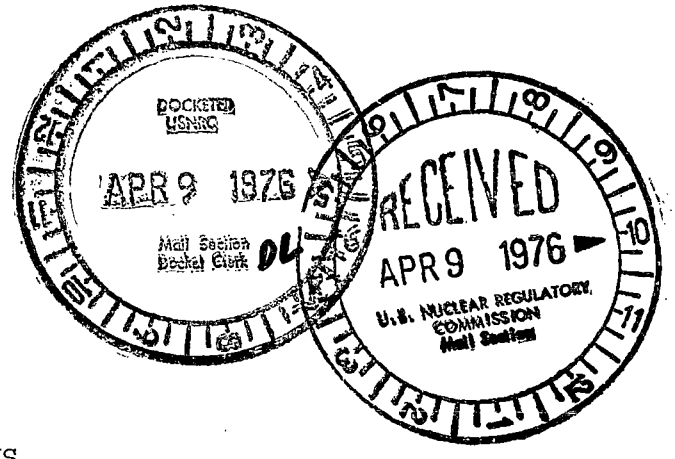
Regulatory Docket File

Consumers Power Company

General Offices: 212 West Michigan Avenue, Jackson, Michigan 49201 • Area Code 517 788-0550

April 8, 1976



Director of Nuclear Reactor Regulation
Att: Mr Robert A. Purple, Chief
Operating Reactor Branch No 1
US Nuclear Regulatory Commission
Washington, DC 20555

DOCKET 50-255, LICENSE DPR-20
PALISADES PLANT - MISCELLANEOUS QUESTIONS
CYCLE 2 RELOAD FUEL

During telephone conversations between members of your staff, Consumers Power Company, and, on some occasions, Exxon Nuclear Company, formal responses were requested for a number of items. These items and our responses follow:

Item 1

A question was raised concerning the single failure which was assumed in performing the evaluation of emergency core cooling system performance under loss of coolant accident conditions.

The calculations submitted in XN-76-4 assumed that a low-pressure safety injection pump failed to start. This single failure assumption is consistent with the analysis performed by Combustion Engineering and submitted to you on July 9, 1975 and with the single failure analysis performed in CENPD-132.

Documentation of this single failure assumption was inadvertently omitted from the text of XN-76-4.

Item 2

In our letter of March 20, 1976, a response to Question 1.6 was provided to describe Consumers Power Company's proposed fuel surveillance program following Cycle 2 of operation. To clarify that response, the visual examination of a fuel assembly includes a full-length examination of each fuel rod and guide bar on the fuel assembly periphery. It also includes an examination of the visible portion of the spacer grids.

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Item 3

A request was made to revise Table 5.1 of XN-75-66, "Palisades Cycle 2 Reload Fuel Licensing Data Submittal." The revision was to address the D-E-F fueled core.

Attachment I to this letter provides information which updates that provided in the subject table. This table provides the Nominal Neutronics Characteristics of Cycle 2 (D-E-F core).

David A. Bixel

David A. Bixel
Assistant Nuclear Licensing Administrator

CC: JGKeppler, USNRC

ATTACHMENT I

Revised w/Ltr Dated 4-8-76

Nominal Neutronics Characteristics
of Cycle 2 (D-E-F Core) Versus Cycle 1

Parameter	Cycle 1(1) BOC	Cycle 1(1) EOC	Cycle 2 BOC	Cycle 2 EOC
1. Moderator Temperature Coefficient HFP, ARO, 10^{-4} $\Delta\rho/°F$	-0.08	-2.25	-0.10	-1.42(2)
2. Doppler Coefficient 10^{-5} $\Delta\rho/°F$	-1.08	-1.0	-1.13	-1.1
3. ARO Power Peaking Factors:				
a. Radial	1.52	1.42(3)	1.77	1.59
b. Axial	1.5	NA	1.40	1.10
c. Total	2.28	NA	2.48	1.75
4. Effective Delayed Neutron Fraction(4)	.0060	.0052	.0069	.0051
5. HFP ARO Critical Boron Concentration, Ppm 8^{nat}	1070	0	1150	30
6. Reciprocal Boron Worth, Ppm/%$\Delta\rho$	84	NA	86	84

Notes:

(1) Except as otherwise noted, all Cycle 1 values are from the FSAR.
(2) The MTC at EOC2 is less negative than the FSAR value of -2.25×10^{-4} for EOC1 partially as a result of reduced operating temperature (T_{avg} of 540°F instead of 568°F). The indicated value for EOC2 is supported by measurements taken late in Cycle 1.
(3) ENC calculated value.
(4) The BOC1 value is that used in the FSAR ejected rod analysis and is thought to be conservatively somewhat lower than the nominal value; the nominal BOC1 value is probably nearly equal to the value shown for BOC2. An EOC2 value of 0.0052 which was based upon an assumed effectiveness disadvantage factor of 0.975 has been previously reported for EOC2. The slightly reduced value tabulated is based upon a disadvantage factor of 0.964 which has since been calculated for Cycle 2.