

March 20, 1987

Docket No. 50-333

Mr. John C. Brons
Senior 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. 107 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 dated December 4, 1986.

The amendment changes the Technical Specifications pertaining to operability requirements for the High Pressure Coolant Injection (HPCI) and Reactor Core Isolation Cooling (RCIC) systems.

A copy of the Safety Evaluation is enclosed. Notice of Issuance will be included in the Commission's Bi-Weekly Federal Register Notice.

Sincerely,

Original signed by

Harvey I. Abelson, Project Manager
BWR Project Directorate #2
Division of BWR Licensing

Enclosures:

1. Amendment No. 107 to License No. 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
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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. 107
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 4, 1986, 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:

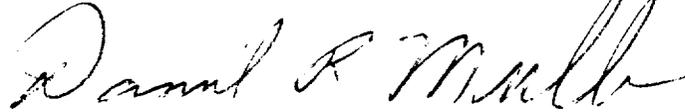
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(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 107, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. The license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Daniel R. Muller, Director
BWR Project Directorate #2
Division of BWR Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 20, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 107

FACILITY OPERATING LICENSE NO DPR-59

DOCKET NO. 50-333

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

Pages

117
118
121
128
129

3.5 (Cont'd)

DELETED

C. HIGH PRESSURE COOLANT INJECTION (HPCI SYSTEM)

1. The HPCI System shall be operable whenever the reactor pressure is greater than 150 psig and reactor coolant temperature is greater than 212°F and irradiated fuel is in the reactor vessel, except as specified below:

4.5 (Cont'd)

C. HIGH PRESSURE COOLANT INJECTION (HPCI SYSTEM)

Surveillance of HPCI System shall be performed as follows provided a reactor steam supply is available. If steam is not available at the time the surveillance test is scheduled to be performed, the test shall be performed within 10 days of continuous operation from the time steam becomes available.

1. HPCI System testing shall be as specified in 4.5.A.1.a, b, c, d, f, and g except that the HPCI pump shall deliver at least 4,250 gpm against a system head corresponding to a reactor vessel pressure of 1,120 psig to 150 psig.

3.5 (cont'd)

- a. From and after the date that the HPCI System is made or found to be inoperable for any reason, continued reactor operation is permissible only during the succeeding 7 days unless such system is sooner made operable, provided that during such 7 days all active components of the Automatic Depressurization System, the Core Spray System, LPCI System, and Reactor Core Isolation Cooling System are operable.
 - b. If the requirements of 3.5.C cannot be met, the reactor shall be placed in the cold condition and pressure less than 150 psig within 24 hrs.
2. Low power physics testing and reactor operator training shall be permitted with reactor coolant temperature $\leq 212^{\circ}\text{F}$ with an inoperable component(s) as specified in 3.5.C.1 above.

4.5 (cont'd)

- a. When it is determined that the HPCI subsystem is inoperable the RCIC, the LPCI subsystem, both core spray subsystems, and the ADS subsystem actuation logic shall be demonstrated to be operable immediately. The RCIC system and ADS subsystem logic shall be demonstrated to be operable daily thereafter.

3.5 (Cont'd)

E. Reactor Core Isolation Cooling (RCIC) System

1. The RCIC System shall be operable whenever there is irradiated fuel in the reactor vessel and the reactor pressure is greater than 150 psig and reactor coolant temperature is greater than 212°F except from the time that the RCIC System is made or found to be inoperable for any reason, continued reactor power operation is permissible during the succeeding 7 days unless the system is made operable earlier provided that during these 7 days the HPCI System is operable.
2. If the requirements of 3.5.E cannot be met, the reactor shall be placed in the cold condition and pressure less than 150 psig within 24 hours.
3. Low power physics testing and reactor operator training shall be permitted with inoperable components as specified in 3.5.E.2 above, provided that reactor coolant temperature is \leq 212°F.

4.5 (Cont'd)

E. Reactor Core Isolation Cooling (RCIC) System

1. RCIC System testing shall be performed as follows provided a reactor steam supply is available. If steam is not available at the time the surveillance test is scheduled to be performed, the test shall be performed within ten days of continuous operation from the time steam becomes available.

<u>Item</u>	<u>Frequency</u>
a. Simulated Automatic Actuation Test	Once/operating cycle
b. Pump Operability	Once/month
c. Motor Operated Valve Operability	Once/month
d. Flow Rate	Once/3 months
e. Testable Check Valves	Tested for operability any time the reactor is in the cold condition exceeding 48 hours, if operability tests have not been performed during the preceding 31 days.

3.5 BASES (cont'd)

C. High Pressure Coolant Injection (HPCI) System

The High Pressure Coolant Injection System is provided to adequately cool the core for all pipe breaks smaller than those for which the LPCI or Core Spray Systems can protect the core.

The HPCI meets this requirement without the use of a-c electrical power. For the pipe breaks for which the HPCI is intended to function, the core never uncovers and is continuously cooled and thus no clad damage occurs. Refer to Section 6.5.3 of the FSAR.

Low power physics testing and reactor operator training with inoperable component(s) will be conducted only when the HPCI System is not required, (reactor coolant temperature $\leq 212^{\circ}\text{F}$ and coolant pressure ≤ 150 psig). If the plant parameters are below the point where the HPCI System is required, physics testing and operator training will not place the plant in an unsafe condition.

Operability of the HPCI System is required only when reactor pressure is greater than 150 psig and reactor coolant temperature is greater than 212°F because core spray and low pressure coolant injection can protect the core for any size pipe break at low pressure.

D. Automatic Depressurization System (ADS)

The relief valves of the ADS are a backup to the HPCI subsystem. They

enable the Core Spray or LPCI Systems to provide protection against the small pipe break in the event of HPCI failure, by depressurizing the reactor vessel rapidly enough to actuate the Core Spray or LPCI Systems. The core spray and/or LPCI provide sufficient flow of coolant to limit fuel clad temperatures to well below clad fragmentation and to assure that core geometry remains intact.

Redundancy has been provided in the automatic pressure relief function in that only six of the seven valves are required to operate. Loss of one of the relief valves does not materially affect the pressure relieving capability, and therefore a thirty-day repair period is specified. Loss of more than one relief valve significantly reduces the pressure relief capability, and thus a 24-hr. repair period is specified.

Low power physics testing and reactor operator training with inoperable components will be conducted only when that component or system is not required, (reactor coolant temperature $\leq 212^{\circ}\text{F}$ and reactor vessel vented or the reactor vessel head removed). With the reactor coolant temperature $\leq 212^{\circ}\text{F}$ and the Reactor vessel vented or the

3.5 BASES (cont'd)

vessel head off the LPCI and Core Spray Systems will perform their designed safety function without the help of the ADS.

E. Reactor Core Isolation Cooling (RCIC) System

The RCIC is designed to provide makeup to the Reactor Coolant System as a planned operation for periods when the normal heat sink is unavailable. The RCIC also serves as redundant makeup system on total loss of all offsite power in the event that HPCI is unavailable. In all other postulated accidents and transients, the ADS provides redundancy for the HPCI. Based on this and judgements on the reliability of the HPCI system, an allowable repair time of 7 days is specified. Immediate and daily demonstrations of HPCI operability during RCIC outage is considered adequate based on judgement and practicality.

Low power physics testing and reactor operator training with inoperable components will be conducted only when the RCIC System is not required, (reactor coolant temperature \leq 212°F and coolant pressure \leq 150 psig). If the plant parameters are below the point where the RCIC System is required, physics

testing and operator training will not place the plant in an unsafe condition.

Operability of the RCIC System is required only when reactor pressure is greater than 150 psig and reactor coolant temperature is greater than 212°F because core spray and low pressure coolant injection can protect the core for any size pipe break at low pressure.

F. Minimum Emergency Core and Containment Cooling System Availability

The purpose of Specification 4.5.D is to assure a minimum of emergency core cooling equipment is available at all times. If, for example, one core spray were out of service and the emergency bus which powered the opposite core spray were out of service, only two RHR Pumps would be available. Likewise, if two RHR pumps were out of service and two RHR on the opposite side were also out of service, no containment cooling would be available. It is during refueling outages that major maintenance is performed and during such time that all low pressure core cooling systems may be out of service. This specification provides that should this occur, no work will be performed on the Reactor Coolant System which could lead to draining the vessel. This work would include work on certain control rod drive components and Reactor Recirculation System. Thus, the specification precludes the events which could require core cooling. Specification 3.9 must also be consulted to determine other



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 107 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 December 4, 1986, the Power Authority of the State of New York, licensee for the James A. Fitzpatrick Nuclear Power Plant, proposed technical specification (TS) changes regarding the High Pressure Coolant Injection (HPCI) System and Reactor Core Isolation Cooling (RCIC) System operability requirements. These changes to TS 3.5.C.1 and Bases 3.5.C and 3.5.E are discussed below.

Overspeed testing of the HPCI and RCIC steam turbines is performed after entering the startup mode, with reactor steam pressure less than 150 psig, and requires that the respective turbines be decoupled from their pumps. The present TS requires the subject equipment to be operable, and therefore coupled, prior to reactor startup. The licensee has proposed to delete the TS requirement for the HPCI and RCIC systems to be operable prior to startup. This change would eliminate the uncoupling/coupling cycle of the HPCI and RCIC turbines and their pumps, now required for the overspeed test. As a result, there would be reduced radiation exposure to personnel.

The present TS for the HPCI and RCIC systems also require operability of those systems whenever reactor pressure is greater than 150 psig. Hydrotesting of the reactor vessel is performed with reactor coolant temperature less than 212° F, and reactor pressure greater than 150 psig. Thus, the present TS could be interpreted as requiring the HPCI and RCIC systems to be operable during a reactor vessel hydrotest. The licensee has proposed revising the TS to require the HPCI and RCIC systems to be operable whenever the reactor pressure is greater than 150 psig and the reactor coolant temperature is greater than 212° F. This would eliminate the ambiguity of the operability requirement for the HPCI and RCIC system during a reactor vessel hydrotest.

2.0 EVALUATION

The staff has reviewed the proposed TS revisions and supporting documentation submitted by the licensee. The proposed TS requirement for the HPCI and RCIC systems to be operable whenever the reactor pressure is greater than 150 psig and reactor coolant temperature is greater than 212° F ensures that the functions for which these systems were designed would be met. The HPCI and RCIC systems are not required or intended for any safety-relation function

below a reactor pressure of 150 psig or below a reactor coolant temperature of 212° F. The low-pressure emergency core cooling systems (the Low Pressure Core Injection and Core Spray systems) are designed for and available to provide the required cooling at reactor pressures below 150 psig. The staff, therefore, finds the proposed TS changes, including an editorial change to TS 3.5.C.2, to be acceptable.

3.0 ENVIRONMENTAL CONSIDERATIONS

This 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 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 findings. Accordingly, the amendment meet 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.

4.0 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 the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: D. Katze

Dated: March 20, 1987