Docket No. 50-333 December 17, 1991

DISTRIBUTION:
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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. M81898)

The Commission has issued the enclosed Amendment No. 174 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 October 11, 1991.

The amendment reduces the Residual Heat Removal pump flow rate surveillance acceptance criteria from 9900 gpm to 8910 gpm in TS 4.5.F.1. This change allows more accurate and repeatable inservice testing by eliminating problems inherent in testing the pumps near runout flow conditions.

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
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 174 to DPR-59
2. Safety Evaluation

cc w/enclosures:
See next page

*See previous concurrence

OFC	PDI-1:LA	PDI-1:PM	*OGC	PDI-1:D
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

December 17, 1991

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Brian C. McCabe

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Division of Reactor Projects - I/II
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2. Safety Evaluation

cc w/enclosures:
See next page

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1/1

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Power Authority of the State of New York

James A. FitzPatrick Nuclear
Power Plant

cc:

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DATED: December 17, 1991

AMENDMENT NO. 174 TO FACILITY OPERATING LICENSE NO. DPR-59-FITZPATRICK

Docket File
NRC & Local PDRs
PDI-1 Reading
S. Varga, 14/E/4
J. Calvo, 14/A/4
R. Capra
C. Vogan
B. McCabe
R. Jones, 8/E/23
C. Cowgill
OGC-WF
D. Hagan, 3302 MNBB
G. Hill (4), P-137
Wanda Jones, P-130A
C. Grimes, 11/F/23
ACRS (10)
GPA/PA
OC/LFMB
Plant File

cc: Plant Service list

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. 174
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 October 11, 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. 174 , 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: December 17, 1991

ATTACHMENT TO LICENSE AMENDMENT NO. 174

FACILITY OPERATING LICENSE NO. DPR-59

DOCKET NO. 50-333

Revise Appendix A as follows:

Remove Page	Insert Page
122	122

3.5 (cont'd)

F. ECCS-Cold Condition

1. A minimum of two low pressure Emergency Core Cooling subsystems shall be operable whenever irradiated fuel is in the reactor, the reactor is in the cold condition, and work is being performed with the potential for draining the reactor vessel.

2. A minimum of one low pressure Emergency Core Cooling subsystem shall be operable whenever irradiated fuel is in the reactor, the reactor is in the cold condition, and no work is being performed with the potential for draining the reactor vessel.

3. Emergency Core Cooling subsystems are not required to be operable provided that the reactor vessel head is removed, the cavity is flooded, the spent fuel pool gates are removed, and the water level above the fuel is in accordance with Specification 3.10.C.

4. With the requirements of 3.5.F.1, 3.5.F.2, or 3.5.F.3 not satisfied, suspend core alterations and all operations with the potential for draining the reactor vessel. Restore at least one system to operable status within 4 hours or establish Secondary Containment Integrity within the next 8 hours.

4.5 (cont'd)

F. ECCS-Cold Condition

Surveillance of the low pressure ECCS systems required by 3.5.F.1 and 3.5.F.2 shall be as follows:

1. Perform a flowrate test at least once every 3 months on the required Core Spray pump(s) and/or the RHR pump(s). Each Core Spray pump shall deliver at least 4,625 gpm against a system head corresponding to a reactor vessel pressure greater than or equal to 113 psi above primary containment pressure. Each RHR pump shall deliver at least 8910 gpm against a system head corresponding to a reactor vessel to primary containment differential pressure of $\geq$ 20 psid.

2. Perform a monthly operability test on the required Core Spray and/or LPCI motor operated valves.

3. Once each shift verify the suppression pool water level is greater than or equal to 10.33 ft. whenever the low pressure ECCS subsystems are aligned to the suppression pool.

4. Once each shift verify a minimum of 324 inches of water is available in the Condensate Storage Tanks (CST) whenever the Core Spray System(s) is aligned to the tanks.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 174 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 October 11, 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 change would reduce the Residual Heat Removal (RHR) pump flow rate surveillance acceptance criteria from 9900 gpm to 8910 gpm in TS 4.5.F.1. This change allows more accurate and repeatable inservice testing by eliminating problems inherent in testing the pumps near runout flow conditions.

2.0 DISCUSSION

The Emergency Core Cooling System (ECCS) for the James A. FitzPatrick Nuclear Power Plant consists of the following systems:

(a) High Pressure Coolant Injection (HPCI) system.
(b) Automatic Depressurization System (ADS).
(c) Core Spray System (consisting of two loops, one pump per loop, each pump powered from separate diesel generators).
(d) Low Pressure Coolant Injection (LPCI) mode of the RHR system (consisting of two loops, two pumps per loop, with each pump in a loop powered from a different diesel generator).

Each of the two LPCI subsystems consists of two RHR pumps, with A and C in one subsystem and B and D in the other. They are tested in accordance with TS Section 4.5.F.1. to ensure that adequate core cooling capacity is available during cold conditions. The current criterion is that the flow for each pump must be at least 9900 gpm against a system head corresponding to a reactor vessel to primary containment differential pressure of at least 20 psid. At the RHR flow rate of 9900 gpm, the pumps are on the steep part of their head capacity curve. In this region of the pump performance curve, small variations in flow result in large variations in pressure. In order to reduce the impact of flow measurement uncertainties and facilitate more accurate and more repeatable inservice testing, the licensee proposed to reduce the required minimum RHR pump flow by 10 percent to 8910 gpm. This reduction would permit surveillance testing outside the flow sensitive region of the pump curve.

3.0 EVALUATION

The licensee has proposed a TS change to reduce the allowable RHR pump flow rate from its present allowable value of 9900 gpm to 8910 gpm, a ten percent reduction. To justify this change, the licensee used a LOCA analysis ("JAF NPP SAFER/GESTR - LOCA Analysis," General Electric Company, NEDC-31317P, October 1986) and a safety evaluation performed by GE ("Nuclear Safety Evaluation for a 10% Decrease in LPCI Flow," JAF-SE-90-024, February 5, 1990) in its submittal.

The LOCA analysis performed using the approved SAFER/GESTR evaluation models per Appendix K to 10 CFR Part 50, demonstrates that, for a ten percent reduction in ECCS flow, the peak cladding temperature (PCT) will increase by 88 °F. Since the current limiting licensing PCT is more than 600 °F below the allowable 2200 °F, the plant will continue to meet the requirements of Appendix K to 10 CFR Part 50 and 10 CFR 50.46 with over 500 °F margin. Therefore, the proposed reduced RHR flow rate of 8910 gpm is acceptable based on LOCA considerations.

The LPCI system is also relied on to supply makeup water to the reactor during postulated fire events in accordance with Appendix R of 10 CFR Part 50. These are not pipe break events but are postulated fire events which can threaten the ability of the plant to maintain reactor vessel water inventory, depleted by decay heat and sensible heat boiloff. The analysis shows that for the worst case Appendix R fire, the PCT is estimated to increase no more than 60 °F assuming a 10 percent decrease in LPCI flow rate. Since the resultant PCT is well below temperatures associated with fuel cladding damage, a reduction of 10 percent in RHR flow does not pose any threat to the fuel integrity.

Analysis of the suppression pool cooling mode of operation, the shutdown cooling mode of operation, and the containment cooling mode of operation shows that the RHR pumps operating at 8910 gpm exceed the design and FSAR flow rates for these modes. In addition, the flow rates assumed in the design of these modes are less than the flow rate used in the design of the LPCI mode. Therefore, the analysis concludes that there is no safety impact associated with this change to the flow criteria.

In conclusion, operation of the plant in the cold condition in accordance with the proposed amendment is not a safety concern. The conclusions of the plant's accident analyses as documented in the FSAR or the NRC staff's SER are not altered by these changes to the Technical Specifications. Therefore, based on the above evaluation, the proposed change to the RHR pump flow acceptance criteria is 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. 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 57700). 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:
S. Sun

Date: December 17, 1991

Local Public Document Room location: Reference and Documents Department, Penfield Library, State University of Oswego, Oswego, New York 13126.

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