

May 8, 1984

Docket No. 50-333

Mr. J. P. Bayne
Executive Vice President,
Nuclear Generation
Power Authority of the State
of New York
123 Main Street
White Plains, New York 10601

Dear Mr. Bayne:

The Commission has issued the enclosed Amendment No. 79 to Facility Operating License No. DPR-59 for the James A. FitzPatrick Nuclear Power Plant. The amendment authorizes changes to the Technical Specifications in response to your request dated December 28, 1983 regarding turbine control valve modifications completed during Reload 5.

The amendment revises the minimum critical power ratio (MCPR) operating limits to restore the MCPR safety margin which was reduced as a result of changes in control valve operation. These changes resulted from valve modifications made to permit a change from partial arc to full arc turbine steam admission.

A copy of the related Safety Evaluation is also enclosed.

Sincerely,

Harvey I. Abelson, Project Manager
Operating Reactors Branch #2
Division of Licensing

Enclosures:

1. Amendment No. 79 to License No. DPR-59
2. Safety Evaluation

cc w/enclosures:
See next page

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Mr. J. P. Bayne
Power Authority of the State of New York
James A. FitzPatrick Nuclear Power Plant

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

POWER AUTHORITY OF THE STATE OF NEW YORK

DOCKET NO. 50-333

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 79
License No. DPR-59

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Power Authority of the State of New York (the licensee) dated December 28, 1983, 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.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C(2) of Facility Operating License No. DPR-59 is hereby amended to read as follows:

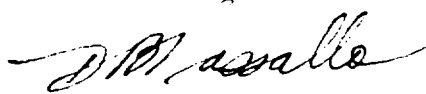
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(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 79, 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



Domenic B. Vassallo, Chief
Operating Reactors Branch #2
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 8, 1984

ATTACHMENT TO LICENSE AMENDMENT NO. 79

FACILITY OPERATING LICENSE NO. DPR-59

DOCKET NO. 50-333

1. Revise the Appendix "A" Technical Specifications as follows:

Remove

31

47b

Replace

31

47b

JAFNPP

3.1 (CONTINUED)

M CPR Operating Limit for Incremental
Cycle Core Average Exposure

<u>At RSM Hi-trip level setting</u>	<u>EOC to EOC-2GWD/t</u>	<u>EOC-2GWD/t to EOC-1GWD/t</u>	<u>EOC-1GWD/t to EOC</u>
S = .66W + 39%	1.21	1.25	1.30
S = .66W + 40%	1.22	1.25	1.30
S = .66W + 41%	1.24	1.25	1.30
S = .66W + 42%	1.25	1.25	1.30
S = .66W + 43%	1.27	1.27	1.30
S = .66W + 44%	1.33	1.33	1.33

C. MCPR shall be determined daily during reactor power operation at $\geq 25\%$ of rated thermal power and following any change in power level or distribution that would cause operation with a limiting control rod pattern as described in the bases for Specification 3.3.B.5.

D. When it is determined that a channel has failed in the unsafe condition, the other RPS channels that monitor the same variable shall be functionally tested immediately before the trip system containing the failure is tripped. The trip system containing the unsafe failure may be placed in the untripped condition during the period in which surveillance testing is being performed on the other RPS channels.

E. Verification of the limits set forth in specification 3.1.B shall be performed as follows:

1. The average scram time to notch position 3B shall be: $\tau_{AVE} \leq \tau_B$
2. The average scram time to notch position 3B is determined as follows:

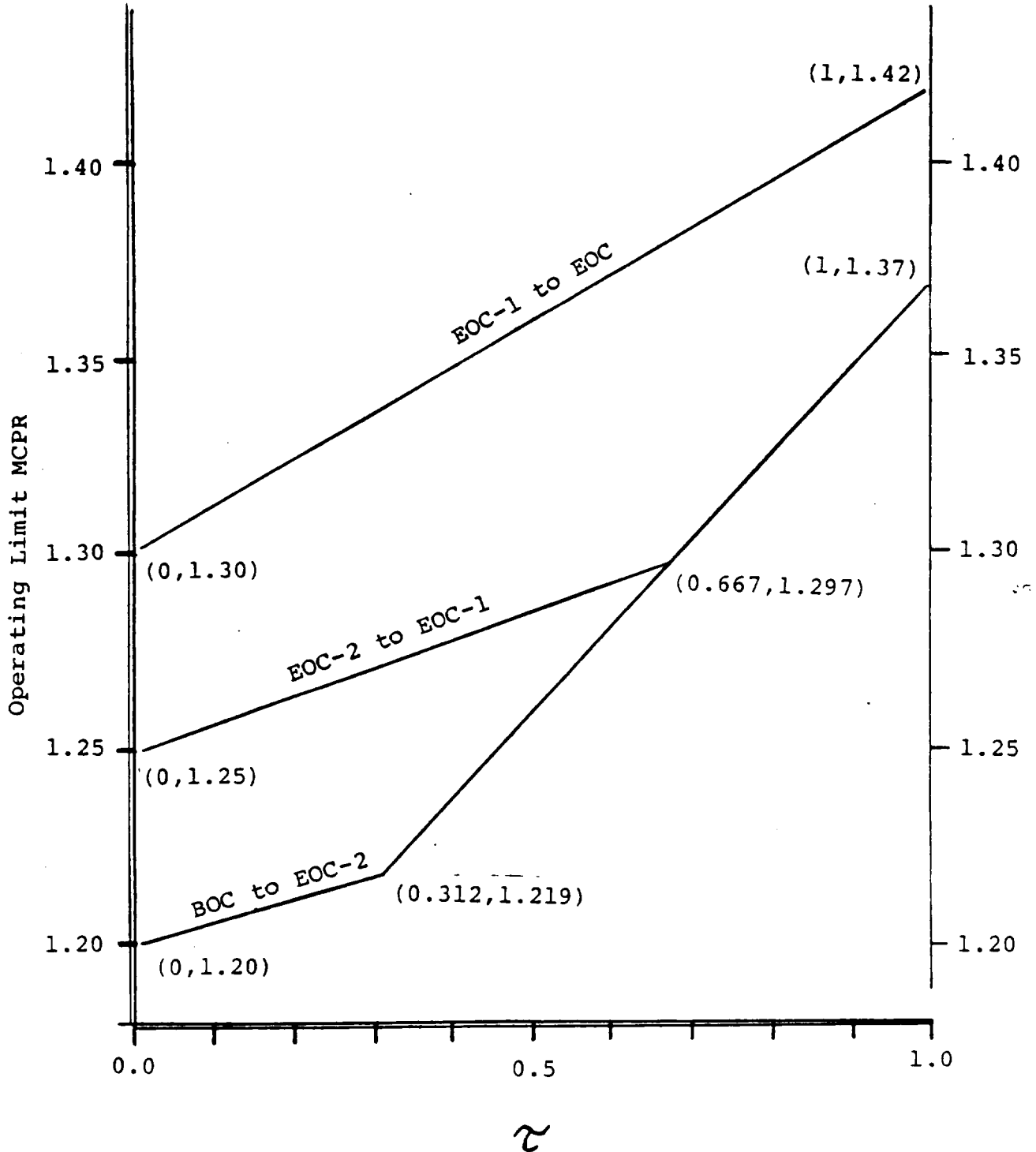
$$\tau_{AVE} = \frac{\sum_{i=1}^n N_i \tau_i}{\sum_{i=1}^n N_i}$$

where: n = number of surveillance tests performed to date in the cycle, N_i = number of active rods measured in

Figure 3.1-2

Operating Limit MCPR
Versus τ (defined in Section 3.1.B.2)

FOR ALL FUEL TYPES





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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 79 TO FACILITY OPERATING

LICENSE NO. DPR-59

POWER AUTHORITY OF THE STATE OF NEW YORK

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

1.0 Introduction

During the summer 1983 refueling outage at the James A. FitzPatrick Nuclear Power Plant, the relative steam admission by the turbine control valves was modified to permit full arc operation. Previously, under partial arc operation, three of the four valves were fully open with the remaining valve open approximately 25-33 percent. The licensee, Power Authority of the State of New York (PASNY), now intends to operate with all four valves open to approximately the same position (50-52 percent) in order to reduce the cyclical stresses on the turbine blades, since each control valve admits steam to only one ninety degree quadrant of the turbine rotor.

The change in the control valve positions from fully open to partially open will reduce the time for the valves to achieve full closure. This, in turn, will result in the voids collapsing faster relative to the insertion of the negative reactivity by the scram signal, which is not altered by this change.

The load rejection without bypass event is the only limiting minimum critical power ratio (MCPR) event for which the turbine control valves are ordered to close. The licensee has stated that this event was reanalyzed, resulting in an increased change in the critical power ratio. Subsequently, PASNY requested modifications to the Technical Specifications for the operating limits for the MCPR. The requested changes in the MCPR (moved in the conservative direction) would restore the margin to the safety analysis limit.

2.0 Evaluation

The new values for the change in the critical power ratio for the load rejection without bypass event were calculated for the licensee by General Electric using a previously approved computer code (ODYN) and methodologies. The approval of these codes and methods is contained in "Safety Evaluation for the General Electric Topical Report -

Qualification of the one-Dimensional Core Transient Model for Boiling Water Reactors, NEDO-24154 and NEDE-24154-P, Volumes I, II, III."

The licensee has requested that the Technical Specifications table, entitled "MCPR Operating Limit For Incremental Cycle Core Average Exposure," be amended for the 39%, 40%, 41%, 42% and 43% rod block monitor hi-trip level setting for "EOC-1 GWD/t to EOC" from 1.29 to 1.30. The licensee transmitted the results of the ODYN analysis for the change in the critical power ratio for a pressurized 8x8 fuel bundle for the load rejection without bypass event. Our review of these results, along with use of the generic statistical adjustment factor for the FitzPatrick Plant, indicates that the changes to the table have been properly calculated and are, therefore, acceptable.

The licensee also proposed to modify Figure 3.1-2 (Operating Limit MCPR Versus - For All Fuel Types) in order to account for the turbine control valve modifications. Comparison of the revised figure to the values calculated by ODYN, show that they are consistent and, therefore, Figure 3.1-2 is acceptable.

In conclusion, the Technical Specifications modifications requested by PASNY for FitzPatrick in order to account for full arc operation are acceptable. The modifications were established by correctly applying previously approved codes and methodologies.

3.0 Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

4.0 Conclusion

We have concluded, based on the considerations above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: M. Wigdor

Dated: May 8, 1984