

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

CONSUMERS POWER COMPANY

DOCKET NO. 50-255

PALISADES PLANT

AMENDMENT TO PROVISIONAL OPERATING LICENSE

Amendment No. 58
License No. DPR-20

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Consumers Power Company (the licensee) dated May 14, 1980, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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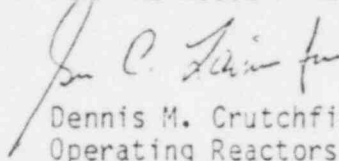
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 3.B of Provisional Operating License No. DPR-20 is hereby amended to read as follows:

3. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 58, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 6, 1980

ATTACHMENT TO LICENSE AMENDMENT NO 58

PROVISIONAL OPERATING LICENSE NO. DPR-20

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Revise Appendix A Technical Specifications by removing the following pages and by inserting the enclosed pages. The revised pages contain the captioned amendment number and marginal lines indicating the area of change.

PAGES

3-59

3-66

3.10 CONTROL ROD AND POWER DISTRIBUTION LIMITS (Contd)

3.10.3 Power Distribution Limits (Contd)

satisfy the criterion. Appropriate consideration shall be given to the following factors:

- (1) A flux peaking augmentation factor of 1.0,
 - (2) A measurement calculational uncertainty factor of 1.10,
 - (3) An engineering uncertainty factor (which includes fuel column shortening due to densification and thermal expansion) of 1.03, and
 - (4) A thermal power measurement uncertainty factor of 1.02.
- b. If the quadrant to core average power tilt exceeds 15%, except for physics tests, then:
- (1) The linear heat generation rate shall promptly be demonstrated to be less than that specified in Part a, or
 - (2) Immediate action shall be initiated to reduce reactor power to 75% or less of rated power.
- c. If the power in a quadrant exceeds core average by 10% for a period of 24 hours or if the power in a quadrant exceeds core average by 20% at any time, immediate action shall be initiated to reduce reactor power below 50% until the situation is remedied.
- d. If the power in a quadrant exceeds the core average by 15% and if the linear heat generation rate cannot be demonstrated promptly to be within limits, then the overpower trip set point shall be reduced to 80% and the thermal margin low-pressure trip set point (P_{Trip}) shall be increased by 400 psi.
- e. If the power in a quadrant exceeds core average by 5% for a period of 30 days, immediate action shall be initiated to reduce reactor power to 75% or less of rated power.
- f. The part-length control rods will be completely withdrawn from the core (except for rod exercises and physics tests).
- g. The calculated value of F_r^A shall be limited to $\leq 1.45 (1.0 + 0.5 (1 - P))$, the calculated value of F_r^{T*} shall be limited to $\leq 1.77 (1.0 + 0.5 (1 - P))$, and the calculated value of $F_r^{\Delta H}$ shall be limited to $\leq 1.66 (1.0 + 0.5 (1 - P))$, where P is the core thermal power in fraction of core rated thermal power (2530 MWt).

(*For the duration of Cycle-4 for H-fuel only, F_r^T for rods adjacent to the wide water gap shall be limited to $1.90 (1.0 + 0.5 (1 - P))$.)

Specification (Contd)

a 10-hour period) at least each two hours thereafter or the reactor power level shall be reduced to less than 50% of rated power (65% of rated power if no dropped or misaligned rods are present). If readings indicate a local power level equal to or greater than the alarm set point, the action specified in 3.11.b shall be taken.

1. F_r^A , F_r^T and F_r^H shall be determined whenever the core power distribution is evaluated. If either F_r^A , F_r^T , or F_r^H is found to be in excess of the limit specified in Section 3.10.3(g), within one hour thermal power shall be reduced to less than:

$$(1) \quad (1 - 2(F_r^A - 1)) \times 2530 \text{ Mwt} \quad ;$$

$$\frac{1.15}{r}$$

$$(2) \quad (1 - 2(F_r^T - 1)) \times 2530 \text{ Mwt} \quad ; \text{ or}$$

$$\frac{1.77^*}{r}$$

$$(3) \quad (1 - 2(F_r^{\Delta H} - 1)) \times 2530 \text{ Mwt}$$

$$\frac{1.66}{r}$$

whichever is lower.

See 3.10.3(g) for the duration of cycle + only.

Basis

A system of 43 in-core flux detector and thermocouple assemblies and a data display, alarm and record functions has been provided. A four level, five level or six level system may be used. (1)(2) The out-of-core nuclear instrumentation calibration includes:

- Calibration (axial and azimuthal) of the split detectors at initial reactor start-up and during the power escalation program.
- A comparison check with the in-core instrumentation in the event abnormal readings are observed on the out-of-core detectors during operation.
- Calibration check during subsequent reactor start-ups.
- Confirm that readings from the out-of-core split detectors are as expected.

Core power distribution verification includes:

- Measurement at initial reactor start-up to check that power distribution is consistent with calculations.
- Subsequent checks during operation to insure that power distribution is consistent with calculations.
- Indication of power distribution in the event that abnormal situations occur during reactor operation.

If the data logger for the in-core readout is not in operation for more than two hours, power will be reduced to provide margin between the actual peak linear heat generation rates and the limit and the in-core readings will be manually collected at the terminal blocks in the control room utilizing a suitable signal detector. If this is not feasible with the



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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 58 TO LICENSE NO. DPR-20

CONSUMERS POWER COMPANY

PALISADES PLANT

DOCKET NO. 50-255

1.0 INTRODUCTION AND DISCUSSION

By letter dated May 14, 1980 (Reference 1) Consumer's Power Company (CPCo), (the licensee) requested an amendment to Appendix A of the Provisional Operating License No. DPR-20 for the Palisades Plant. This is the third in a series of related requests, pertaining to the peaking factors of the Cycle-4 H-design loading. CPCo was requested by letter from D. Ziemann (NRC) to D. Bixel dated July 11, 1979 (Reference 2), to submit information which would provide assurance that water hole peaking is appropriately considered in the calculation of flux distributions. CPCo's replies dated September 10, 1979 and February 26, 1980 (letters D. Hoffman CPCo to D. Ziemann NRC, References 3 and 4 respectively) dealt with the calculational procedure used to compute water hole peaking. CPCo by letter dated February 26, 1980 submitted information supporting the addition of the "Total Interior Rod Radial Peaking Factor F_{r}^{IH} ". The licensee considered it appropriate to impose a limit on the product of total radial peaking factor times the interior pin local peaking factor to assure that the assumptions in the DNB analysis remain valid in all cases. This proposed addition has been reviewed and accepted by the NRC staff (Reference 5).

The current request (Reference 1) concerns a change of the Palisades Plant Technical Specifications to increase the limit of the Total Radial Peaking Factor F_{r}^{T} for Type H fuel assembly rods adjacent to the wide water gap from 1.77 (1.0 + 0.5 (1-P)) to 1.90 (1.0 + 0.5 (1-P)) where P is the core thermal power in fraction of core rated thermal power (2530 Mwt). This increase is only for the Cycle 4 loading and will allow operation at full power for the total fuel cycle, whereas operation under the present Technical Specifications will result in plant operation derated by 12% power for part of this cycle.

2.0 EVALUATION

licensee and required additional
licensee on June 5, 1980 and
d. The licensee responded
s 6 and 9). The following

DUPLICATE DOCUMENT

Entire document previously
entered into system under:

ANO 8006260145

No. of pages: 5