Template NRR-056

DATED: February 24, 2000

AMENDMENT NO. 260 TO FACILITY OPERATING LICENSE NO. DPR-59 FITZPATRICK

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

February 24, 2000

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT - ISSUANCE OF AMENDMENT RE: REMOVAL OF THE SURVEILLANCE REQUIREMENT FOR PARTIAL STROKING OF THE MAIN STEAM ISOLATION VALVES TWICE-PER-WEEK (TAC NO. MA7282)

Dear Mr. Knubel:

The Commission has issued the enclosed Amendment No. 260 to Facility Operating License No. DPR-59 for the James A. FitzPatrick Nuclear Power Plant (JAFNPP). The amendment consists of changes to the Technical Specifications (TSs) in response to your application transmitted by letter dated November 24, 1999, as supplemented January 13, 2000.

The amendment changes the TS by allowing the Power Authority of the State of New York to remove the surveillance requirements for partial stroking of the JAFNPP main steam isolation valves twice-per-week.

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,

/RA/

Guy S. Vissing, Sr. Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-333

Enclosures: 1. Amendment No. 260 to DPR-59
2. Safety Evaluation

cc w/encls: See next page

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

February 24, 2000

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Power Authority of the State of New York
123 Main Street
White Plains, NY 10601

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Docket No. 50-333

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2. Safety Evaluation

cc w/encls: See next page

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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. 260
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 November 24, 1999, as supplemented January 13, 2000, 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. 260 , 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 and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Marsha K. Gamberoni, Acting Chief, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 24, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 260

FACILITY OPERATING LICENSE NO. DPR-59

DOCKET NO. 50-333

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove Pages	Insert Pages
186	186
197	197

3.7 (cont'd)

2. With one or more of the containment isolation valves inoperable, maintain at least one isolation valve operable in each affected penetration that is open and:

   a. Restore the inoperable valve(s) to operable status within 4 hours; or

   b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the closed position. Isolation valves closed to satisfy these requirements may be reopened on an intermittent basis under administrative control; or

   c. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or a blind flange.

3. If Specifications 3.7.D.1 or 3.7.D.2 cannot be met the reactor shall be in the cold condition within 24 hrs.

4.7 (cont'd)

Item		Frequency
d.	Fast close each main steam isolation valve, and verify closure time.	In accordance with the Inservice Testing Program

2. Whenever a containment isolation valve is inoperable, the position of at least one other valve in each line having an inoperable valve shall be recorded daily.

4.7 BASES (cont'd)

The primary containment is penetrated by several small diameter instrument lines connected to the reactor coolant system. Each instrument line contains a 0.25 in. restricting orifice inside the primary containment and an excess flow check valve outside the primary containment.

A list of containment isolation valves, including a brief description of each valve is included in Section 7.3 of the updated FSAR.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 260 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 November 24, 1999 (Ref. 1), as supplemented January 13, 2000 (Ref. 2), the Power Authority of the State of New York (PASNY) submitted a request for changes to the James A. FitzPatrick Nuclear Power Plant (JAFNPP) Technical Specifications (TSs). The requested changes would delete the surveillance requirement to partially stroke the JAFNPP Main Steam Isolation Valves (MSIVs) twice-per-week. Specifically, the proposed amendment would delete the words, "With the reactor at a reduced power level," and ", one at a time," from Item 1.d of Surveillance Requirement 4.7.D, "Primary Containment Isolation Valves," and the words "Main steam isolation valves shall be exercised by partial closure and subsequent reopening . . . Twice-per-week." from Item 1.e of Surveillance Requirement 4.7.D. The proposed changes also include appropriate changes to the TS Bases. The January 13, 2000, letter provided supplemental technical information requested by the staff. The additional information did not effect the conclusions of the original proposed no significant hazards consideration determination, or expand the amendment beyond the scope of the original notice.

2.0 EVALUATION

2.1 Operational Characteristics and Safety Function of the JAFNPP MSIVs

The main steam lines (MSLs) at JAFNPP are each equipped with two MSIVs, one inboard and one outboard of the primary containment structure. During postulated steamline breaks, control rod drop accidents, or loss-of-coolant accidents, the MSIVs serve the safety function of isolating the primary pressure boundary portions of the main steamline in order to limit the loss to the reactor coolant inventory and the amount of radioactive materials released from the pressure boundary to the external environment. Although this safety function serves to mitigate the consequences of these postulated events, an event can be initiated by an inadvertent closure of the MSIVs.

The MSIVs at JAFNPP are 24-inch angled globe valves with 20-inch discs. The MSIVs are operated by a pneumatic piston and spring action. Pressure to the pneumatic piston is provided by the air (N_2) supply system. Associated with the operation of MSIVs are a number of solenoids, and three-way valves, four-way valves, pilot valves and test-pilot valves. During power and startup operations (Modes 1 and 2), the solenoids are in the energized state, and the three-way, four-way, pilot and test-pilot valves configure in a manner that admits the air pressure to the underside of the piston. The increase in air pressure to the underside of the

piston pushes up on the piston and opens the disc of the MSIV, allowing the steam to flow down the MSLs to the plant's high-pressure and low-pressure turbines. When the solenoids receive signals to de-energize, either by manual positioning of the control switch to the SHUTOFF position or automatic actuation signals from the primary containment isolation logic system, the associated three-way valves, four-way valves, pilot valves and test-pilot valves configure to bleed the air pressure away from the underside of the piston, and to admit it to the area above the piston. The resulting increase in air pressure above the piston pushes down on the piston, resulting in a closure of the MSIV disc; this motive force to close the disc is assisted by spring pressure.

A manual test button in the JAFNPP control room allows periodic testing of the MSIVs in order to provide assurance that the MSIVs will be capable of fulfilling their safety function during postulated design-basis events. Actuation of the test button configures the test-pilot valve in a manner that allows the air pressure to be slowly vented away from the underside of the piston and admitted to the area above the piston. This results in a slow closure of the MSIV. When alarm signals in the control room provide an indication that the valve is closing, the button is released by the control room operator, the test-pilot valve repositions to its normal configuration, and the MSIV reopens.

2.2 Required Testing of the JAFNPP MSIVs

The JAFNPP TSs currently require periodic testing of the MSIVs in accordance with the following specifications:

- TS 4.7.D, Item 1.d, requires PASNY to perform a full fast closure test of the MSIVs in accordance with the surveillance frequency specified in the JAFNPP Inservice Testing (IST) Program for the valves, and to verify the closure time during performance of the surveillance test, and

- TS 4.7.D, Item 1.e, requires that the MSIVs be exercised by partial closure and subsequent reopening twice-per-week.

2.3 Basis for Deleting the Twice-Per-Week Surveillance Test for the MSIVs

In the letter dated November 24, 1999, PASNY indicated that TS 4.7.D, Item 1.d, serves to ensure that the MSIVs will be capable of fulfilling their safety function (i.e., perform a full fast closure upon actuation) during postulated transients or accidents that requires containment isolation. In contrast, TS 4.7.D, Item 1.e, was initially included in the TS for the purpose of testing the actuation of the pilot and solenoid valves that are installed for the control of air pressure used in the movement of the MSIV discs. On February 14, 1989, the General Electric Company reported the potential for solenoid valves with elastomer sealed plungers to undergo thermally induced binding problems with their metal seating surfaces (Ref. 4). The solenoid valves in the original plant design were similar in design to the solenoid valves reported to have thermally induced binding problems (Ref. 2). Therefore, in 1995, PASNY replaced the solenoid valves with those of a design that was less susceptible to thermally induced anomalies.

PASNY has stated that the requirement for twice-per-week surveillance testing of the MSIVs increases the probability that inadvertent closure of the MSIVs will occur during the life of the unit. Such inadvertent closures of the MSIVs will result in unscheduled SCRAMs of the JAFNPP reactor and increase the number of challenges to the safety-relief valves and

emergency core cooling systems needed to alleviate the consequence of operational transients on the plant. PASNY has also stated that deletion of this requirement will decrease the probability that inadvertent closures of the MSIVs will occur, and that neither the ASME Boiler and Pressure Vessel Code nor the Boiling Water Reactor Standard Technical Specifications (BWRSTP, NUREG-1433, Revision 1) require partial closure of the MSIVs twice-per-week. In addition, PASNY indicated that the pilot valves of concern previously installed at JAFNPP had been replaced, and the replacement valves do not need frequent exercising. The staff has confirmed that neither ASME Boiler and Pressure Vessel Code nor the BWR Standard Technical Specifications require implementation of twice-per-week surveillance testing of MSIVs. The staff therefore concurs with the PASNY's assessment.

2.4 Conclusions

Currently, there have not been any reports that pilot valves manufactured by the Automatic Valve Company are susceptible to binding. Binding of the pilot valves currently being used in the plant design has not to date be reported as a safety issue at JAFNPP. Since neither the ASME Code nor the BWR Standard Technical Specifications (Ref. 3) require partial closure testing of BWR4-designed MSIVs twice-per-week, the staff concludes that PASNY has provided a sound basis for removing TS 4.7.D, Item 1.e, from the JAFNPP Technical Specifications. Elimination of this requirement should decrease the probability of an inadvertent closure of the MSIVs at JAFNPP. The results of the full fast closure test required by TS 4.7.D, Item 1.d, is sufficient to determine whether the JAFNPP MSIVs, pilot valves, solenoids, and isolation logic is capable of fulfilling their intended safety functions during a postulated design-basis accident.

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 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 a surveillance requirement. 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 (64 FR 73095). 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

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: J. Medoff

Date: February 24, 2000

6.0 REFERENCES

1. Power Authority of the State of New York Letter JPN-99-040, "JAMES A. FITZPATRICK NUCLEAR POWER PLANT, Docket 50-333, Proposed Change to the Technical Specifications to Eliminate Main Steam Isolation Valve Twice Per Week Exercise Surveillance Testing Requirement (JPTS-99-007)," November 24, 1999.

2. Power Authority of the State of New York Letter JAFP-00-0009, "James A. FitzPatrick Nuclear Power Plant, Docket No. 50-333, "Additional Information Regarding Proposed Change to the Technical Specifications to Eliminate Main Steam Isolation Valve Twice Per Week Exercise Surveillance Testing Requirement (JPTS-99-007)," January 13, 2000.

3. NUREG-1433, Vol. 1, Rev. 1, "Standard Technical Specifications, General Electric Plants, BWR/4," April 1995.

4. General Electric Nuclear Service Information Letter No. 481, "Malfunction of ASCO Solenoid Valves for MSIVs," February 14, 1989.