

September 29, 1976

Docket Nos. ~~35-129~~
and 50-330

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

Certification:

This letter is in partial response to your request for a review of the implementation of regulatory guides on the Midland Plant. The enclosed comments pertain to your letter of July 21, 1975 regarding regulatory guides dealing with electrical, instrumentation and control systems.

The enclosed contains specific comments on Regulatory Guides 1.5, 1.6, 1.10, 1.22, 1.32, 1.42, 1.47, 1.49, 1.53, 1.62, 1.63, 1.72, 1.73 and 1.81. The evaluation of your compliance regarding Regulatory Guide 1.12 is addressed in our previous letter dated June 8, 1976.

The enclosed comments result from our review of your letters of July 21, 1975 and February 3, 1976; review of pertinent parts of your Preliminary Safety Analysis Report and license application; consideration of the discussions we have had with you on this matter; and the application of appropriate regulations, codes and standards. Based on this review, we have concluded that the implementation of regulatory guides and acceptable alternatives indicated by our enclosed comments does not constitute a change to the principal architectural and engineering criteria which formed the basis for issuance of the construction permits for the Midland Plant, and that such implementation does conform to the General Design Criteria of Appendix A to 10 CFR 50.

It is requested that you document the degree to which you will implement the regulatory guides and acceptable alternatives, indicated in the enclosed comments by appropriate amendments to the Midland application and revisions to the Preliminary Safety Analysis Report.

Sincerely,

S. A. Varga, Chief
Light Water Reactors Branch No. 4
Division of Project Management

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Enclosure:
Regulatory Guide

DEM/LWR #4

DSS/ET&CS

OELD

DPN/LWR #4

L.Crocker-pav

Tippolito

Youngblood

DEVassallo

09/06/76

09/15/76

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- LShao
- RMinogue
- GLadnas
- Tippolito
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- WHaass
- Gknighton
- BYoungblood
- WRagan
- DBunch
- JTCollins
- JCStepp
- RHVoilmer
- DFross
- DZiemann
- RLBaer
- GArdt

Consumers Power Company

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MIDLAND PLANT UNITS 1 AND 2
REGULATORY GUIDE REVIEW

1. Regulatory Guide 1.63 - "Electric Penetration Assemblies in Containment Structures for Water-Cooled Nuclear Power Plants" - (October 1973)

This guide describes an acceptable method of complying with General Design Criterion 50 and Appendix B to 10 CFR Part 50 with respect to the mechanical, electrical, and test requirements for the design, construction and installation of electric penetration assemblies in containment structures for water-cooled nuclear power plants.

The staff has reviewed the applicant's alternative to Position C.1 of this guide and has concluded that it is not acceptable. The applicant's alternate design criteria are not equivalent to the requirements of Regulatory Position C.1 including IEEE 279-1971.

It is the staff's position that Position C.1 of Regulatory Guide 1.63 or an acceptable alternate with justification, be incorporated into the Midland Units 1 and 2 design. The applicant is required to provide this information for review.

2.

Regulatory Guide 1.73 - "Qualification Tests of Electric Valve Operators Installed Inside the Containment of Nuclear Power Plants"
- (January 1974)

This guide describes an acceptable method of complying with Appendix B to 10 CFR Part 50 with regard to qualification testing of Class I electric valve operators for service within the containment to assure that the valve operator design will meet its performance requirements.

The staff has reviewed the applicant's response provided in the enclosure to the letter of February 3, 1976, defining the differences between the Draft 13 and the April 10, 1973, versions of IEEE Std 382. This was the only exception taken by the applicant to the guidelines of Regulatory Guide 1.73. The staff has reviewed these differences and has concluded that the Draft 13 version of IEEE Std 382 does not provide less conservative testing requirements than the April 10, 1973 version. Accordingly, the staff concludes that use of the Draft 13 version of IEEE Std 382 represents an acceptable alternate for implementing the recommendations of this guide.

3. Regulatory Guide 1.75 - "Physical Independence of Electric Systems" - (Revision 1, January 1975)

This guide describes an acceptable method of complying with IEEE Standard 279-1971 and General Design Criteria 3, 17 and 21 with respect to physical independence of the circuits and electric equipment comprising or associated with the Class IE power system, the protection system, systems actuated or controlled by the protection system, and auxiliary or supporting systems that must be operable for the protection system and the systems it actuates to perform their safety related functions.

The staff has reviewed the applicant's response concerning the exceptions to Regulatory Guide 1.75 (enclosure to letter of February 3, 1976) and has concluded it is unacceptable. The staff requires that the applicant provide justification for each exception taken to Regulatory Guide 1.75. This information should be presented in detail to demonstrate how the design satisfies the requirements of General Design Criteria 3, 17, and 21 as well as IEEE Std 279-1971, all of which the recommendations of Regulatory Guide 1.75 satisfy. The applicant is required to provide this information for review.

4. As a result of the staff review of information provided by the applicant in letters dated July 21, 1975 and February 3, 1976, and during the meeting held in November 13, 1975, the staff understands that the applicant is implementing fully the following regulatory guides for the Midland Plant design:
- a. Regulatory Guide 1.6 - "Independence Between Redundant Standby (Onsite) Power Sources and Between Their Distribution Systems" (Safety Guide 6, 3/10/71)
 - b. Regulatory Guide 1.9 - "Selection of Diesel Generator Set Capacity for Standby Power Supplies" - (Safety Guide 9, 3/10/71)
 - c. Regulatory Guide 1.11 - "Instrument Lines Penetrating Primary Reactor Containment" - (Safety Guide 11, 3/10/71 with Supplement dated February 17, 1972)
 - d. Regulatory Guide 1.22 - "Periodic Testing of Protection System Actuation Functions", - (Safety Guide 22, February 17, 1972)
 - e. Regulatory Guide 1.32 - "Use of IEEE STD 308-1971, Criteria for Class IE Electric Systems for Nuclear Power Generating Stations" - (Safety Guide 32, August 11, 1972)
 - f. Regulatory Guide 1.40 - "Qualification Tests of Continuous - Duty Motors Installed Inside the Containment of Water-Cooled Nuclear Power Plants" - (3/16/73)
 - g. Regulatory Guide 1.41 - "Preoperational Testing of Redundant On-Site Electric Power Systems to Verify Proper Load Group Assignments" - (3/16/73)
 - h. Regulatory Guide 1.45 - "Reactor Coolant Pressure Boundary Leakage Detection Systems" - (May 1973)
 - i. Regulatory Guide 1.47 - "Bypassed and Inoperable Status Indication for Nuclear Power Plant Safety Systems" - (May 1973)
 - j. Regulatory Guide 1.53 - "Application of the Single-Failure Criterion to Nuclear Power Plant Protection Systems" - (June 1973)
 - k. Regulatory Guide 1.62 - "Manual Initiation of Protective Actions" - (October 1973)
 - l. Regulatory Guide 1.81 - "Shared Emergency and Shutdown Electric Systems for Multi-Unit Nuclear Power Plants" - (Revision 1, January 1975)