

Docket No. 50-255 ←

DEC 8 1972

Consumers Power Company  
ATTN: Mr. R. C. Youngdahl  
Senior Vice President  
212 West Michigan Avenue  
Jackson, Michigan 49201

Change No. 2  
License No. DPR-20

Gentlemen:

Your letter dated October 12, 1972, proposed changes to the Interim Special Technical Specifications (Appendix B) of Provisional Operating License No. DPR-20 (Amendment 4) for the Palisades Plant. These changes would permit operation of the plant at power levels higher than presently authorized (60% of full power).

The two attachments to your October 12, 1972, letter presented your analyses justifying the power increase and addressing concerns related to densified fuel and collapsed fuel cladding. Your October 12, 1972, submittal was presented to us in advance of publication of our "Technical Report on Densification of Light Water Reactor Fuels", dated November 14, 1972, and therefore you did not have the benefit of the guidance presented in this report in preparing your submittal. In reviewing your proposal, it was necessary for us to perform our own evaluation of the effects of densification and collapse. On several occasions we asked you to perform further analysis and calculations. You submitted the results of this work in letters dated November 13, November 21, and December 8, 1972. We have used this additional information in our evaluation.

Based upon our evaluation, we approve a temporary power increase up to 85% of full power (1870 MWt), for an operating period not to exceed 750 effective full power hours after December 8, 1972. This increase is subject to the enclosed revisions to Appendix B of your Operating License. Salient conclusions reached during our review are that collapse of the fuel rod cladding will not occur during this temporary operating period, and that our independent evaluation of the local power peaking factor due to possible gap formation in the fuel rods indicates that the plant can operate safely

*LW*

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up to the maximum linear power density level indicated in the enclosed Appendix B. In making this evaluation we have used very conservative values for the fuel rod gap thermal conductance for densified fuel in analyzing the consequences of the loss-of-coolant and other accidents. Our continuing review of methods for determining fuel rod gap thermal conductance at various operating conditions may provide a basis for consideration of revised allowable gap conductance values and a corresponding increase in allowable maximum linear power density levels in the future.

We conclude that the approved change does not involve significant hazard considerations not described or implicit in the Final Safety Analysis Report and that there is reasonable assurance that the health and safety of the public will not be endangered. Accordingly, pursuant to Section 50.59 of 10 CFR Part 50, the Interim Special Technical Specifications of Facility Operating License No. DPR-20 are hereby changed as set forth in revised pages which are enclosed.

Sincerely,

Original Signed By  
K. R. Goller *KRG*

R. C. DeYoung, Assistant Director  
for Pressurized Water Reactors  
Directorate of Licensing

Enclosure:  
Tech Spec Change No. 2

cc w/encl:  
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APPENDIX B  
TO  
PROVISIONAL OPERATING LICENSE DPR-20  
INTERIM SPECIAL TECHNICAL SPECIFICATIONS  
FOR THE  
PALISADES PLANT  
CONSUMERS POWER COMPANY  
DOCKET NO. 50-255

Date of Issuance: December 8, 1972

INTERIM SPECIAL TECHNICAL SPECIFICATIONS

FOR OPERATION OF THE PALISADES PLANT

DOCKET NO. 50-255

1. The maximum steady state core power level shall not exceed 1870 MWt.
2. The primary to secondary leakage in a steam generator shall not exceed 0.3 gpm for any period greater than 24 consecutive hours.
3. For the first 750 effective full power hours of operation after December 8, 1972:
  - a. The peak linear power with appropriate consideration of normal flux peaking, flux peaking augmentation factors, measurement-calculational uncertainty (10%), engineering factor (3%), increase in linear heat rate due to axial fuel densification (1.75%) and power measurement uncertainty (2%), shall not exceed 10.5 kW/ft.
  - b. Flux peaking augmentation factors used will be assumed to vary linearly from 1.0 at the bottom of the core to 1.16 at the top of the core.
  - c. For power operation above a power level of 70% incore detector alarms shall be set, based on the latest power distribution obtained, such that the peak linear power including appropriate consideration of flux peaking augmentation factors does not exceed 11.0 kW/ft at the alarm set point. If four or more coincident alarms are received, the validity of the alarms shall be immediately determined and, if valid, power shall be immediately decreased below alarm set point and a power distribution map obtained. If a power distribution is not obtained within 24 hours of the alarm condition power shall be reduced to 70%.
  - d. The incore detector alarm set points shall be established based on the latest power distribution maps, normalized to 1870 MWt, and shall not exceed the latest power distribution map, normalized to 1870 MWt by more than 20%.

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- e. Power distributions shall be evaluated every week or more often as required by plant operations.
- f. Primary coolant gross radioactivity shall be measured at least five times per week and after each significant operating event which could affect fuel-clad integrity.

Primary coolant gross gamma radioactivity shall be monitored continuously by the fission product monitor. If the fission product monitor is not operating, the primary coolant gross radioactivity shall be measured at least once per day.

- g. Secondary coolant gas radioactivity shall be monitored continuously by the air ejector gas monitor.

Secondary coolant gross radioactivity shall be measured at least twice per week. If the air ejector monitor is not operating, the secondary coolant gross radioactivity shall be measured at least once per day to evaluate steam generator leak tightness.

- h. A monthly report of primary and secondary activity measurements, effluent discharge radioactivity levels and core average fuel burnup shall be made to the Directorate of Licensing.
- i. For the initial power increase to 85% power, rates of power increase shall not exceed:
  - (1) 10% power/hour from 0% to 60%.
  - (2) 3% power/day from 60% to 85%.
- j. For power operation other than initial power increase to 85% power, rates of power increase shall not exceed:
  - (1) 10% power/hour increase.
  - (2) Revert to initial startup procedures should low power (less than 80%) be maintained continuously for more than 25 days.
- k. During the initial power increase to 85% power primary coolant gross radioactivity shall be monitored:
  - (1) Continuously by the fission product monitor and daily by grab sample analysis.

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- (2) If the fission product monitor is not operating, grab sample analysis shall be performed each shift.
4. Nominal primary system operating pressure shall not exceed 1900 psia.
5. If at the end of the 750 effective full power hour period additional information has not been submitted and approved by the Directorate of Licensing, the power level will be reduced immediately to 1320 MWt.

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