

CONSUMERS POWER COMPANY  
DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT  
REQUEST FOR CHANGE TO TECHNICAL SPECIFICATIONS

For the reasons hereinafter set forth, it is requested that the Technical Specifications contained in the Provisional Operating License DPR-20, Docket 50-255, issued to Consumers Power Company on October 16, 1972, for the Palisades Plant be changed as described in Section I below:

I. CHANGES

Change Section 2.3 to include the following:

2.3 Limiting Safety System Settings - Reactor Protective System

Basis

... As such, a maximum error in the calculated set point of -165 psi has been assumed in the accident analysis. <sup>(12)</sup>

An analysis has been performed <sup>(14)</sup> which verifies that the TM/LP trip for 4-pump operation provides adequate thermal margin when RTD time delays and conservative assumptions regarding part power radial peaking factors are compensated for by an improved pressurizer model, a primary coolant flow update and the XNB DNB correlation for control rod withdrawal transients. The XNB DNB correlation has been shown to be applicable to the Palisades Plant in Reference 15.

For two- and three-pump coolant pump operation, power is limited to 21% and 39% of rated power, respectively, for a maximum of 12 hours. ...

Change Section 2.3 References to include the following:

(14) XN-NF-83-57

(15) XN-NF-709

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PDR

Change Section 3.23.1 Basis to include the following:

... In addition, the limitation on LHR for the highest power fuel rod, narrow water gap fuel rod and interior fuel rod ensures that the minimum DNBR will be maintained above 1.30 for the W3 correlation or above 1.17 for the XNB correlation during anticipated transients; and that fuel damage during Condition IV events such as locked rotor will not exceed acceptable limits. (2)(3)(5) ...

Change Section 3.23.1 References to include the following:

(5) XN-NF-83-57

The revised Technical Specifications pages are attached. Proposed changes are shown by a vertical line in the right-hand margin.

## II. DISCUSSION

The Licensee Event Report (LER) 83-20 (RTD Response Time) was submitted to the NRC on April 5, 1983. The LER reported that Consumers Power Company discovered that the safety analysis contained in XN-NF-77-18, "Plant Transient Analysis of the Palisades Reactor for Operations at 2530 Mwt," dated July 1977, did not account for the response times of the RTDs in the primary coolant system. The purpose of this Technical Specification Change is to complete the corrective actions required by the LER.

The 1977 analysis was performed with the PTSPAL version of the PTSPWRs transient code and with the W-3 DNB correlation. Calculations for the most limiting transient, the rod withdrawal transient initiated from 52% of rated power, resulted in an MDNBR of 1.32, compared to the W-3 limit of 1.30.

The current rod withdrawal analysis is performed in a more conservative manner than the previous analysis in 1977. The current analysis accounts for the effect of the RTD response time on the TM/LP trip. To further add conservatism, radial peaking values are held constant during rod withdrawal transients and not allowed to decrease as reactor power increases. The analysis was performed at the current Palisades Technical Specification part power peaking limits. To provide acceptable DNB limits, some of the excess conservatisms were removed from the 1977 analysis. This included the use of the ENC XNB correlation to calculate DNB, and an update to the algorithm for

calculating reactor coolant flow. In addition to the above changes, the UFEB82 version of the PTSPWR2 code which has been used in licensing analyses of other CE reactors was adopted. The new version of the code include a pressurizer model which more accurately calculates the pressure increase in the pressurizer during rod withdrawal transients.

The use of an improved basis for DNBR analysis of the rod withdrawal transient does not compromise the previous 1977 analysis of the other limiting transients which is based upon models and a DNB correlation containing excess conservatisms.

### III. CONCLUSION

The Palisades Plant Review Committee has reviewed this Technical Specification Change Request and has determined that this change does not involve an unreviewed safety question and therefore involves no significant hazards consideration. This change has also been reviewed under the cognizance of the Nuclear Safety Board. A copy of this Technical Specification Change Request has been sent to the State of Michigan official designated to receive such Amendments to the Operating License.

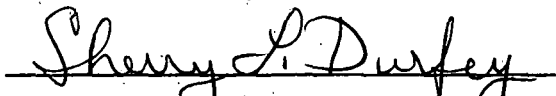
CONSUMERS POWER COMPANY

By



R B DeWitt, Vice President  
Nuclear Operations

Sworn and subscribed to before me this 29th day of September 1983.



Sherry L. Durfey, Notary Public  
Jackson County, Michigan

My commission expires November 5, 1986.

**SHERRY LYNN DURFEY**

Notary Public, Jackson County, Mich.  
My Commission Expires Nov. 5, 1986