September 1, 1987

Docket No. 50-333

DISTRIBUTION

Docket File	H. Abelson
NRCPDR	D. Hagan
Local PDR	E. Jordan
PDI-1 Rdg.	J. Partlow
OGC	Wanda Jones
S. Varga	T. Barnhart(4)
B. Boger	E. Butcher
C. Vogan	ACRS(10)
GPA/PA	ARM.LFMB
J. Johnson,RI	

Mr. John C. Brons
Executive Vice President - Nuclear Generation
Power Authority of the State of New York
123 Main Street
White Plains, New York 10601

Dear Mr. Brons:

The Commission has issued the enclosed Amendment No.112 to Facility Operating License No. DPR-59 for the James A. FitzPatrick Nuclear Power Plant. The amendment consists of changes to the Technical Specifications (TS) in response to your application transmitted by letter dated August 18, 1987, as supplemented August 19, 1987.

The amendment revises Note (1) of Table 3.7-1 on TS page 208 to permit plant operation for the duration of Cycle 8 with an MSIV closure time of greater than or equal to 2 seconds and less than or equal to 5 seconds for one of the four main steam lines. The existing TS require that all four lines have a closure time of within 3 to 5 seconds. These changes were authorized verbally on August 20, 1987 and verified by our letter of the same date. This amendment is the followup documentation of the authorization.

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance and Final Determination of No Significant Hazards Consideration and Opportunity for Hearing will be included in the Commission's next regular bi-weekly Federal Register notice.

Sincerely,

Harvey Abelson, Project Manager
Project Directorate I-1
Division of Reactor Projects, I/II

Enclosures:
1. Amendment No. 112to DPR-59
2. Safety Evaluation

cc: w/enclosures
See next page

PDI-1	PDI-1	OGC	PDI-1
CVogan	for HAbelson	M. Kaufman	RCapra
8/20/87	8/20/87	8/24/87	9/1/87

8709100404 870901
PDR ADOCK 05000333
P PDR

Mr. John C. Brons
Power Authority of the State of New York
James A. FitzPatrick Nuclear
Power Plant

cc:
Mr. Gerald C. Goldstein
Assistant General Counsel
Power Authority of the State
of New York
10 Columbus Circle
New York, New York 10019

Mr. Jay Dunkleberger
Division of Policy Analysis
and Planning
New York State Energy Office
Agency Building 2
Empire State Plaza
Albany, New York 12223

Resident Inspector's Office
U. S. Nuclear Regulatory Commission
Post Office Box 136
Lycoming, New York 13093

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

Mr. Radford J. Converse
Resident Manager
James A. FitzPatrick Nuclear
Power Plant
Post Office Box 41
Lycoming, New York 13093

Mr. A. Klausman
Senior Vice President - Appraisal
and Compliance Services
Power Authority of the State
of New York
10 Columbus Circle
New York, New York 10019

Mr. J. A. Gray, Jr.
Director, Nuclear Licensing - BWR
Power Authority of the State
of New York
123 Main Street
White Plains, New York 10601

Mr. George Wilverding, Manager
Nuclear Safety Evaluation
Power Authority of the State
of New York
123 Main Street
White Plains, New York 10601

Mr. Robert P. Jones, Supervisor
Town of Scriba
R. D. #4
Oswego, New York 13126

Mr. R. E. Beedle
Vice President Nuclear Support
Power Authority of the State
of New York
123 Main Street
White Plains, New York 10601

Mr. J. P. Bayne, President
Power Authority of the State
of New York
10 Columbus Circle
New York, New York 10019

Mr. S. S. Zulla
Vice President Nuclear Engineering
Power Authority of the State
of New York
123 Main Street
White Plains, New York 10601

Mr. Richard Patch
Quality Assurance Superintendent
James A. FitzPatrick Nuclear
Power Plant
Post Office Box 41
Lycoming, New York 13093

Mr. R. Burns
Vice President Nuclear Operations
Power Authority of the State
of New York
123 Main Street
White Plains, New York 10601

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. 112
License No. DPR-59

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Power Authority of the State of New York (the licensee) dated August 18, 1987, as supplemented August 19, 1987, 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:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 112, 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

Robert A. Capra

Robert A. Capra, Acting Director
Project Directorate I-1
Division of Reactor Projects, I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 1, 1987

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

ATTACHMENT TO LICENSE AMENDMENT NO. 112

FACILITY OPERATING LICENSE NO. DPR-59

DOCKET NO. 50-333

Revise Appendix A as follows:

Remove Page	Insert Page
208	208

NOTES FOR TABLE 3.7-1 (CONT'D)

1. Main steam isolation valves require that both solenoid pilots be de-energized to close valves. Accumulator air pressure plus spring force act together to close valves when both pilots are de-energized. Voltage failure at only one pilot does not cause valve closure. Valve closure time shall be greater than or equal to 3 seconds and less than or equal to 5 seconds with the exception that during Cycle 8 one steam line may isolate at greater than or equal to 2 seconds and less than or equal to 5 seconds.

2. Primary containment spray and pressure suppression chamber cooling valves have interlocks that allow them to be manually reopened after automatic closure. This provision permits containment spray, for high drywell pressure conditions, and/or pressure suppression chamber water cooling. When automatic signals are not present these valves may be opened for test or operating convenience.

3. Testable check valves are designed for remote opening with zero differential pressure across the valve seat. The valves close on reverse flow even though the test switches may be positioned for open. The valves open when pump pressure exceeds reactor pressure even though test switch may be positioned for close.

4. Control rod hydraulic lines can be isolated by the solenoid valves outside the primary containment. Lines that extend outside the primary containment are small and terminate in a system that is designed to prevent outleakage. Solenoid valves normally are closed, but they open on rod movement and during reactor scram.

5. A-c motor-operated valves are powered from the a-c emergency buses. D-c motor-operated isolation valves are powered from the plant batteries.

6. All motor-operated isolation valves remain in the last position upon failure of valve power. All air-operated valves close on motive air failure. All air-operated valves, except main steam isolation valves, close on power failure to the solenoid pilots.

7. The standard minimum closing rate for automatic isolation valves is based on a nominal line size of 12 in. Using the standard closing rate, a 12 in. line is isolated, 60 sec.

8. Valves identified by an asterisk in the "Normal Status" column can be opened or closed by remote manual switch for operating convenience during any mode of reactor operation except when automatic signal is present.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 112 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

INTRODUCTION

By letter dated August 18, 1987, as supplemented August 19, 1987, the Power Authority of the State of New York (the licensee) requested that Appendix A of Facility Operating License No. DPR-59 be amended on an emergency basis. It was requested that Note (1) of Table 3.7-1 on page 208 of the Technical Specifications (TS) be revised to permit plant operation for the duration of Cycle 8 with a main steam isolation valve (MSIV) closure time of greater than or equal to 2 seconds and less than or equal to 5 seconds for one of the four main steam lines. The existing TS require that all four lines have a closure time of within 3 to 5 seconds.

The situation which led to this amendment request was discovered during routine surveillance testing. The "C" outboard MSIV closure time was found to be outside the TS limit. The measured closure time of 2.3 seconds was below the minimum allowable closure time of 3 seconds. In accordance with TS 3.7.D.2, an MSIV in the "C" steam line was closed, thereby isolating the line. The MSIV closure time could not be returned to within TS limits by normal adjustment of the hydraulic speed control system. Adjustment of the hydraulic cylinder cannot be made without disassembly, which requires a plant shutdown. The licensee plans to make this adjustment during the next outage of sufficient duration.

To maintain steam line flows at a normal operational level, reactor thermal power was decreased to approximately 75% of rated power. A new analysis performed by the licensee demonstrated, however, that FitzPatrick could be operated at up to full rated power with three of the four steam lines in service. On this basis, reactor power was then increased. However, an administrative limit of 92% of rated power was imposed to maintain sufficient margin to the MSIV high-flow isolation setpoint.

Verbal authorization of the requested TS change was given to the licensee on August 20, 1987, and a letter verifying this authorization was sent to the licensee on the same date.

The State of New York has been notified of this action and had no comments.

EVALUATION

The licensee has performed an analysis to verify that reduced MSIV closure times as early as 2 seconds will not have any significant effect on the current Cycle 8 transient and accident analyses. The evaluation was performed using the staff approved models and assumptions that were employed in the Cycle 8 reload analysis. The analyses included overpressurization protection, the loss of coolant accident (LOCA), and anticipated operational occurrences. An average isolation time of 2 seconds was assumed for all four main steam lines.

The limiting vessel overpressurization event, the MSIV closure with flux scram, is affected by the shorter MSIV closure time. This event was evaluated to determine the impact on the margin to reactor overpressure limits. The evaluation was performed using bounding core nuclear parameters for Cycle 8 (the present cycle). The resulting peak vessel pressure was determined to be 1262 psig. This is well below the ASME code limit of 1375 psig and, therefore, is acceptable.

The effect on design basis accidents has also been reviewed. A decrease in the minimum MSIV closure time will not affect the calculated LOCA response. The LOCA evaluation assumes the maximum value of the MSIV stroke time (5 seconds) to maximize the inventory loss from the reactor vessel. Therefore, a reduced closure time is more conservative.

The other accident analysis which considers MSIV closure time is the main steam line break outside containment. For this analysis a maximum closure time of 10 seconds is assumed in order to bound the radiological release. The consequence of the shorter closure time would be a release the same as, or less than that originally calculated.

The limiting events for the MCPR have been evaluated and found to be unaffected by the shorter closure time. The generator load rejection with no bypass remains the limiting MCPR transient.

Independent calculations performed by Brookhaven National Laboratory for the staff have confirmed that reduced MSIV closure time does not lead to transient situations which differ significantly from those that are already analyzed as part of the FSAR.

The licensee states that the additional dynamic loads on the MSIV, steam line and steam line supports due to the faster closing time have been reviewed and have been found to be acceptable. The license provided further details in a phone call on August 19, 1987. In that phone call, the licensee confirmed that the limiting condition for the design of the main steam line and supports is the closing of the turbine stop valve which is designed to close in approximately 0.2 seconds. The loads resulting from one MSIV closing in 2 seconds minimum are enveloped with considerable margin by the turbine stop valve closure. The licensee also stated that the increased loads on the MSIV structural components had been analyzed and found to be acceptable.

Based on the above, we conclude that the proposed TS change is acceptable.

FINDING ON EXISTENCE OF EMERGENCY SITUATION

10 CFR 50.91(a)(5) provides the necessary requirements for issuing an amendment when the Commission finds that an emergency situation exists and failure to act in a timely way would result in derating or shutdown of a nuclear plant. The Commission expects its licensees to: apply for license amendments in a timely fashion; not abuse the emergency provisions by failing to make a timely application for the amendment and thus itself creating the emergency; provide an explanation as to why the emergency situation occurred; and why it could not have been avoided.

The licensee provided the following explanation which led to the request for the amendment on an emergency basis:

> FitzPatrick is currently operating with one of the four main steam lines isolated because one MSIV has been declared to be inoperable. This condition was discovered during a routine MSIV surveillance test. The MSIV closed in 2.3 seconds, which is below the Technical Specification allowable minimum of three seconds. Normal adjustment of the MSIV hydraulic speed control damper could not bring the MSIV closure time within allowable limits. Adjustment of the damper internals would require personnel to work in a high radiation and high temperature environment for an extended time. Therefore, further maintenance on the valve cannot be performed without a plant shutdown.
>
> This situation could not be avoided because prior tests on the MSIV did not indicate this condition. There is no indication of external leakage of hydraulic fluid around the damper. Industry experience does not indicate that this type of valve failure is common or could have been predicted.
>
> The proposed change to the Technical Specifications allows all four steam lines to be opened and restores FitzPatrick to full power operation."

Based on the above, the Commission has determined that the licensee has not abused the emergency provisions of 10 CFR 50.91(a)(5); failure for the Commission to act on the licensee's request would result in continued operation in a derated condition; and therefore, the request should be processed under the emergency provisions of 10 CFR 50.91(a)(5).

FINAL NO SIGNIFICANT HAZARDS CONSIDERATION

The Commission has provided standards for determining whether a significant hazards consideration exists (10 CFR 50.92(c)). A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences or an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from an accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

The following evaluation, provided by the licensee, demonstrates that the proposed amendment does not involve a significant hazards consideration. We concur with this evaluation.

First Standard - Involve a significant increase in the probability or consequences of an accident previously evaluated.

A faster isolation time for one steam line does not increase the probability of occurrence of any previously evaluated accident. The consequences of postulated transients and accidents have been reanalyzed using the proposed reduced closure time. The accidents and transients analyzed include the limiting MCPR transient, reactor vessel overpressure transient, LOCA, and steam line break accidents. These analyses indicate that the proposed reduced MSIV closure time has no effect or lessens the consequences of all the analyzed transients and accidents.

Therefore, the proposed TS revision does not involve a significant increase in the probability of consequences of an accident previously evaluated.

Second Standard - Create the possibility of a new or different kind of accident from an accident previously evaluated.

A faster isolation time for one steam line cannot create a new or different type of accident. The main steam line closure event is a previously analyzed transient. No new failure modes are created by the proposed change. The dynamic loads and mechanical effects associated with faster MSIV closure time have been reviewed and were found to be acceptable.

Therefore, the proposed amendment will not create a new or different kind of accident from any accident previously evaluated.

Third Standard - Involve a significant reduction in the margin of safety.

Transients and accidents have been reanalyzed as discussed above. Results indicate that the existing margins of safety remain unchanged. The slight increase in the peak vessel pressure corresponding to a 2 second MSIV isolation is insignificant with respect to the ASME code limit. This is further mitigated since FitzPatrick will be operated with only one steam line allowed to isolate at 2 seconds. The remaining three steam lines will still be required to isolate at greater than 3 seconds.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the foregoing, the Commission has concluded that the standards of 10 CFR 50.92 are satisfied. Therefore, the Commission has made a final determination that the proposed amendment does not involve a significant hazards consideration.

ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Sec 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

CONCLUSION

We have concluded, based on the considerations discussed 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.

Dated: September 1, 1987

PRINCIPAL CONTRIBUTORS:

G. Thomas
H. Abelson
D. Neighbors