



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

October 29, 1991

Docket No. 50-333

Mr. Ralph E. Beedle
Executive Vice President - Nuclear Generation
Power Authority of the State of New York
123 Main Street
White Plains, New York 10601

Dear Mr. Beedle:

SUBJECT: ISSUANCE OF AMENDMENT FOR JAMES A. FITZPATRICK NUCLEAR POWER PLANT
(TAC NO. M81076)

The Commission has issued the enclosed Amendment No. 172 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 transmitted by letter dated July 9, 1991.

The amendment revises Table 3.2-7, "Instrumentation That Initiates Recirculation Pump Trip," and Table 4.2-7, "Minimum Test and Calibration Frequency For Recirculation Pump Trip," to reflect a modification to the Reactor Water Recirculation Pump Trip (RPT) system logic. The logic for the system was changed as part of the modifications required by 10 CFR 50.62, "Requirements for Reduction of Risk from Anticipated Transients Without Scram (ATWS) Events for Light-Water-Cooled Nuclear Power Plants."

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular biweekly Federal Register notice.

Sincerely,

Brian C. McCabe

Brian C. McCabe, Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 172 to DPR-59
2. Safety Evaluation

cc w/enclosures:
See next page

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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. 172
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 July 9, 1991, 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. 172, 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 to be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert A. Capra

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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 29, 1991

ATTACHMENT TO LICENSE AMENDMENT NO. 172

FACILITY OPERATING LICENSE NO. DPR-59

DOCKET NO. 50-333

Revise Appendix A as follows:

Remove Pages

77
86

Insert Pages

77
86

JAFNPP

TABLE 3.2-7

ATWS RECIRCULATION PUMP TRIP ACTUATION INSTRUMENTATION

Function	Applicable Modes	Required Number of Operable Channels per Trip System	Trip Setpoint	Action
1 - Reactor Pressure - High	Run	2	≤ 1120 psig	A, B, or C
2 - Reactor Water Level - Low Low	Run	2	≥ 126.5 in. above TAF	A, B, or C

Action A.

When the number of operable channels is one less than the required number of operable channels per trip system for one or both trip systems, restore the inoperable channel to an operable condition within 72 hours. If not restored within 72 hours, place the inoperable channel in a tripped condition within one hour. If placing the inoperable channel in the tripped condition would result in a recirculation pump trip, take Action C.

Action B.

When the number of operable channels is two less than the required number of operable channels per trip system for one or both trip systems, either restore at least one channel per trip system to an operable status within one hour or place the inoperable channels in the tripped condition within one hour. If placing the inoperable channel in the tripped condition would result in recirculation pump trip, take Action C.

Action C.

If Action A or B is not completed within the allowed time, be in the start-up/hot standby mode within the next six hours.

JAFNPP

TABLE 4.2-7

**MINIMUM TEST AND CALIBRATION FREQUENCY
FOR ATWS RECIRCULATION PUMP TRIP ACTUATION INSTRUMENTATION**

FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	TRIP UNIT CALIBRATION	CHANNEL CALIBRATION	SIMULATED AUTO ACTUATION & LOGIC FUNCTIONAL TEST
1-Reactor Pressure-High	Once/day	Once/31 days	Once/6 months	Once/Operating cycle	Once/Operating cycle
2-Reactor Water Level-Low Low	Once/day	Once/31 days	Once/6 months	Once/Operating cycle	Once/Operating cycle



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 172 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

By letter dated July 9, 1991, the Power Authority of the State of New York (the licensee) submitted a request for changes to the James A. FitzPatrick Nuclear Power Plant, Technical Specifications (TS). The requested changes would revise Table 3.2-7, "Instrumentation That Initiates Recirculation Pump Trip," and Table 4.2-7, "Minimum Test and Calibration Frequency for Recirculation Pump Trip," to reflect a modification to the Reactor Water Recirculation Pump Trip (RPT) system logic. The logic for the system was changed as part of the modifications required by 10 CFR 50.62, "Requirements for Reduction of Risk from Anticipated Transients Without Scram (ATWS) Events for Light-Water-Cooled Nuclear Power Plants."

2.0 BACKGROUND

On July 26, 1984, the Code of Federal Regulations (CFR) was amended to include Section 10 CFR 50.62, "Requirements for Reduction of Risk from Anticipated Transients Without Scram (ATWS) Events for Light-Water-Cooled Nuclear Power Plants" (known as the "ATWS Rule"). An ATWS is an expected operational transient (such as loss of feedwater, loss of condenser vacuum, or loss of offsite power) which is accompanied by a failure of the reactor trip system (RTS) to shutdown the reactor. The ATWS Rule requires specific improvements in the design and operation of commercial nuclear power facilities to reduce the likelihood of failure to shutdown the reactor following anticipated transients, and to mitigate the consequences of an ATWS event.

For each boiling water reactor, three systems are required to mitigate the consequences of an ATWS event.

1. It must have an alternate rod injection (ARI) system that is diverse (from the reactor trip system) from sensor output to the final actuation devices. The ARI system must have redundant scram air header exhaust valves. The ARI system must be designed to perform its function in a reliable manner and be independent (from the existing reactor trip system) from sensor output to the final actuation device.

2. It must have a standby liquid control system (SLCS) with a minimum flow capacity and boron content equivalent in control capacity to 86 gallons per minute of 13 weight percent sodium pentaborate solution. The SLCS and its injection location must be designed to perform its function in a reliable manner.
3. It must have equipment to trip the reactor coolant recirculating pumps automatically under conditions indicative of an ATWS. This equipment must be designed to perform its function in a reliable manner.

The licensee modified the logic of the reactor water recirculation pump trip actuation instrumentation during the 1990 refueling outage to comply with the requirements of 10 CFR 50.62. The primary objective of the logic change was to maintain or improve reliability of the trip logic while providing a design with on-line testability. The modified RPT system is designed to trip both reactor recirculation pumps on high reactor pressure or low reactor water level in the event of an ATWS. The actuation logic is one-out-of-two-taken-twice from pressure signals or one-out-of-two-taken-twice from level signals.

3.0 EVALUATION

The proposed amendment to the James A. FitzPatrick Technical Specifications (TS) updates Tables 3.2-7 and 4.2-7 to reflect the stated changes to the logic of the Reactor Water Recirculation Pump Trip (RPT) System. Specifically, the minimum number of operable channels per trip system would be changed from one to two. Furthermore, the required action statements to be implemented when channels become inoperable would be revised to read:

Action A

When the number of operable channels is one less than the required number of operable channels per trip system for one or both trip systems, restore the inoperable channel to an operable condition within 72 hours. If not restored within 72 hours, place the inoperable channel in a tripped condition within one hour. If placing the inoperable channel in the tripped condition would result in a recirculation pump trip, take Action C.

Action B

When the number of operable channels is two less than the required number of operable channels per trip system for one or both trip systems, either restore at least one channel per trip system to an operable status within one hour or place the inoperable channels in the tripped condition within one hour. If placing the inoperable channel in the tripped condition would result in recirculation pump trip, take Action C.

Action C

If Action A or B is not completed within the allowed time, be in the start-up/hot standby mode within the next six hours.

The ATWS-RPT logic consists of two trip systems to complete the "Reactor Low Level" trip function and two trip systems to complete the "Reactor High Pressure" trip function. The actuation of both trip systems in either the reactor low level logic, or the reactor high pressure logic will result in a trip of both recirculation pumps. Each trip system consists of two instrument channels in a parallel configuration. With a one-cut-of-two-taken-twice trip logic arrangement, a single channel being inoperable in one or both trip systems will not inhibit a recirculation pump trip during an ATWS event. Furthermore, a channel can be placed in the tripped condition for one of the trip systems without causing an ATWS-RPT actuation. This trip logic ensures that the instrumentation would be available in case of an ATWS event by using a design which is reliable and which is testable while the reactor is at power.

When the number of operable channels is one less than the required number of operable channels per trip system for one or both trip systems, a 72 hour Limiting Condition for Operation (LCO) has been established. This LCO is appropriate since with a one-out-of-two-taken-twice logic, a single channel being inoperable in one or both trip systems will not inhibit a recirculation pump trip during an ATWS event. Furthermore, the LCO provides adequate time to restore the channel to operable and return the recirculation pump trip logic to its full complement of operable channels. If not restored within 72 hours, the inoperable channel must be placed in the tripped condition within one hour. When the number of operable channels is two less than the required number of operable channels per trip system for one or both trip systems, there is the potential for a failure of the ATWS-RPT actuation capability. Therefore, a more restrictive one hour LCO has been established to restore at least one channel per trip system to an operable status. If not restored within one hour, the inoperable channels must be placed in the tripped condition within one hour. The NRC staff concludes that the probability of a failure of the ATWS-RPT actuation coincident with an ATWS event is very low and thus the one hour LCO is appropriate. Action C has been added to Table 3.2-7 such that if either of the stated LCOs cannot be satisfied, the plant must be brought to the start-up/hot standby mode within the next six hours. The NRC staff finds the proposed actions taken, in response to inoperable instrument channels, ensure that the recirculation pump trip system is available to mitigate the consequences of an ATWS event. Furthermore, the proposed actions are consistent with the proposed Standard Technical Specifications being implemented in the Improved Technical Specification Program.

TS Table 4.2-7 is being revised to require instrument channel checks at a minimum frequency of once per day, an instrument channel functional test of the trip unit once every 31 days, trip unit calibration every six months, channel

calibration once every operating cycle, and a simulated automatic actuation and logic functional test once every operating cycle. These test and calibration frequencies are consistent with the FitzPatrick TS for Core and Containment Cooling system instrumentation. These checks and functional tests are more comprehensive and frequent than those currently specified and, thus, would provide equal or better assurance of system operability.

Changes have also been made to Tables 3.2-7 and 4.2-7 which revise the format and content of the tables to improve their clarity. The NRC staff determines that these changes to the tables are administrative changes and cannot impact the capability of the ATWS-RPT circuitry.

Based on the above evaluation, the NRC staff finds that the proposed changes to TS Tables 3.2-7 and 4.2-7 are consistent with the modified ATWS-RPT design that enhances the system's ability to respond and mitigate the consequences of an ATWS event. Furthermore, the required action statements and surveillance requirements are adequate to ensure that the ATWS-RPT system is available to mitigate the consequences of an ATWS event. Therefore, the NRC concludes that the proposed changes to the technical specifications are acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New York State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes to the surveillance requirements. The NRC 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 the amendment involves no significant hazards consideration, and there has been no public comment on such finding (56 FR 41585). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 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 the amendment.

6.0 CONCLUSION

The Commission has 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor:
H. Li

Date: October 29, 1991

Docket No. 50-333

October 29, 1991

DISTRIBUTION:
See attached sheet

Mr. Ralph E. Beedle
Executive Vice President - Nuclear Generation
Power Authority of the State of New York
123 Main Street
White Plains, New York 10601

Dear Mr. Beedle:

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A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular biweekly Federal Register notice.

Sincerely,

~~ORIGINAL~~ SIGNED BY:

Brian C. McCabe, Project Manager
Project Directorate I-1
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Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No.172 to DPR-59
2. Safety Evaluation

cc w/enclosures:

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AMENDMENT NO. 172 TO FACILITY OPERATING LICENSE NO. DPR-59-FITZPATRICK

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