NOV 6 1974

Docket Nos. 50-329
and 50-330

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

Gentlemen:

We have reviewed Amendment 25 to your application on the Midland Plant, Units 1 and 2, in which you propose a five-foot lower design-basis Probable Maximum Flood (PMF) stillwater level. We have evaluated your analysis and, in addition, we have conducted an independent analysis of this matter. Our positions with respect to flood protection are detailed in the enclosure to this letter.

Please inform us within 7 days after receipt of this letter of your intent regarding compliance with the positions listed in the enclosure.

If you disagree with the staff positions relating to your application, you may have the opportunity to bring the matter to the attention of Licensing management. This may be done either orally or in writing, but you should specify the matters to be discussed and indicate your reasons for disagreement with the staff reviewers.

Please contact us if you have any questions regarding the staff positions.

Sincerely,

Original signed by

A. Schwencer, Chief
Light Water Reactors Branch 2-3
Directorate of Licensing

Enclosure:
Regulatory Staff Positions

ccs: See next page

ccs: Harold F. Reis, Esquire
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DATE	11/6/74	11/6/74				

Form AEC-318 (Rev. 9-53) AECM 0240 U.S. GOVERNMENT PRINTING OFFICE: 1971 — 419-397

REGULATORY STAFF POSITIONS REGARDING
PROBABLE MAXIMUM FLOODING
CONSUMERS POWER COMPANY
MIDLAND PLANT, UNITS 1 & 2
DOCKET NOS. 50-329 & 50-330

At the time the construction permit (CP) was issued for the Midland Plant, Units 1 and 2, we accepted your calculated Tittabawassee River PMF peak discharge of 262,000 cubic feet per second (cfs) and the associated still-water elevation of 631.0 feet msl. This level, plus that resulting from windwave action (not then determined), was to provide the design-basis for PMF protection.

As part of Amendment 25, you submitted a report entitled, "Probable Maximum Flooding Near the Midland Site". Five major concerns are addressed in that report: 1) the natural PMF discharge in the Tittabawassee River at the plant site, 2) the effect of upstream dam failures at the time of the PMF, 3) the maximum stillwater level resulting from the PMF (or PMF plus dam failure), 4) flood protection against concurrent windwave activity, and 5) the water level resulting from a Bullock Creek PMF concurrent with a 100-year flood on the river.

We find that your calculational techniques described in Amendment 25 are not the same as those we evaluated and accepted during the CP review for the Midland Plant, Units 1 and 2. As a result of your proposed changes in calculational techniques, we find that you now propose a postulated PMF peak discharge of 188,00 cfs and an associated stillwater level of 625.7 feet msl at the plant site. As described in Amendment 25, your calculational techniques do not meet our suggested criteria, Regulatory Guide 1.59, "Design-Basis Floods for Nuclear Power Plants". Therefore, the staff has conducted their own independent PMF analysis using data requested by the staff and supplied by you.

The results of our analysis indicate that your proposed (Amendment 25) design-basis stillwater level of 625.7 feet msl is not conservative. Furthermore, our detailed analysis substantiates that the originally proposed probable maximum stillwater elevation of 631.0 feet msl was appropriate and conservative. It is our position that this elevation be taken as the design-basis stillwater level.

In Amendment 25, you provide a summary of calculations used to determine the windwave runup due to maximum wave concurrent with the design-basis stillwater level. For your proposed stillwater level of 625.7 feet msl, we find that you calculate the runup elevation at maximum wave to be 634.0 feet msl for winds blowing downstream and 632.6 feet msl for winds blowing upstream. Since your runup calculations were based on a nonacceptable stillwater level, we computed windwave runup based upon a stillwater level of 631.0 feet msl.

Using a stillwater level of 631.0 feet msl and information provided in Amendment 25, we calculate the runup elevation at maximum wave to be 639.8 feet msl for winds blowing downstream and 641.8 feet msl for winds blowing upstream. Therefore, it is our position that you should provide design details and bases for one of the following:

a) Hardened flood protection (as defined in Regulatory Guide 1.59, Position 1) to elevation 641.8 feet msl, or

b) Water-proofing to elevation 641.8 feet msl and a technical specification describing a safe shutdown procedure, including warning times available for each stage of shutdown (as defined in Regulatory Guide 1.59, Position 2) and the time required for each stage.

We will also require final slope protection design and bases for the plant yard fill, the cooling pond dikes, and associated safety-related structures for either item a) or b) mentioned above.