November 16, 1988

Docket No. 50-333

DISTRIBUTION

Docket file	NRC PDR
PDI-1 Rdg	T. Murley/J. Sniezek
DCrutchfield	CRossi
SVarga	BBoger
CVogan	DLaBarge
OGC	EJordan
BGrimes	TBarnhart (4)
ACRS (10)	SECY
ARM/LFMB	JJohnson, RI
RAnand	JKudrick
RCapra	LPDR

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:

SUBJECT: EXEMPTION FROM THE REQUIREMENTS OF APPENDIX J TO 10 CFR PART 50 FOR THE CONTAINMENT INTEGRATED LEAK RATE TEST AND THE HPCI TURBINE EXHAUST VALVE (TAC 68011)

By letter dated April 8, 1988, the Power Authority of the State of New York (PASNY) requested a one-time exemption from the retest schedule requirements of Section III.A.6(b) of Appendix J to 10 CFR Part 50 concerning the Type A Containment Integrated Leak Rate Test (CILRT). In a letter dated July 14, 1988, PASNY requested a one-time exemption from the requirement of Section IV.A of Appendix J to 10 CFR Part 50 concerning the performance of a Type A, B or C Containment Leak Rate Test on a weld on the suppression chamber side of the manual valve in the High Pressure Coolant Injection (HPCI) System turbine exhaust pipe which was replaced.

On the basis of the information supplied in your April 8, 1988 letter and supplements dated June 17, 1988, July 14, 1988, and October 28, 1988, and as discussed in the enclosed Exemption, the staff has concluded that the requested one-time exemption from the Type A Testing requirements of Section III.A.6(b) of Appendix J to 10 CFR Part 50, and to the requirements of Section IV.A of Appendix J to 10 CFR Part 50 for the new HPCI turbine exhaust valve, as discussed above, is justified for the period up to the next refueling outage for the FitzPatrick Nuclear Power Station. Thus, your request for exemption is granted.

A copy of the Exemption is being forwarded to the office of the Federal Register for publication.

Sincerely,

David E. LaBarge, Project Manager
Project Directorate I-1
Division of Reactor Projects, I/II

Enclosures:
1. Exemption
2. Safety Evaluation

cc w/enclosures:
See next page

DF01
1/1

8811220019 881116
PDR ADOCK 05000333
P PDC

*SEE PREVIOUS CONCURRENCE

OFC	PDI-1	PDI-1	PDI-1	ADRP1	DDRP	OGC*	
NAME	CVogan	DLaBarge:vr	RCapra	BBoger	SVarga		
DATE	11/7/88*	11/10/88*	11/10/88*	11/10/88	11/10/88	11/9/88*	

OFFICIAL RECORD COPY

Docket No. 50-333

DISTRIBUTION

Docket file	NRC PDR
PDI-1 Rdg	T. Murley/J. Sniezek
DCrutchfield	CRossi
SVarga	BBoger
CVogan	DLaBarge
OGC	EJordan
BGrimes	TBarnhart (4)
ACRS (10)	SECY
ARM/LFMB	JJohnson, RI

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:

SUBJECT: EXEMPTION FROM THE REQUIREMENTS OF APPENDIX J TO 10 CFR PART 50 FOR THE CONTAINMENT INTEGRATED LEAK RATE TEST AND THE HPCI TURBINE EXHAUST VALVE (TAC 68011)

By letter dated April 18, 1988, the Power Authority of the State of New York (PASNY) requested a one-time exemption from the retest schedule requirements of Section III.A.6(b) of Appendix J to 10 CFR Part 50 concerning the Type A Containment Integrated Leak Rate Test (CILRT). In a letter dated July 14, 1988, PASNY requested a one-time exemption from the requirement of Section IV.A of Appendix J to 10 CFR Part 50 concerning the performance of a Type A, B or C Containment Leak Rate Test on a weld on the suppression chamber side of the manual valve in the High Pressure Coolant Injection (HPCI) System turbine exhaust pipe which was replaced.

On the basis of the information supplied in your April 8, 1988 letter and supplements dated June 17, 1988, July 14, 1988, and October 28, 1988, and as discussed in the enclosed Exemption, the staff has concluded that the requested one-time exemption from the Type A Testing requirements of Section III.A.6(b) of Appendix J to 10 CFR Part 50, and to the requirements of Section IV.A of Appendix J to 10 CFR Part 50 for the new HPCI turbine exhaust valve, as discussed above, is justified for the period up to the next refueling outage for the FitzPatrick Nuclear Power Station. Thus, your request for exemption is granted.

A copy of the Exemption is being forwarded to the office of the Federal Register for publication.

Sincerely,

David E. LaBarge, Project Manager
Project Directorate I-1
Division of Reactor Projects, I/II

Enclosures:
1. Exemption
2. Safety Evaluation

cc w/enclosures:
See next page

11/9/88

OFC	:PDI-1	:PDI-1	:PDI-1	:ADRP1	:DDRP	: OGC	:
NAME	:CVogan	:DLaBarge:vrr	:RCapra	:BBoger	:SVarga	:	:
DATE	:11/1/88	:11/7/88	:11/10/88	:11/ /88	:11/ /88	: 11/ /88	:

OFFICIAL RECORD COPY

Mr. John C. Brons
Power Authority of the State of New York
James A. FitzPatrick Nuclear
Power Plant

cc:

Mr. Gerald C. Goldstein
Assistant General Counsel
Power Authority of the State
of New York
10 Columbus Circle
New York, New York 10019

Resident Inspector's Office
U. S. Nuclear Regulatory Commission
Post Office Box 136
Lycoming, New York 13093

Mr. Radford J. Converse
Resident Manager
James A. FitzPatrick Nuclear
Power Plant
Post Office Box 41
Lycoming, New York 13093

Mr. J. A. Gray, Jr.
Director Nuclear Licensing - BWR
Power Authority of the State
of New York
123 Main Street
White Plains, New York 10601

Mr. Robert P. Jones, Supervisor
Town of Scriba
R. D. #4
Oswego, New York 13126

Mr. J. P. Bayne, President
Power Authority of the State
of New York
10 Columbus Circle
New York, New York 10019

Mr. Richard Patch
Quality Assurance Superintendent
James A. FitzPatrick Nuclear
Power Plant
Post Office Box 41
Lycoming, New York 13093

Charlie Donaldson, Esquire
Assistant Attorney General
New York Department of Law
120 Broadway
New York, New York 10271

Ms. Donna Ross
New York State Energy Office
2 Empire State Plaza
16th Floor
Albany, New York 12223

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406

Mr. A. Klausman
Senior Vice President - Appraisal
and Compliance Services
Power Authority of the State
of New York
10 Columbus Circle
New York, New York 10019

Mr. George Wilverding, Manager
Nuclear Safety Evaluation
Power Authority of the State
of New York
123 Main Street
White Plains, New York 10601

Mr. R. E. Beedle
Vice President Nuclear Support
Power Authority of the State
of New York
123 Main Street
White Plains, New York 10601

Mr. S. S. Zulla
Vice President Nuclear Engineering
Power Authority of the State
of New York
123 Main Street
White Plains, New York 10601

Mr. R. Burns
Vice President Nuclear Operations
Power Authority of the State
of New York
123 Main Street
White Plains, New York 10601

UNITED STATES NUCLEAR REGULATORY COMMISSION

In Matter of	)	
	)	
POWER AUTHORITY OF THE STATE OF NEW YORK	)	Docket No. 50-333
	)	
	)	
(James A. FitzPatrick Nuclear Power Plant)	)	
	)	

EXEMPTION

I.

The Power Authority of the State of New York (the licensee) is the holder of Facility Operating License No. DPR-59, which authorizes operation of the James A. FitzPatrick Nuclear Power Plant (the facility). The license provides, among other things, that the facility is subject to all rules, regulations and Orders of the Nuclear Regulatory Commission (the Commission) now or hereafter in effect.

The facility is a boiling water reactor located at the licensee's site in Oswego County, New York.

II.

Section III.D.(a) of Appendix J to 10 CFR Part 50 requires that a Type A Primary Containment Integrated Leak Rate Test (PCILRT) be performed at approximately equal intervals during each 10-year service period. Section III.A.6(a) of Appendix J to 10 CFR Part 50 requires that if any periodic Type A test fails to meet the applicable acceptance criteria, a review of the test schedule be performed and approved by the Commission. Section III.A.6(b) of Appendix J requires that if two consecutive periodic Type A tests fail to meet the applicable acceptance criteria, a Type A test shall be performed at each

subsequent refueling outage or approximately every 18 months, whichever comes first, until two consecutive Type A tests meet the acceptance criteria given in Section III.A.5(b).

Section IV.A of Appendix J to 10 CFR Part 50 requires that a Type A, B or C leak test, as applicable, must be performed following any major modification or replacement of a component which is part of the primary containment boundary.

The licensee has determined that the Type A tests performed during the last three refueling outages (1982, 1985, and 1987) for the "as found" condition, failed to meet the acceptance criteria as a result of excessive leakage observed from the pathways of the Type B and C Local Leak Rate Tests (LLRT). The study showed that, historically, certain containment isolation valves (CIVs) have repeatedly failed their LLRT. As a result, the licensee concluded that the most effective approach to eliminate the excessive leakage was to develop a Corrective Action Plan (CAP) using the guidance given in the NRC Information Notice 85-71, dated August 22, 1985, in lieu of the increased test frequency required by Section III.A.6(b) of Appendix J to 10 CFR Part 50. Therefore, an exemption from this requirement is required.

The CAP developed by the licensee recommended replacement of 33 CIVs, 21 during the current outage and 12 during the 1990 outage. The valves are being replaced with valves that have better leakage characteristics, are easier to maintain, are expected to eliminate the previous failures and correct the bulk of the problem, and will be tested per the LLRT program when replaced. The 12 valves scheduled to be replaced during the 1990 outage have acceptable leakage rates based on the tests performed during the present refueling outage. The CAP has shown that they are likely to perform their intended function.

As part of the CAP, the licensee has purchased a main steam isolation valve seat maintenance tool from the valve manufacturer, plant mechanics have received training in conducting leak repairs from the valve vendors, and an apprenticeship program certified by INPO has been implemented.

Also, as part of the CAP, a manual valve in the High Pressure Coolant Injection (HPCI) System turbine exhaust to the suppression chamber was replaced. Because of the piping configuration and since a LLRT boundary cannot be created, the weld attaching the inboard side of the valve to the containment penetration cannot be pressure tested as required by Section IV.A of Appendix J to 10 CFR Part 50. Therefore, an exemption from this regulation is required.

The licensee has submitted an alternate testing program consisting of 100 percent radiography and dye penetrant or magnetic particle tests to ensure the leak tightness of the welds and the structural integrity and leak tightness of the piping.

Our Safety Evaluation supporting these Exemptions is dated November 16, 1988.

III.

In this case, the licensee's CAP to eliminate the root cause of the successive Type A PCILRT test failures, and the improved valve maintenance program, will provide the equivalent level of protection as that provided by the Type A test. Therefore, the Commission's staff finds that there are special circumstances in this case which satisfy the standards of 10 CFR Part 50.12(a)(2)(ii).

Also, in this case, the licensee's non-destructive examination of welds for the HPCI turbine exhaust isolation valve will provide the equivalent level of protection as that provided by the Type B or C LLRT. Therefore, the Commission's staff finds that there are special circumstances in this case which satisfy the standards of 10 CFR Part 50.12(a)(2)(ii).

IV.

As discussed above, the underlying purpose of the requirements of Section III.A.6(b) of Appendix J to 10 CFR Part 50 is to ensure the integrity of the primary containment and its penetrations. The underlying purpose is achieved and served by the replacement and testing program developed by the licensee. Also, the underlying purpose of the requirements of Section IV.A of Appendix J to 10 CFR Part 50 is to ensure that the primary containment integrity is not compromised when replacing components which form part of the boundary. In the case of the HPCI exhaust valve, this is achieved and served by the non-destructive tests which were performed.

V.

Accordingly, the Commmission has determined that pursuant to 10 CFR Part 50.12(a), the exemptions, as described in Section III, are authorized by law and will not present an undue risk to the public health and safety and are consistent with common defense and security, and special circumstances are present for the exemptions, in that application of the regulation in these

particular circumstances is not necessary to achieve the underlying purposes of Section III.A.6(b) and Section IV.A of Appendix J to 10 CFR Part 50. Therefore, the Commission hereby grants the exemption from Section III.A.6(b) and Section IV.A to allow satisfactory implementation of the FitzPatrick Corrective Action Plan associated with containment isolation valves to fulfill the requirement of increased Type A tests and the satisfactory results from the non-destructive tests conducted on the welds for the HPCI turbine exhaust valve to fulfill the requirements of a Type B or C Test.

Pursuant to 10 CFR Part 51.32, the Commission has determined that the granting of this Exemption will have no significant impact on the environment (53 FR 46135).

This Exemption is effective upon issuance and is applicable for the operating cycle following startup from the 1988 refuel outage.

Dated at Rockville, Maryland, this 16th, day of November 1988.

FOR THE NUCLEAR REGULATORY COMMISSION

Steven A. Varga, Director
Division of Reactor Projects, I/II
Office of Nuclear Reactor Regulation

OFC	:PDI-1	:PDI-1	:PDI-1	:ADRP1	:DDRP	: OGC	:
NAME	:CVogan	:DLaBarge:yr	:RCapra	:BBoger	:SVarga	:	:
DATE	:11/ 7 /88	:11/ 7 /88	:11/10 /88	:11/ 10 /88	:11/ /88	: 11/ /88	:

OFFICIAL RECORD COPY

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST FOR EXEMPTION FROM CONTAINMENT INTEGRATED LEAK RATE

TEST - RETEST SCHEDULE

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

1.0 INTRODUCTION

By letter dated April 8, 1988, Power Authority of the State of New York, the licensee for James A. FitzPatrick Nuclear Power Plant, requested a one-time exemption so that the normal retest schedule of 10 CFR Part 50, Appendix J, Section III.D(a) can be resumed by exempting the FitzPatrick plant from the requirements of Section III.A.6.(b). Section III.A.6(b) requires that a Type A Primary Containment Integrated Leak Rate Test (PCILRT) be conducted three times during each 10-year service period. If two consecutive Type A tests fail to meet the applicable acceptance criteria, a retest must be performed during the subsequent refueling outages or approximately every 18 months, whichever comes first, until two consecutive tests meet the acceptance criteria given in Section III.A.5(b). Type A tests performed at the FitzPatrick plant in 1982, 1985, and 1987 in the "as-found" condition did not meet the acceptance criteria because of the excessive leakage incurred from the several isolation valves which were identified during the Type B and Type C Local Leak Rate Tests (LLRTs). The licensee reviewed the root cause of the failure and determined that a relatively small number of valves were the cause of past Type A test failures. On the basis of this information, the licensee proposed a Corrective Action Plan (CAP) and requested a one-time exemption from the requirement to perform a Type A test during the 1988 refueling outage. The licensee will perform a Type A test during the next refueling outage scheduled in 1990 to confirm the adequacy of the CAP.

Additionally, in a letter dated July 14, 1988 the licensee requested an exemption from Section IV.A of Appendix J to 10 CFR Part 50 to allow installation of two residual heat removal (RHR) containment spray valves and one high-pressure coolant injection (HPCI) turbine exhaust isolation valve as a part of the CAP without performing Type B or Type C LLRT or the hydrostatic test during the current refueling outage. The licensee stated that because of the piping configuration the welds attaching the inboard side of these valves to their respective containment penetrations cannot be pressure tested. However, in lieu of the Type B or the Type C test, the licensee proposed an alternate testing program of 100 percent radiography of the welds and dye penetrant or magnetic particle tests for the inboard welds to ensure the leak tight integrity of the weld. Subsequently, in a letter dated October 28, 1988, the exemption request for the two RHR containment spray values was withdrawn.

2.0 EVALUATION

Appendix J to 10 CFR Part 50 establishes two types of tests with separate acceptance criteria. The local leak rate tests (Types B and C) are performed during each refueling outage while the primary containment integrated leak rate test (PCILRT) (Type A) is performed three times in each 10-year inservice inspection (ISI) interval (approximately every 3 to 4 years). The LLRTs provide periodic surveillance of components such as isolation valves and air lock seals. The PCILRT is a measurement of the overall integrated leakage rate of the containment. It includes testing of passive and structural components and verifies the adequacy of the LLRT program.

Exceeding the allowable leakage rate during the PCILRT indicates that either a passive or structural component is leaking or that there may be an inadequacy in the LLRT program. For passive or structural components, the only test that could determine that the leak exists would be the PCILRT. In the case of the LLRT program, the PCILRT would serve as a means of verification of the LLRT program results.

The failures of the FitzPatrick 1982, 1985, and 1987 "as-found" PCILRTs were a result of excessive leakage observed from the pathways of the Types B and C tests. The licensee's review of LLRT data from all refueling outages conducted from 1977 through 1987 revealed that FitzPatrick LLRT leakage consistently exceeded 0.6 La before repair. The review further indicated that the root cause of the problem was containment isolation valve (CIV) leakage. Certain CIVs historically had failed repeatedly during LLRTs. The licensee concluded that the most effective approach to eliminate the excessive leakage was through a CAP using the guidance given in the NRC Information Notice 85-71 dated August 22, 1985. The CAP recommended replacement of CIVs identified as being historically poor performers (excessive leakage). Thirtv-three CIVs are scheduled for replacement as part of the CAP. The licensee plans to replace 21 of the valves during the 1988 refueling outage, and 12 during the 1990 refueling outage. These valves will be replaced with valves that have better leakage characteristics and are easier to maintain. The licensee believes this will correct the leakage problem that has been observed during the past 10 years.

As a part of the CAP to replace the CIVs, the licensee also has implemented improved valve maintenance practices. The licensee has purchased a main steam isolation valve seat maintenance tool from the valve manufacturer. In addition, plant mechanics have received training in conducting leak repairs from the valve vendors and an apprenticeship program (certified by the Institute of Nuclear Power Operations) for mechanics has been implemented.

The NPC staff has reviewed the licensee's LLRT data from the outages conducted during 1977 through 1987 with regard to CIVs. The data indicates that frequent valve repairs were necessary to minimize leakages, thus prompting the licensee to consider the proposed CAP.

The staff has reviewed the licensee's CAP and finds it acceptable for granting a one-time exemption from performing the required Type A leak test during the

1988 refueling outage. The new valves are expected to eliminate the previous failures and correct the bulk of the problem. The 12 valves scheduled to be replaced during the 1990 refueling outage have acceptable leakage rates based on the latest test information and are likely to perform their intended function with marginal leakage until the 1990 refueling outage. At that time, these valves also will be replaced with the new valves and all CIVs will be subjected to the Type A test.

As part of the CAP, one of the valves scheduled for replacement during the 1988 refueling outage is the HPCI turbine exhaust manual isolation valve (23-HPI-11). The licensee stated that because of the piping configuration the welds attaching the inboard side of this valve to its containment penetration cannot be pressure tested and therefore requested an exemption from the requirement of Section IV.A of Appendix J to 10 CFR Part 50 for the 1988 refueling outage. Section IV.A requires that the leak rate testing (Type A, B, or C test as appropriate) must be performed on all modifications to the containment that could affect the leak tight integrity of the containment system. Therefore, in lieu of the above tests, the licensee proposed an alternate testing program of 100 percent radiography of the weld and dye penetrant or magnetic particle tests for the inboard weld to ensure leak tight integrity of the weld.

Since there are no flange connections on the HPCI turbine exhaust line valve, isolation of the weld from the containment atmosphere to create an LLRT test volume is impossible. There are no valves between the subject weld and the containment atmosphere that can isolate the weld. The staff has reviewed the licensee's alternate testing program of 100 percent radiography of the weld and dye penetrant or magnetic particle tests for the inboard weld to ensure the leak tight integrity of the weld. It has been concluded that these tests are sufficient to assure that structural and leak tight integrity exists in the HPCI turbine exhaust piping. Therefore, the staff concludes that these non-destructive examinations of the weld meets the intent of Section IV.A of Appendix J to 10 CFR Part 50, which is to assure that modifications to the containment pressure boundary are leak tight. It is recommended that the licensee's one-time exemption request from Section IV.A of Appendix J to 10 CFR Part 50 be approved. The licensee has further committed to perform a Type A test during the refueling outage in 1990.

3.0 SUMMARY

On the basis of the licensee's CAP to eliminate the root cause of the successive Type A test failures, and the improved valve maintenance program, the staff concludes that the licensee's proposed request for a one-time exemption from the schedular requirements of Section III.A.6(b) of Appendix J to 10 CFR Part 50 with regard to a Type A PCILRT during the 1988 refueling outage is acceptable. This arrangement will permit resumption of the normal retest schedule during the 1990 refueling outage.

Also, the licensee's request concerning an exemption from Type B or C LLRT for the welds attaching the RHR containment spray valves was withdrawn by letter dated October 28, 1988. The licensee's request concerning non-destructive examination of welds for the HPCI turbine exhaust isolation valve in lieu of Type B or C local leakage rate test is approved.

4.0 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 Sec 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.

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

Dated: November 16, 1988

PRINCIPAL CONTRIBUTION:

R. Anand