

June 28, 1977

Socket No.: 50-333

Power Authority of the State
of New York
ATTN: Mr. George T. Berry
General Manager and
Chief Engineer
10 Columbus Circle
New York, New York 10019

Gentlemen:

The Commission has issued the enclosed Amendment No. 24 to Facility Operating License No. DPR-59 for the James A. FitzPatrick Nuclear Power Plant. The amendment consists of changes to the Technical Specifications in response to your application sworn to dated June 27, 1977, and staff discussions.

This amendment revises the Average Power Range Monitor (APRM) set-points and requirements for the temporary period of the current refueling outage at the FitzPatrick Nuclear Power Plant. This revision deletes the APRM greater than 15 percent power trip in the refuel mode when the reactor is subcritical and the water temperature is less than 212°F if the Source Range Monitors (SRM's) are in protective function.

Copies of the Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

Enclosures:

1. Amendment No. 24
2. Safety Evaluation
3. Notice

cc w/enclosures: See next page

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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. 24
License No. DPR-59

2. 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) sworn to June 27, 1977, 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.

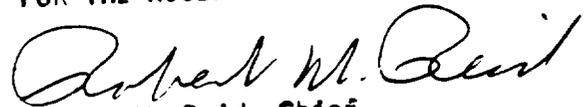
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-59 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 24, 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 W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 28, 1977

ATTACHMENT TO LICENSE AMENDMENT NO. 24
FACILITY OPERATING LICENSE NO. DPR-59
DOCKET NO. 50-333

Revise Appendix A Technical Specifications as follows:

Remove Pages

43 - 46

Insert Pages

43 - 46

Changes on the revised pages are shown by marginal lines. Pages 44 and 46 are unchanged and are included for convenience only.

JAFNPP

TABLE 3.1-1 (Cont'd)

REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENTATION REQUIREMENT

NOTES FOR TABLE 3.1-1 (cont'd)

6. When the reactor is subcritical and the reactor water temperature is less than 212°F, only the following trip functions need to be operable:
 - A. Mode Switch in Shutdown
 - B. Manual scram
 - C. High flux IRM
 - D. Scram discharge volume high level
 - E. APRM 15% Power Trip

NOTE: For the refueling period beginning June 21, 1977, only, if the SRM's are in protective function (shorting links removed), this item can be deleted during fuel removal and provided that all control rods are fully inserted.

7. Not required to be operable when primary containment integrity is not required.
8. Not required to be operable when the reactor pressure vessel head is not bolted to the vessel.
9. The APRM downscale trip is automatically bypassed when the IRM instrumentation is operable and not high.
10. An APRM will be considered operable if there are at least 2 LPRM inputs per level and at least 11 LPRM inputs of the normal complement.
11. See Section 2.1.A.1.

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TABLE 4.1-1

REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENT FUNCTIONAL TESTS
MINIMUM FUNCTIONAL TEST FREQUENCIES FOR SAFETY INSTRUMENT AND CONTROL CIRCUITS

	Group (2)	Functional Test	Minimum Frequency (3)
Mode Switch in Shutdown	A	Place Mode Switch in Shutdown.	Each refueling outage.
Manual Scram	A	Trip Channel and Alarm	Every 3 months.
RPS Channel Test Switch	A	Trip Channel and Alarm	Every refueling outage or after channel maintenance.
IRM			
High Flux	C	Trip Channel and Alarm (4)	Once per week during refueling or startup and before each startup.
Inoperative	C	Trip Channel and Alarm (4)	Once per week during refueling or startup and before each startup.
APRM			
High Flux	B	Trip Output Relays (4)	Once/week.
Inoperative	B	Trip Output Relays (4)	Once/week.
Downscale	B	Trip Output Relays (4)	Once/week.
Flow Bias	B	Calibrate Flow Bias Signal (4)	Once/month. (1)
High Flux in Startup or Refuel	C	Trip Output Relays (4)	Once per week during refueling or startup and before each startup.
High Reactor Pressure	A	Trip Channel and Alarm	Once/month. (1)
High Drywell Pressure	A	Trip Channel and Alarm	Once/month. (1)
Reactor Low Water Level (5)	A	Trip Channel and Alarm	Once/month. (1)
High Water Level in Scram Discharge Tank	A	Trip Channel and Alarm	Every 3 months.
Main Steam Line High Radiation	B	Trip Channel and Alarm (4)	Once/week.
Main Steam Line Isolation Valve Closure	A	Trip Channel and Alarm	Once/month. (1)
Turbine Control Valve EHC Oil Pressure	A	Trip Channel and Alarm	Once/month.
Turbine First Stage Pressure Permissive	A	Trip Channel and Alarm	Every 3 months. (1)
Turbine Stop Valve Closure	A	Trip Channel and Alarm	Once/month. (1)

JAFNPP

TABLE 4.1-1 (Cont'd)

REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENT FUNCTIONAL TESTS
MINIMUM FUNCTIONAL TEST FREQUENCIES FOR SAFETY INSTRUMENT AND CONTROL CIRCUITS

	Group (2)	Functional Test	Minimum Frequency (3)
Reactor Pressure Permissive	A	Trip Channel and Alarm	Every 3 months.

NOTES FOR TABLE 4.1-1

1. Initially once every month until acceptable failure rate data are available; thereafter, a request may be made to the AEC to change the test frequency. The compilation of instrument failure rate data may include data obtained from other boiling water reactors for which the same design instrument operates in an environment similar to that of JAFNPP.
2. A description of the three groups is included in the Basis of this Specification.
3. Functional tests are not required on the part of the system that is not required to be operable or are tripped. If tests are missed on parts not required to be operable or are tripped, then they shall be performed prior to returning the system to an operable status.
4. This instrumentation is exempted from the instrument channel test definition. This instrument channel functional test will consist of injecting a simulated electrical signal into the measurement channels.
5. The water level in the reactor vessel will be perturbed and the corresponding level indicator changes will be monitored. This perturbation test will be performed every month after completion of the functional test program.
6. For the refueling period beginning June 21, 1977, only, tests are not required on the APRM's while in REFUEL mode during core alterations and while the APRM's are out of service.

TABLE 4.1-2

**REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENT CALIBRATION
MINIMUM CALIBRATION FREQUENCIES FOR REACTOR PROTECTION INSTRUMENT CHANNELS**

<u>Instrument Channel</u>	<u>Group (1)</u>	<u>Calibration (4)</u>	<u>Minimum Frequency (2)</u>
LRM High Flux	C	Comparison to APkM on Controlled Shutdowns'	Maximum frequency once/week
APRM High Flux Output Signal	B	Heat balance	Daily
Flow Bias Signal	B	Internal Power and Flow Test with Standard Pressure Source	Every refueling outage
APRM Signal	B	11P System Traverse	Every 6 weeks
High Reactor Pressure	A	Standard Pressure Source	Every 3 months
High Drywell Pressure	A	Standard Pressure Source	Every 3 months
Reactor Low Water Level	A	Pressure Standard	Every 3 months
High Water Level in Scram Discharge Volume	A	Note (5)	Note (5)
Main Steam Line Isolation Valve Closure	A	Note (5)	Note (5)
Main Steam Line High Radiation	B	Standard Current Source (3)	Every 3 months
Turbine First Stage Pressure Permissive	A	Standard Pressure Source	Every 6 months
Turbine Control Valve Fast Closure Oil Pressure Trip	A	Standard Pressure Source	Once/operating cycle
Turbine Stop Valve Closure	A	Note (5)	Note (5)
Reactor Pressure Permissive	A	Standard Pressure Source	Every 6 months

NOTES FOR TABLE 4.1-2

1. A description of three groups is included in the Bases of this Specification.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 24 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 an application for amendment to Operating License sworn to June 27, 1977, the Power Authority of the State of New York (the licensee) proposed changes to the Technical Specifications appended to Facility Operating License No. DPR-59 for the James A. FitzPatrick Nuclear Power Plant. The proposed changes would provide revisions to the APRM trip setpoints and surveillance requirements.

Discussion

The FitzPatrick Nuclear Power Plant is currently in the shutdown mode and generally prepared for removal of fuel from the core. However, because of a temporary loss of several Local Power Range Monitors (LPRM's), the Average Power Range Monitor (APRM) system is not available for refuel mode trip protection. The current Technical Specifications require trip protection from both the Intermediate Range Monitors (IRM's) and APRM's (two independent protection systems) while in the refuel mode. The licensee proposed changes in the Technical Specifications that would remove the APRM trip in the refuel mode when the reactor is subcritical and the water temperature is less than 212°F.

Evaluation

We have discussed the proposed changes with the licensee and the licensee has agreed to the following modifications: (1) limiting the changes to the temporary period during removal of fuel in the current refueling outage of the FitzPatrick plant, (2) adding the Source Range Monitor (SRM) system as one of the independent trip systems for the refuel mode of the FitzPatrick plant, and (3) adding the condition that the control rods will be fully inserted during the period that the SRM's are required in protective function during fuel removal. During reload of fuel into the core and movement of the fuel within the core, the licensee is required to conform to the requirements of Note 6.E of Table 3.1-1 of the Technical Specifications which require the APRM 15% power trip in the refuel mode.

The SRM system is composed of four neutron detectors with one detector located in each core quadrant. The Technical Specifications require that during refuel operations the arrangement of detectors and neutron sources within the core provide a 3/1 signal to noise ratio and a minimum count rate of 3 counts/second. To insure that the detectors are responding to multiplied neutrons, procedures require at least three fuel bundles remain adjacent to the detector positions. It is acceptable to remove these three fuel bundles upon substituting special movable dunking type detectors into the SRM circuitry as authorized by the Technical Specifications. The SRM's are functionally tested and checked for neutron response before making any alterations to the core and are checked daily for response thereafter.

For the SRM system to provide a trip function, shorting links must be removed and interlocks actuated which prevent bypassing of more than one SRM at any time. The control rod block setpoint is 1×10^5 counts/second and the trip setpoint is 5×10^5 counts/second for each detector. The combination of response time and setpoints is such that the SRM's will trip prior to the IRM's so that the IRM's provide backup trip protection for the SRM's when the systems are operable at the same time.

Considered as a temporary measure and also by taking into account the low probability that during removal of fuel a critical or supercritical core configuration could be reached,

the SRM system in the trip mode (with shorting links removed and bypass interlocks in effect) will provide independent trip protection for the FitzPatrick Nuclear Power Plant and is equivalent to the protection provided by having the APRM trip. The trip protection under current specifications from the two independent protection systems, the IRM's and APRM's, is equivalent to the protection which would be provided under the amendment by the two independent protection systems, the IRM's and the SRM system in the trip mode. On the basis of the foregoing, we conclude that the proposed changes will not decrease the margins of safety and are therefore acceptable.

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.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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: June 28, 1977

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-333

POWER AUTHORITY OF THE STATE OF NEW YORK

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 24 to Facility Operating License No. DPR-59, issued to Power Authority of the State of New York (the licensee), which revised Technical Specifications for operation of the James A. FitzPatrick Nuclear Power Plant (the facility) located in Oswego County, New York. The amendment is effective as of its date of issuance.

This amendment revises the Average Power Range Monitor (APRM) set-points and requirements for the temporary period of the current refueling outage at the FitzPatrick Nuclear Power Plant. This revision deletes the APRM greater than 15 percent power trip in the refuel mode when the reactor is subcritical and the water temperature is less than 212°F if the Source Range Monitors (SRM's) are in protective function.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that

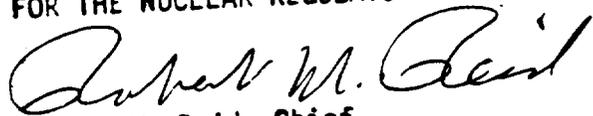
pursuant to 10 CFR §51.5(d)(4) an environmental impact statement, negative declaration or environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment sworn to June 27, 1977, (2) Amendment No. 24 to License No. DPR-59, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and at the Oswego County Office Building, 46 East Bridge Street, Oswego, New York.

A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this 28th day of June 1977.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors