



Consumers  
Power  
Company

James W Cook

Vice President - Projects, Engineering  
and Construction

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

March 30, 1983

Harold R Denton, Director  
Office of Nuclear Reactor Regulation  
US Nuclear Regulatory Commission  
Washington, DC 20555

MIDLAND NUCLEAR COGENERATION PLANT  
MIDLAND DOCKET NOS 50-329, 50-330  
SEISMIC MARGIN REVIEW REPORT  
FILE: B3.7.1 SERIAL: 21567

ENCLOSURE: VOLUME II - REACTOR CONTAINMENT BUILDING (25 COPIES)

REFERENCE: LETTER FROM J W COOK TO H R DENTON, SERIAL 21010  
DATED FEBRUARY 4, 1983

As an attachment to our letter, Serial 21010, dated February 4, 1983, we submitted the criteria for the Seismic Margin Review, Volume I, for the Staff's review and it was subsequently discussed in a meeting on February 8, 1983 in Bethesda. The firm of Structural Mechanics Associates (SMA) of Newport Beach, CA, under the direction of Dr. R P Kennedy was entrusted the task of performing the Seismic Margin Review per the criteria in Volume I. Volume II, dealing with the evaluation of the seismic margins in the Reactor Containment Building, is submitted for the Staff's review as an attachment to this letter.

Volume II of the Seismic Margin Review report titled, "Reactor Containment Building" describes in detail the method of analysis and the resulting seismic margins. The Staff requested us to consider concurrent effects of pressure due to a small break LOCA event along with the seismic margin earthquake in evaluating the margins of the reactor containment building. However, the criteria for establishing the characteristics of a small break LOCA is not yet well defined. Therefore, a very conservative approach was chosen by assuming concurrent occurrence of full design basis accident pressure (70 psig) along with the seismic margin earthquake. Furthermore, as an additional source of conservatism, the maximum design accident temperature due to a design basis LOCA was also included as part of the loading combination. In spite of all of the above mentioned conservatism, the evaluation shows that there is still considerable amount of margin in the design. The lowest margin identified for the containment shell and basemat was conservatively estimated at 1.50 with respect to code allowables. For the internal concrete structures lowest

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margin was conservatively estimated as being 1.60 with respect to code allowables.

Future volumes of the Seismic Margin Review report dealing with structures and systems will be submitted as they become available.

*James W. Cook*

JWC/BFH/dlm

CC RJCook, Midland Resident Inspector  
RHernan, US NRC (3)  
FRinaldi, NRC  
GHarstead, Harstead Engineering

CONSUMERS POWER COMPANY  
Midland Units 1 and 2  
Docket No 50-329, 50-330

Letter Serial 21567 Dated March 30, 1983

At the request of the Commission and pursuant to the Atomic Energy Act of 1954, and the Energy Reorganization Act of 1974, as amended and the Commission's Rules and Regulations thereunder, Consumers Power Company submits Volume II of the Seismic Margin Review Report.

CONSUMERS POWER COMPANY

By

J W Cook  
J W Cook, Vice President  
Projects, Engineering and Construction

Sworn and subscribed before me this 6<sup>th</sup> day of April 1983.

Beverly A. Avery  
Beverly A. Avery Notary Public  
Jackson County, Michigan

My Commission Expires January 16, 1985