve by valve number and the appropriate Piping and Instrumentation diagram on which it is shown.

The use of "remote manual" normally open valves are not permitted as isolation valves for the reactor coolant pressure boundary.

JAN. 28 1976

STRUCTURAL ENGINEERING BRANCH
REVIEW OF PROPOSED EXCEPTIONS
TO
NRC REGULATORY GUIDE 1.94
AS PRESENTED IN
CONSUMERS POWER COMPANY LETTER (10/15/75)
ON THE
MIDLAND NUCLEAR POWER PLANT UNITS 1 AND 2

1. Definition of Sample Point and In-Process Tests for Concrete
 - A. Guide Statement: Refers back to ASTM C-172 which indicates normal sampling should be at delivery from the mixer except for pumped concrete where sampling should be at the pump line discharge.
 - B. Bechtel's Midland Procedure: Collect samples at centralized batch plant and, for pumped concrete only, collect other than cylinder samples at truck discharge. Also correlate pump discharge with truck discharge.
 - C. Staff Comment: All sampling should be after final mixing but before discharge to the forms, conveyor or pump. Where pumping is used, a correlation program should be employed as well.
2. Qualification Tests for Liquid Membrane Curing Compound
 - A. Guide Statement: Perform qualification testing in accordance with ASTM C-309.
 - B. Bechtel's Midland Procedure: Project engineering selects materials without such testing.
 - C. Staff Comment: In the absence of justification to the contrary, such qualification testing should be performed in accordance with ASTM C-309.
3. Concrete Placement
 - A. Guide Statement: ACI 309-72 should be used in determining consolidation equipment adequacy and technique of operation.

- B. Bechtel's Midland Procedure: Wants to retain the use of ACI-309-70 for the Midland job.
 - C. Staff Comment: No justification has been given for the proposed use of outdated specifications. Future construction practice should use ACI 309-72.
4. In-Process Tests: See (1) above.
5. a) Mixer Uniformity
- A. Guide Statement: Testing should be prior to usage and every six (6) months thereafter in accordance with ASTM C-94.
 - B. Bechtel's Midland Procedure: Follows the NRMCA procedure.
 - C. Staff Comment: The NRMCA procedure does not require the use of ASTM C-94. The guide should be followed.
- b) Air Content
- A. Guide Statement: Test the first batch produced each day and every additional fifty (50) cubic yards placed in accordance with ASTM C-173 or C-231.
 - B. Bechtel's Midland Procedure: Perform one test for every one-hundred (100) cubic yards placed. (This is the same requirement as WASH-1309).
 - C. Staff Comment: The guide requirements should govern. WASH-1309 should be amended to conform.
- c) Compressive Strength of Grout
- A. Guide Statement: Test daily during production using ASTM C-109.
 - B. Bechtel's Midland Procedure: No in-process testing.
 - C. Staff Comment: The guide provisions should be followed.
- d) ii, iii, & iv - Aggregate Testing for Friable Particles, Lightweight Pieces and Soft Fragments
- A. Guide Statement: ASTM C-123 (for lightweight pieces) is performed monthly. ASTM C-142 (for friable particles) is performed

- monthly. ASTM C-235 (for soft fragments) is performed monthly.
- B. Bechtel's Midland Procedure: Initial testing is performed. No in-process testing is provided.
- C. Staff Comment: The guide requirements are more detailed and insure better quality control. They should be followed.
- d) i - Aggregate Finer Than 200
- A. Guide Statement: Requires daily testing in accordance with ASTM C-117.
- B. Bechtel's Midland Procedure: Indicates that testing will be accomplished for every 1500 tons. The testing specification is not indicated.
- C. Staff Comment: No reasons for deviating from the guide are presented. The guide requirements should be employed.
- d) v - Aggregate Los Angeles Abrasion Testing
- A. Guide Statement: Testing every six (6) months using ASTM C-131 or C-535.
- B. Bechtel's Midland Procedure: Initial testing and every 2500 cubic yards of aggregate thereafter.
- C. Staff Comment: Bechtel's proposal is acceptable provided the interval between tests does not exceed six (6) months.
- e) Water
- A. Guide Statement: Compliance with AASHTO T26, ASTM C-109, ASTM C-191 and ASTM 151 and tested every 6 months.
- B. Bechtel's Midland Procedure: Testing frequency is every 2500 cubic yards (Except for soundness). Soundness included in cement users tests per ASTM C-150 for every 5000 cubic yards. No compliance with AASHTO T26.
- C. Staff Comment: Sufficient justification for these exceptions has not been provided and the guide should therefore be employed. However, a test frequency of every 2500 yards is acceptable provided the interval between tests does not exceed six (6) months.

f) Admixtures

- A. Guide Statement: Infrared spectrophotometry analysis and tests on composite of each shipment for chemical composition.
- B. Bechtel's Midland Procedure: Not performed since admixtures are purchased against ASTM C-494 or C-260.
- C. Staff Comment: No composite testing is provided. The guide should be followed.

g) Cement

- A. Guide Statement: Standard physical and chemical properties tested on each 1200 tons per ASTM C-183 and ASTM C-150.
- B. Bechtel's Midland Procedure: Initial test and every 5000 cubic yards for grinds.
- C. Staff Comment: Twelve hundred (1200) tons corresponds to approximately 1000 cubic yards. This is much more frequent than the 5000 cubic yards proposed by Bechtel. The guide should be used.

6. Qualification of Cadweld Operators

- A. Guide Statement: ANSI N45.2.5-1974 is somewhat ambiguous with regard to bar size to be tested and NRC Guide 1.10 does not include specifics on the bar size.
- B. Bechtel's Midland Procedure: Qualification for each position will be on basis of largest sized bar used in that position.
- C. Staff Comment: This interpretation has been agreed to in the past and continues to be acceptable.

7. Welded Reinforcing Bar Splices

- A. Guide Statement: ANSI N45.2.5 Section 5.5 supplemented by ACI-359 Subsubarticle CC-4330 and paragraph CC-4334.
- B. Bechtel's Midland Procedure: Meets requirements of Section 5.5 of ANSI N45.2.2 but not AWS D12.1 to which Section 4.10 of ANSI N45.2.2 refers to.

- C. Staff Comment: AWS D12.1 provides details of the welding techniques for reinforcing steel welding but does not state the requirements for testing. The testing procedures and requirements are stated in the ACI/ASME 359. For this reason, it is suggested that the applicant comply with both documents AWS D12.1 and ACI/ASME 359.

8. High Strength Bolting

- A. Guide Statement: Bolt tightening shall be in accordance with the specified method, i.e., automatic cut-off impact wrench or turn-of-nut method.
- B. Bechtel's Midland Procedure: Use direct tension indicators (tabbed washers) for controlling bolt tightening.

Discussion: The use of direct tension indicators for high strength bolting is neither specifically permitted nor prohibited in ANSI N45.2.5. The reference to specific bolt tightening methods in ANSI N45.2.5 appears to exclude such indicators, implied acceptance of such devices. SEB made a cursory review of this device in 1973 and has again reviewed the literature and performance data on the device. The device appears suitable to provide controlled bolt tension in nuclear structural applications. However, the quality control measures that are associated with its use have not been fully documented.

- C. Staff Comment: We cannot make a final evaluation until Bechtel submits for review the quality control measures that will be followed with the use of these devices in the Midland project.