January 30, 1987

Docket No. 50-155

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Mr. Kenneth W. Berry
Director, Nuclear Licensing
Consumers Power Company
1945 West Parnall Road
Jackson, Michigan 49201

Dear Mr. Berry:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - TECHNICAL SPECIFICATION CHANGES PERTAINING TO CYCLE 22 RELOAD AND HYBRID CONTROL BLADES INSTALLATION

Re: Big Rock Point Plant

The staff has reviewed your December 5, 1986 Technical Specification Change Request concerning hybrid control rods and has determined that additional information is needed to complete their evaluation. Please review the enclosed information request and provide the requested information at your earliest convenience. If you have any questions, please call your NRC Project Manager, Mr. Charles S. Hinson, at (301) 492-9419.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

Sincerely,

Original signed by

John A. Zwolinski, Director
BWR Project Directorate #1
Division of BWR Licensing

Enclosure:
Information Request

cc w/enclosure:
See next page

DBL:BWD1	DBL:BWD1	DBL:BWD1
CJamerson	CHinson:jg	JZwolinski
1/30/87	1/30/87	1/30/87

cc:

Mr. Thomas A. McNish, Secretary
Consumers Power Company
212 West Michigan Avenue
Jackson, Michigan 49201

Judd L. Bacon, Esquire
Consumers Power Company
212 West Michigan Avenue
Jackson, Michigan 49201

Big Rock Point Plant
ATTN: Mr. David P. Hoffman
Plant Superintendent
10269 U.S. 31 North
Charlevoix, Michigan 49720

Mr. Bud Heeres
County Commissioner
303 Sheridan
Charlevoix, Michigan 49720

Office of the Governor
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Lansing, Michigan 48913

Regional Administrator
Nuclear Regulatory Commission, Region III
799 Roosevelt Road
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Nuclear Facilities and Environmental
Monitoring Section Office
Division of Radiological Health
P. O. Box 30035
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U.S. Nuclear Regulatory Commission
Resident Inspector Office
Big Rock Point Plant
10253 U.S. 31 North
Charlevoix, Michigan 49720

ENCLOSURE

REQUEST FOR ADDITIONAL INFORMATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATING TO CYCLE 22 RELOAD AND HYBRID CONTROL BLADES INSTALLATION

CONSUMERS POWER COMPANY

BIG ROCK POINT PLANT

DOCKET NO. 50-155

1. The Technical Specification core operating limits defined in Section 5.2.1(b), Table 1, must be at least as restrictive as the operating conditions determined by the Cycle 22 safety analyses based on approved methodology. Operation under conditions which could lead to violation of a safety limit in the event of an anticipated operational occurrence must be prohibited by the Technical Specifications. The existing operating limits in Table 1 do not appear to satisfy these criteria. Unless you can provide information to demonstrate otherwise, we will require that Consumers Power Company (CPC) propose additional changes to Table 1 operating limits. Some suggested features of the modified Technical Specifications follow:

   (a) Core thermal power - If core operating limits are to be maintained by a pre-planned power derating program based on exposure dependent calculations, a curve of the maximum thermal power versus cycle exposure should be provided. Operation at thermal power limits defined by this curve should assure that all related core operating thermal limits defined in Table 1 (i.e., MCPR based on XN-2, maximum steady-state heat flux, MAPLHGR, maximum bundle power) are satisfied for the operating conditions assumed in the safety analyses.

   (b) Other thermal limits - If the limits are to be expressed in values excluding application of approved uncertainty factors (Big Rock Point Physics Methodology Report, Rev. 3, Oct. 11, 1982), the values of the uncertainty factors should be incorporated into Technical Specification Table 1. Alternatively, the limits may be expressed after application of the uncertainty factors. If the limits are to be expressed as a single value for each fuel type, the Table 1 value must bound the most limiting value at any time in the operating cycle. Alternatively, exposure dependent curves based on the safety analyses for the operating cycle may be provided.

2. In the supplemental information submitted with the January 20, 1987 letter from Ralph R. Frisch, CPC, Table 2 of Question 5 indicated that the limiting transient and controlling operating limits are very sensitive to cycle exposure time. Describe in more detail your procedures to determine the limiting transient and associated power operating limit at any point in the operating cycle. For example, the transition from a heat flux limiting factor (0.5 GWD/ST) to MCPR limiting factor (1.0 GWD/ST) would not be expected to result in stepwise relaxation of the operating power limit from 213 MWt to 233 MWt. Also, provide definition of the limiting transient and the safety limit associated with each of the limiting factors determined by your safety analysis.

3. Hafnium Hybrid Control Rods - Inclusion of the hafnium hybrid control rods will be approved for Operating Cycle 22 based on the information previously submitted. However, we will require your commitment to define a continuing surveillance program for future cycles based on results of the Cycle 22 inspections and to submit the program for NRC approval prior to continuing operation with these control blades after operating cycle 22. This submittal should include further discussions on the design life time, including reactivity, of the new hafnium control blades and a description of any physical differences (i.e. dimensional differences, material differences, welding techniques) between the NUCOM and GE control blades that would account for NUCOM blades being lighter than the GE blades.