



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

December 1, 1998

Mr. James Knubel
Chief Nuclear Officer
Power Authority of the State of
New York
123 Main Street
White Plains, NY 10601

SUBJECT: ISSUANCE OF AMENDMENT FOR JAMES A. FITZPATRICK NUCLEAR POWER
PLANT (TAC NO. MA2254)

Dear Mr. Knubel:

The Commission has issued the enclosed Amendment No. 247 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 July 10, 1998, as supplemented October 16, 1998.

The amendment revises TS Section 3.6/4.6 of Appendix A and associated bases to relocate portions of the reactor coolant chemistry requirements to the Updated Final Safety Analysis Report and to applicable plant procedures.

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,

A handwritten signature in black ink, appearing to read "Joseph F. Williams".

Joseph F. Williams, Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-333

Enclosures: 1. Amendment No.247 to DPR-59
2. Safety Evaluation

cc w/encls: See next page

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ORIGINAL SIGNED BY:

Joseph F. Williams, Project Manager
 Project Directorate I-1
 Division of Reactor Projects - I/II
 Office of Nuclear Reactor Regulation

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DATED: December 1, 1998

AMENDMENT NO. 247 TO FACILITY OPERATING LICENSE NO. DPR-59-FITZPATRICK

Docket File

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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. 247
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 10, 1998, as supplemented October 16, 1998, 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. This license is amended to approve the relocation of certain Technical Specification requirements to licensee-controlled documents, as described in the licensee's application dated July 10, 1998, and reviewed in the staff's Safety Evaluation Report dated December 1, 1998. This license is also hereby 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 Appendix A, as revised through Amendment No. 247, and the Environmental Protection Plan contained in Appendix B are incorporated into Facility License No. DPR-59. PASNY shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

2. This license amendment is effective as of the date of its issuance and the relocation of the reactor coolant chemistry conductivity and chloride concentration to a PASNY controlled procedure is to be implemented within 30 days of issuance and shall be included in the 1999 Final Safety Analysis Report update.

FOR THE NUCLEAR REGULATORY COMMISSION



S. Singh Bajwa, 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 1, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 247

FACILITY OPERATING LICENSE NO. DPR-59

DOCKET NO. 50-333

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Amendment No. ~~14, 22, 43, 64, 72, 74, 88, 98, 109, 113, 116, 117, 134, 137, 158, 162, 227,~~
~~236,~~ 247

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3.6 (cont'd)

B. Deleted

C. Specific Activity

1. The reactor coolant system radioactivity concentration in water shall not exceed the equilibrium value of 0.2 $\mu\text{Ci/gm}$ 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. Specific Activity

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 $\mu\text{Ci/sec}$ within a 48 hour period or a power level change of ≥ 20 percent of full rated 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 $\mu\text{Ci/ml}$.

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4.6 (cont'd)

- e. If the gross activity counts made in accordance with a, c, and d above indicate a total iodine concentration in excess of $0.007 \mu\text{Ci/ml}$, a quantitative determination shall be made for I-131 and I-133.

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4.6 (cont'd)

D. Coolant Leakage

1. Anytime irradiated fuel is in the reactor vessel and the reactor coolant temperature is above 212°F, the reactor coolant leakage into the primary containment shall be limited to:
 - a. 5 gpm unidentified leakage
 - b. 2 gpm increase in unidentified leakage within any 24 hour period. (This limitation shall apply only after a period of 24 hours at operating pressure.)
 - c. The total reactor coolant leakage into the primary containment shall not exceed 25 gpm.

D. Coolant Leakage

1. Reactor coolant leakage rate inside the primary containment shall be monitored and recorded once every 4 hours utilizing the Primary Containment Sump Monitoring System (equipment drain sump monitoring and floor drain sump monitoring).

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3.6 and 4.6 BASES (cont'd)

B. Deleted

C. Specific Activity

A radioactivity concentration limit of 20 $\mu\text{Ci/ml}$ total iodine can be reached if the gaseous effluents are near the limit as set forth in Radiological Effluent Technical Specification Section 3.2.a if there is a failure or a prolonged shutdown of the cleanup demineralizer.

In the event of a steam line rupture outside the drywell, a more restrictive coolant activity level of 0.2 $\mu\text{Ci/gm}$ of dose equivalent I-131 was assumed. With this coolant activity level and adverse meteorological conditions, the calculated radiological dose at the site boundary would be less than 30 rem to the thyroid. The reactor water sample will be used to assure that the limit of Specification 3.6.C is not exceeded. The total radioactive iodine activity would not be expected to change rapidly over a period of 96 hours. In addition, the trend of the stack offgas release rate, which is continuously monitored, is a good indicator of the trend of the iodine activity in the reactor coolant. Also during reactor startups and large power changes which could affect iodine levels, samples of reactor coolant shall be analyzed to insure iodine concentrations are below allowable levels. Analysis is required whenever the I-131 concentration is within a factor of 100 of its allowable equilibrium value. The necessity for continued sampling following power and offgas transients will be reviewed within 2 years of initial plant startup.

The surveillance requirements 4.6.C.1 may be satisfied by a continuous monitoring system capable of determining the total iodine concentration in the coolant on a real time basis, and

annunciating at appropriate concentration levels such that sampling for isotopic analysis can be initiated. The design details of such a system must be submitted for evaluation and accepted by the Commission prior to its implementation and incorporation in these Technical Specifications.

Since the concentration of radioactivity in the reactor coolant is not continuously measured, coolant sampling would be ineffective as a means to rapidly detect gross fuel element failures. However, some capability to detect gross fuel element failures is inherent in the radiation monitors in the offgas system and on the main steam lines.

3.6 and 4.6 BASES (cont'd)

D. Coolant Leakage

Allowable leakage rates of coolant from the Reactor Coolant System have been based on the predicted and experimentally observed behavior of cracks in pipes and on the ability to make up Reactor Coolant System leakage in the event of loss of off-site a-c power. The normally expected background leakage due to equipment design and the detection capability for determining system

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UNITED STATES
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 247 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 10, 1998, as supplemented October 16, 1998, The Power Authority of the State of New York (PASNY or the licensee) proposed changing the James A. FitzPatrick Nuclear Power Plant Technical Specifications (TSs). The requested changes will relocate portions of the "Reactor Coolant System - Coolant Chemistry" TS 3.6.C and 4.6.C from the Technical Specifications to the Updated Final Safety Analysis Report (UFSAR) and to applicable plant procedures controlled by the 10 CFR 50.59 process.

2.0 BACKGROUND

Section 182a of the Atomic Energy Act (the "Act") requires applicants for nuclear power plant operating licenses to state the TSs to be included as part of the license. The Commission's regulatory requirements related to the content of the TSs are set forth in 10 CFR 50.36. That regulation requires that the TS include items in five specific categories, including (1) safety limits, limiting safety system settings and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements, (4) design features; and (5) administrative controls. However, the regulation does not specify the particular requirements to be included in a plant's TSs.

The criteria for inclusion of a requirement as a limiting condition for operation in the TSs are set forth in 10 CFR 50.36. The criteria are as follows:

- (1) installed instrumentation that is used to detect, and indicate in the control room a significant abnormal degradation of the reactor coolant pressure boundary;
- (2) a process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier;
- (3) a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; and
- (4) a structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

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As a result, existing TS requirements that fall within or satisfy any of the criteria of 10 CFR 50.36 must be retained in the TSs, while those TSs requirements that do not fall within or satisfy these criteria may be relocated to other licensee controlled documents.

3.0 EVALUATION

The licensee has proposed relocating portions of TS 3/4.6.C, "Reactor Coolant System- Coolant Chemistry," to the UFSAR and to applicable plant procedures. The TSs for "Coolant Chemistry" contain requirements for reactor coolant specific activity, conductivity and chloride concentration. The amendment will retain the requirement for reactor coolant specific activity in TSs and relocate the conductivity and chloride requirements and associated figures and bases to the UFSAR and applicable plant procedures. The conductivity and chloride portion of the reactor coolant chemistry TS provides limits on particular chemical properties of the primary coolant, and surveillance practices to monitor those properties, to ensure that degradation of the reactor coolant pressure boundary is not exacerbated by poor chemistry conditions. However, degradation of the reactor coolant pressure boundary is a long-term process, and there are other, direct means to monitor and correct the degradation of the reactor coolant pressure boundary, which are controlled by regulations and TSs; for example, in-service inspection and primary coolant leakage limits. Therefore, requirements related to the chemistry program do not constitute initial conditions that are assumed in any design basis accident or transient related to the reactor coolant system (RCS) integrity, nor does the reactor coolant chemistry TS for conductivity and chloride concentration constitute a primary success path or risk-significant safety function warranting TS requirements under the criteria of 10 CFR 50.36.

The licensee states that the reactor coolant chemistry requirements for conductivity and chloride concentration will be maintained in the UFSAR and applicable plant procedures. Any changes to these chemistry requirements would be evaluated in accordance with 10 CFR 50.59 and if any changes are determined to involve an unreviewed safety question, the licensee must obtain prior NRC review and approval.

The licensee proposed the following editorial change, to retitle TS 3/4.6.C from "Coolant Chemistry" to "Specific Activity" in both the table of contents and in the body of the TS to reflect the relocation of the conductivity and chlorides.

Also, with the relocation of the RCS - Chemistry Coolant from the TS to the UFSAR, plant procedure requirements will continue to provide adequate assurance that concentrations in excess of the limits will be detected.

In conclusion, the above relocated requirements relating to RCS - Chemistry Coolant are not required to be in the TS under 10 CFR 50.36 or Section 182a of the Atomic Energy Act, and are not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. In addition, the staff finds that sufficient regulatory controls exist under 10 CFR 50.59 [or such other specific regulatory control as may be applicable in the particular instance] to assure continued protection of the public health and safety.

Accordingly, the NRC staff has concluded that these requirements may be relocated from the TS to the licensee's UFSAR and applicable plant procedures.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New York State official was notified of the proposed issuance of the amendments. 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 surveillance requirements. The NRC staff has determined that the amendments involve 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 amendments involve no significant hazards consideration, and there has been no public comment on such finding (63 FR 40560). 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 amendments.

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

Principal Contributor: J. Cushing

Date: December 1, 1998