

February 17, 1988

Docket No. 50-333

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Mr. John C. Brons  
Executive 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.114 to Facility Operating License No. DPR-59 for the James A. FitzPatrick Nuclear Power Plant. The amendment consists of changes to the Technical Specifications (TS) in response to your application transmitted by letter dated April 15, 1986 (TAC 61632).

The amendment would add to the TS a requirement that a capacity test for the main control room emergency ventilation air supply system be performed every 18 months.

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular bi-weekly Federal Register notice.

As noted in our Safety Evaluation, we have found during the course of our review that the limiting conditions for operation (LCO) for the control room emergency filtration system (CREFS), as provided by your current TS, do not conform with the guidance provided in Generic Letter 83-36 (NUREG-0737 Technical Specifications) with respect to Item III.D.3.4, and further, that the justification for this deviation provided in your letter dated December 19, 1986 is inadequate. We therefore request that you propose, within 45 days, a revised CREFS LCO which conforms with the guidance in the generic letter, or provide adequate justification for an alternative LCO.

Sincerely,

Harvey Abelson, Project Manager  
Project Directorate I-1  
Division of Reactor Projects, I/II

Enclosures:

1. Amendment No. 114 to DPR-59
2. Safety Evaluation

cc: w/enclosures  
See next page

PDI-1  
CVogan  
1/11/88

PDI  
HAbelson  
1/12/88

*[Handwritten signature]* RAC  
OGC  
*R Bachmann*  
1/16/88

PDI-1  
RCapra  
2/17/88

Mr. John C. Brons  
Power Authority of the State of New York

James A. FitzPatrick Nuclear  
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cc:

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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. 114  
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 April 15, 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. 114, 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.

FOR THE NUCLEAR REGULATORY COMMISSION

*Robert A. Capra*

Robert A. Capra, Director  
Project Directorate I-1  
Division of Reactor Projects, I/II

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: February 17, 1988



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

ATTACHMENT TO LICENSE AMENDMENT NO. 114

FACILITY OPERATING LICENSE NO. DPR-59

DOCKET NO. 50-333

Revise Appendix A as follows:

<u>Remove Pages</u>	<u>Insert Pages</u>
238	238
243	243

JAFNPP

3.11 (cont'd)

ventilation air supply fan and/or filter may be out of service for 1 month.

2. The main control room air radiation monitor shall be operable whenever the control room emergency ventilation air supply fans and filter trains are required to be operable by 3.11.A.1 or filtration of the control room ventilation intake air must be initiated.
3. The control room emergency ventilation system shall not be out of service for a period exceeding 7 days during normal reactor operation or refueling operations. In the event that the system is not returned to service within 7 days the reactor will be shutdown in an orderly manner and in the Cold Shutdown Condition within 24 hours or if refueling operations are in progress, such operations will be terminated in an orderly manner.

4.11 (cont'd)

- b. Di-octylphtalate (DOP) test for particulate filter efficiency greater than 99% for particulate greater than 0.3 micron size.
  - c. Freon-112 test for charcoal filter bypass as a measure of filter efficiency of at least 99.5% for halogen removal.
  - d. A sample of charcoal filter shall be analyzed once a year to assure halogen removal efficiency of at least 99.5%.
2. Operability of the main control room air intake radiation monitor shall be tested once/3 months.
  3. Temperature transmitters and differential pressure switches shall be calibrated once/operating cycle.
  4. Main control room emergency ventilation air supply system capacity shall be tested once every 18 months to assure that it is  $\pm 10$  % of the design value of 1000 cfm.

3.11 & 4.11 BASESA. Main Control Room Ventilation System

One main control room emergency ventilation air supply fan provides adequate ventilation flow under accident conditions. Should one emergency ventilation air supply fan and/or fresh air filter train be out of service during reactor operation, the allowable repair time of 1 month is justified, based on the 3 month test interval.

The 3 month test interval for the main control room emergency ventilation air supply fan and dampers is sufficient since two redundant trains are provided and neither is normally in operation.

A pressure drop test across each filter and across the filter system is a measure of filter system condition. DOP injection measures particulate removal efficiency of the high efficiency particulate filters. A Freon-112 test of charcoal filters is essentially a leakage test. Since the filters have charcoal of known efficiency and holding capacity for elemental iodine and/or methyl iodine, the test also gives an indication of the relative efficiency of the installed system. Laboratory analysis of a sample of the charcoal filters positively demonstrates halogen removal efficiency. These tests are

conducted in accordance with manufacturers' recommendations.

The purpose of the emergency ventilation air supply system capacity test is to assure that sufficient air is supplied to the main control room so that a slight positive pressure can be maintained, thereby minimizing in-leakage.

B. Crescent Area Ventilation

Engineering analyses indicate that the temperature rise in safeguards compartments without adequate ventilation flow or cooling is such that continued operation of the safeguards equipment or associated auxiliary equipment cannot be assured.

C. Battery Room Ventilation

Engineering analyses indicate that the temperature rise and hydrogen buildup in the battery, and battery charger compartments without adequate ventilation is such that continuous operation of equipment in these compartments cannot be assured.

D. Emergency Service Water System

The ESWS has two 100 percent cooling capacity pumps, each powered from a separate standby power supply. The ESWS utilizes lake water to the cooling system of the emergency diesel generators. The system will also supply water to those components of the RBCLCS which are required for emergency conditions during a loss of power condition. These include ECCS pumps and area unit coolers.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 114 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

INTRODUCTION

NUREG-0737, Item III.D.3.4, approved for implementation by the Commission, requires that licensees assure that control room operators will be adequately protected against the effect of an accidental release of toxic and radioactive gases so that the nuclear power plant can be safely operated or shut down under design basis accident conditions, as delineated in GDC-19 of Appendix A to 10 CFR 50. Item III.D.3.4 also states that changes to technical specifications will be required. Generic Letter 83-36 provided staff guidance on technical specification (TS) changes for BWRs for NUREG-0737 items, including Item III.D.3.4. The generic letter stated that for those items where the licensee identifies deviations between the existing plant TS and the BWR Standard Technical Specifications which were provided as guidance, or in the case of absence of a specific technical specification, licensees were to submit an application for a license amendment with the appropriate TS changes.

In response to the above requirements identified in Item III.D.3.4, the licensee submitted an evaluation of the FitzPatrick control room habitability system by letter dated August 13, 1981. As a result of this evaluation, the licensee proposed four measures to be implemented to meet the requirements specified in Item III.D.3.4. The staff accepted the licensee's evaluation and proposed measures as discussed in its safety evaluation transmitted to the licensee by letter dated February 24, 1982. In the safety evaluation, the staff requested that the licensee propose TS upon completion of the changes identified. Three of the four measures have been completed. The remaining measure concerns periodic makeup air flow verification testing for the control room emergency filtration system. By letter dated April 15, 1986, in accordance with a commitment made in their letter dated August 13, 1981, the licensee submitted a proposed change to the FitzPatrick TS to incorporate a periodic makeup air flow verification test requirement.

As discussed below, the staff has found the proposed TS change to be acceptable. However, in the course of reviewing the proposed TS change (which is subject of this amendment), the staff noted that the licensee has not proposed complete and adequate TS changes for the control room habitability system (Item III.D.3.4), as delineated in Generic Letter 83-36. This conclusion is based on a review of the licensee's letter dated December 6, 1984 (containing the licensee's response to GL 83-36), as well as a review of the licensee current TS. A meeting was held with the licensee on July 31, 1986 to discuss this matter.

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By letter dated December 19, 1986, in response to the concerns expressed by the staff, the licensee provided a detailed comparison of the current FitzPatrick TS to the BWR Standard Technical Specifications (STS) which were provided as guidance in GL 83-36. The licensee concluded that the differences between the FitzPatrick TS and the STS do not result in a lower level of safety concerning control room habitability.

### EVALUATION

In the course of reviewing the additional needed TS changes, the staff determined the following: the FitzPatrick control room emergency filtration system (CREFS) consists of two 100 percent capacity units, each consisting of a prefilter, HEPA filter, two charcoal absorbers in series, and a second HEPA filter. Each filter unit provides up to 1,000 cfm of outside makeup air in emergency condition to maintain a positive pressure in the control room.

The current FitzPatrick TS permit reactor operation for up to 30 days with one emergency filter unit out of service while the STS specify a seven day limiting condition for operation (LCO). The FitzPatrick TS also permits reactor operation for up to seven days with both filter units inoperable while the STS requires the reactor to be in hot shutdown within six hours and cold shutdown within the following 30 hours. The licensee stated in their comparison that the current FitzPatrick TS are both appropriate and justifiable for the following reasons:

- 1) Lack of staff criteria for determining allowable out-of-service times (AOTs).

The licensee cited as an example of the lack of guidance on AOTs, the fact that the high pressure coolant injection (HPCI) system, which they considered significantly more important to reactor safety than the CREFS, has a TS LCO of 7 days. The staff notes that three means of reactor core cooling (the HPCI system, reactor core isolation cooling system, and automatic depressurization/low pressure core injection system) are ensured to be available by TS while no other alternate system is available as a backup to the CREFS to protect the control room operators from radiation following a design basis accident. Further, the HPCI system is required to be operable only during reactor operation, modes 1, 2, and 3 while the CREFS is required to be operable in all modes of reactor operation including refueling. Control room habitability is fundamental to the safe operation of nuclear power plants. The staff has determined that requirements of the STS are appropriate and the licensee has not provided sufficient justification for not adopting STS. The staff concludes that the licensee's comparison is incorrect and inappropriate.

- 2) Relative importance of the CREFS.

The licensee stated in part,

"Recent research on the contribution of containment leakage to risk illustrates the lower relative importance of the Control Room Emergency Filtration System. NUREG/CR-4330 concludes that containment failure,

when compared to containment leakage, is the dominant contributor to risk. This report further concludes that the current limits on containment leakage could be relaxed without an unacceptable increase in risk."

The licensee's position does not provide a direct reference to specific research on the contribution of containment leakage to risk. NUREG/CR-4330 only describes the results of surveys conducted to identify regulatory requirements that could potentially be relaxed or eliminated without compromising public health and safety. The study is based on a limited sampling and is neither precise nor rigorous. The criteria for control room habitability system design are still applicable, and the staff finds the licensee's argument insufficient to justify deviation from the STS.

3) New accident source terms.

The licensee stated in part,

"Design basis calculations used to determine post-accident doses to control room inhabitants are based on very conservative assumptions. Source terms used in these calculations are significantly higher than the actual release fractions. When current research on accident source terms is considered in these calculations, the importance of the emergency ventilation system will be further reduced because the consequences of an inoperable emergency ventilation system will be significantly reduced."

Accident source terms used to determine post-accident doses to the FitzPatrick control room operators are based on existing criteria which include 10 CFR 100 (TID 14844) and Regulatory Guide 1.3. The current research efforts on accident source terms are not completed and, until appropriate changes to the criteria are approved, new source terms can not be considered in licensing actions at this time. The staff, therefore, finds the licensee's argument to be invalid.

Based on the above evaluation, the staff concludes that the licensee has not provided sufficient justification to support the current FitzPatrick TS concerning operability of the control room emergency filtration system, in accordance with the requirement of NUREG-0737, Item III.D.3.4. Specifically, the licensee's TS LCO permits the system to be out of service for periods of time in excess of that considered appropriate for ensuring habitability of the control room, as required by GDC-19 and as endorsed in the technical specification guidelines contained in GL 83-36.

It is therefore the staff's position that the licensee propose revised TS LCO's in accordance with the GL 83-36 guidelines, or provide adequate justification for an alternative LCO.

The staff has also reviewed the licensee's discussion of other deviations from the control room habitability STS, as provided in the December 19, 1986 letter. We find these deviations to be minor in nature and, therefore, acceptable as they will not impact assurance of the operability of the system.

With regard to the proposed TS change which is the subject of this amendment, the staff also finds the proposed TS change to incorporate periodic makeup air flow verification testing for the CREFS to be acceptable as it will ensure that adequate makeup air is provided under emergency conditions to maintain pressurization of the control room envelope.

#### ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this 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 this amendment.

#### CONCLUSION

Based on the evaluation provided above, this amendment approves the proposed TS change incorporating periodic makeup air flow verification testing for the CREFS into the FitzPatrick TS.

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

Dated: February 17, 1988

#### PRINCIPAL CONTRIBUTOR:

J. Lee

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BIWEEKLY NOTICE, APPLICATIONS AND AMENDMENT TO  
OPERATING LICENSES INVOLVING NO  
SIGNIFICANT HAZARDS CONSIDERATIONS; CORRECTION

HAbelson

CVogan

On November 18, 1987, the Federal Register published the Biweekly Notice of Applications and Amendments to Operating Licenses Involving No Significant Hazards Considerations. A correction needs to be made to that notice:

On page 44247, second column, under "Power Authority of the State of New York, Docket No. 50-333, James A. FitzPatrick Nuclear Power Plant, Oswego, New York," the first paragraph, the last date "May 20, 2014" should read "October 17, 2014."

Dated at Bethesda, Maryland this 21st day of December 1987.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert A. Capra, Director  
Project Directorate I-1  
Division of Reactor Projects, I/II

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

December 21, 1987

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DOCKET No. **50-333**

MEMORANDUM FOR: Docketing and Service Branch  
Office of the Secretary of the Commission

FROM: Office of Nuclear Reactor Regulation

SUBJECT: **BIWEEKLY NOTICE, APPLICATIONS AND AMENDMENTS; CORRECTION**  
**James A. VitzPatrick Nuclear Power Plant**

One signed original of the *Federal Register* Notice identified below is enclosed for your transmittal to the Office of the Federal Register for publication. Additional conformed copies ( **6** ) of the Notice are enclosed for your use.

- Notice of Receipt of Application for Construction Permit(s) and Operating License(s).
- Notice of Receipt of Partial Application for Construction Permit(s) and Facility License(s): Time for Submission of Views on Antitrust Matters.
- Notice of Consideration of Issuance of Amendment to Facility Operating License.
- Notice of Receipt of Application for Facility License(s); Notice of Availability of Applicant's Environmental Report; and Notice of Consideration of Issuance of Facility License(s) and Notice of Opportunity for Hearing.
- Notice of Availability of NRC Draft/Final Environmental Statement.
- Notice of Limited Work Authorization.
- Notice of Availability of Safety Evaluation Report.
- Notice of Issuance of Construction Permit(s).
- Notice of Issuance of Facility Operating License(s) or Amendment(s).
- Order.
- Exemption.
- Notice of Granting of Relief.
- Other: **Biweekly notice, applications and amendments to license; correction.**

Office of Nuclear Reactor Regulation

Enclosure:  
As stated

DEC 23 1987

Docket No. 50-603  
50-604

MEMORANDUM FOR: Glenn A. Terry, Section Leader  
Advanced Fuel and Special  
Facilities Section  
Fuel Cycle Safety Branch

FROM: A. Thomas Clark, Jr.  
Advanced Fuel and Special  
Facilities Section  
Fuel Cycle Safety Branch

SUBJECT: NOTICE OF MEETING WITH ALL CHEMICAL ISOTOPE ENRICHMENT, INC.

A meeting has been scheduled with All Chemical Isotope Enrichment, Inc. (AlChemIE) for Thursday, January 7, 1988, at 8:30 a.m. at their offices at the Pine Ridge Office Park, Suite 202-B in Oak Ridge, Tennessee. The subject of the meeting is the licensing provisions to assure that the facilities described in the AlChemIE applications will not enrich uranium. Pursuant to the provisions of 10 CFR Part 2.790 (d) (1) the subject of the meeting is considered by Commission to be proprietary information. Disclosure of such information must be protected from public dissemination. Therefore, this meeting is considered to be a closed meeting, not open to observation by the public.

ORIGINAL SIGNED BY:

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PDR ADOCK 05000603  
A PDR

A. Thomas Clark, Jr.  
Advanced Fuel and Special  
Facilities Section  
Fuel Cycle Safety Branch

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NMSS R/F IMNS R/F Docket File 50-603 Docket File 50-604 PDR LCRouse  
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