UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 7, 1993

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. M86956)

The Commission has issued the enclosed Amendment No. 199 to Facility Operating License No. DPR-59 for the James A. FitzPatrick Nuclear Power Plant. The amendment consists of changes to the Technical Specifications (TSs) in response to your application transmitted by letter dated June 24, 1993.

The amendment removes TS 4.6.A.7 which provided the schedule for removing reactor vessel material specimens. Guidance on the TS change was provided in Generic Letter 91-01, "Removal of the Schedule for the Withdrawal of Reactor Vessel Material Specimens from Technical Specifications," dated January 4, 1990. The amendment also incorporates associated changes to the TS Bases.

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,

Paudette Gregg for

John E. Menning, Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 199 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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Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
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DATED: October 7, 1993

AMENDMENT NO. 199 TO FACILITY OPERATING LICENSE NO. DPR-59-FITZPATRICK

Docket File
NRC & Local PDRs
PDI-1 Reading
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R. Capra
C. Vogan
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D. Hagan, 3302 MNBB
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C. Grimes, 11/F/23
T. Dunning, 11/E/22
ACRS (10)
OPA
OC/LFDCB
PD plant-specific file
C. Cowgill, Region I

cc: Plant Service list

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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. 199
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 June 24, 1993, 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. 199 , 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 7, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 199

FACILITY OPERATING LICENSE NO. DPR-59

DOCKET NO. 50-333

Revise Appendix A as follows:

Remove Pages	Insert Pages
139	139
147	147

3.6 (cont'd)

B. Deleted

C. Coolant Chemistry

1. The reactor coolant system radioactivity concentration in water shall not exceed the equilibrium value of 3.1 μCi/gm of dose equivalent I-131. This limit may be exceeded, following a power transient, for a maximum of 48 hours. During this iodine activity transient the iodine concentrations shall not exceed the equilibrium limits by more than a factor of 10 whenever the main steamline isolation valves are open. The reactor shall not be operated more than 5 percent of its annual power operation under this exception to the equilibrium limits. If the iodine concentration exceeds the equilibrium limit by more than a factor of 10, the reactor shall be placed in a cold condition within 24 hours.

4.6 (cont'd)

B. Deleted

C. Coolant Chemistry

1. a. A sample of reactor coolant shall be taken at least every 96 hours and analyzed for gross gamma activity.

   b. Isotopic analysis of a sample of reactor coolant shall be made at least once/month.

   c. A sample of reactor coolant shall be taken prior to startup and at 4 hour intervals during startup and analyzed for gross gamma activity.

   d. During plant steady state operation and following an offgas activity increase (at the Steam Jet Air Ejectors) of 10,000 μCi/sec within a 48 hour period or a power level change of $\geq$20 percent of full rate power/hr reactor coolant samples shall be taken and analyzed for gross gamma activity. At least three samples will be taken at 4 hour intervals. These sampling requirements may be omitted whenever the equilibrium I-131 concentration in the reactor coolant is less than 0.007 μCi/ml.

3.6 and 4.6 BASES (cont'd)

The expected neutron fluence at the reactor vessel wall can be determined at any point during plant life based on the linear relationship between the reactor thermal power output and the corresponding number of neutrons produced. Accordingly, neutron flux wires were removed from the reactor vessel with the surveillance specimens to establish the correlation at the capsule location by experimental methods. The flux distribution at the vessel wall and 1/4 thickness (1/4T) depth was analytically determined as a function of core height and azimuth to establish the peak flux location in the vessel and the lead factor of the surveillance specimens.

Regulatory Guide 1.99, Revision 2 is used to predict the shift in RT_{NDT} as a function of fluence in the reactor vessel beltline region. An evaluation of the irradiated surveillance specimens, which were withdrawn from the reactor in April, 1985 (6 EFPY), shows a shift in RT_{NDT} less than that predicted by Regulatory Guide 1.99, Revision 2.

Operating limits for the reactor vessel pressure and temperature during normal heatup and cooldown, and during in-service hydrostatic and leak testing were established using 10 CFR 50 Appendix G, May, 1983 and Appendix G of the Summer 1984 Addenda to Section III of the ASME Boiler and Pressure Vessel Code. These operating limits assure that the vessel could safely accommodate a postulated surface flaw having a depth of 0.24 inch at the flange-to-vessel junction, and one-quarter of the material thickness at all other reactor vessel locations and discontinuity regions. For the purpose of setting these operating limits, the reference temperature, RT_{NDT}, of the vessel material was estimated from impact test data taken in accordance with the requirements of the Code to which the vessel was designed and manufactured (1965 Edition including Winter 1966 addenda). The RT_{NDT} values for the reactor vessel flange region and for the reactor vessel shell beltline region are 30°F, based on fabrication test reports. The RT_{NDT} for the remainder of the vessel is 40°F.

The actual shift in the RT_{NDT} of the vessel material will be established periodically by removing and evaluating flux monitoring surveillance capsules in accordance with ASTM E 185-82 and 10 CFR 50, Appendix H. The evaluation findings and recommendations of Regulatory Guide 1.99 Revision 2 will provide the basis for revising Figure 3.6-1 curves A, B and C for operation of the plant. The first surveillance capsule containing test specimens was withdrawn in April, 1985 after 6 EFPY. The test specimens removed were tested according to ASTM E 185-82 and the results are in GE report MDE-49-0386. The NRC approved schedule for subsequent specimen withdrawal is located in the updated FSAR (Section 4.2.7).

Figure 3.6-1 is comprised of three parts: Part 1, Part 2, and Part 3. Parts 1, 2, and 3 establish the pressure-temperature limits for plant operations through 12, 14, and 16 Effective Full Power Years (EFPY) respectively. The appropriate figure and the pressure-temperature curves are dependent on the number of accumulated EFPY. Figure 3.6-1, Part 1 is for operation through 12 EFPY, Figure 3.6-1, Part 2 is for operation at greater than 12 EFPY through 14 EFPY, and Figure 3.6-1, Part 3 is for operation at greater than 14 EFPY through 16 EFPY. The curves contained in Figure 3.6-1 are developed from the General Electric Report DRF 137-0010, "Implementation of Regulatory Guide 1.99, Revision 2 for the James A. FitzPatrick Nuclear Power Plant," dated June, 1989.

Figure 3.6-1 curve A establishes the minimum temperature for hydrostatic and leak testing required by the ASME Boiler and Pressure Vessel Code, Section XI. Test pressures for in-service hydrostatic and leak testing are a function of the testing temperature and the component material. Accordingly, the maximum hydrostatic test pressure will be 1.1 times the operating pressure of about 1105 psig.

UNITED STATES
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WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 199 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 June 24, 1993, the Power Authority of the State of New York (the licensee) proposed changes to the Technical Specifications (TSs) for the James A. FitzPatrick Nuclear Power Plant (FitzPatrick). The proposed changes would remove TS 4.6.A.7 which provides the schedule for removing reactor vessel material specimens. Guidance on the proposed TS changes was provided in Generic Letter (GL) 91-01, "Removal of the Schedule for the Withdrawal of Reactor Vessel Material Specimens from Technical Specifications," dated January 4, 1990.

2.0 EVALUATION

Technical Specification 3/4.6.A, "Pressurization/Temperature Limits," contains a limiting condition for operation (LCO) for the Reactor Coolant System (RCS) that limits the rate of change in temperature and pressure to values consistent with the fracture toughness requirements of the American Society of Mechanical Engineers (ASME) Code and Appendix G to Part 50 of Title 10 of the Code of Federal Regulations (10 CFR Part 50). Changes in the values of these limits are necessary because the fracture toughness properties of ferritic materials in the reactor vessel change as a function of the reactor operating time (neutron fluence).

For this reason, the TSs include a Surveillance Requirement, TS 4.6.A.7, that requires the removal and examination of the irradiated specimens of reactor vessel material. The licensee examines the specimens to determine the changes in material properties in accordance with the requirements of Appendix H to 10 CFR Part 50. GL 91-01 allows removal of the schedule from the Surveillance Requirement or removal of the complete Surveillance Requirement if it does not specify that the results of the examination are to be used to update the pressure and temperature limits of LCO 3.6.A. This change is consistent with the improved Standard Technical Specifications which have no Surveillance Requirement for specimen removal and updating of the LCO.

The removal of the schedule for withdrawing material specimens from the TSs will eliminate the necessity of a license amendment to make changes to this schedule. However, Section I.B.3 of Appendix H to 10 CFR Part 50 requires the submittal of a proposed withdrawal schedule for material specimens to the U.S.

Nuclear Regulatory Commission (NRC) and approval by the NRC before implementation. Hence, adequate regulatory controls exist to control changes to this schedule without the necessity of subjecting it to the license amendment process by including it in TSs.

The licensee has provided a commitment to include this schedule in the next revision of the updated Final Safety Analysis Report (FSAR). In addition, the licensee will include any subsequent NRC-approved revisions to this schedule in an update of the FSAR. The inclusion of the withdrawal schedule in the FSAR provides a source for this information that is readily available as a reference for NRC inspectors and other staff use.

The licensee has proposed a change to TS 4.6.A.7 that is consistent with the guidance provided in GL 91-01 for the removal of the complete Surveillance Requirement. The NRC has reviewed this matter and finds that the proposed changes are acceptable. The NRC staff has also reviewed the proposed changes to the Bases and has no objections to them.

3.0 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.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes 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 (58 FR 41511). 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.

5.0 CONCLUSION

Therefore, the staff concludes 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors:
Thomas G. Dunning, OTSB/DORS
Maudette Griggs, PDI-1/DRPE

Date: October 7, 1993

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Docket No. 50-333

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Executive Vice President - Nuclear Generation
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Sincerely,
Maudette Griggs for
John E. Menning, Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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

cc w/enclosures:
See next page
*See previous concurrence

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FILENAME: G:\FITZ\FIT86956.AMD