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JPN-85-87

Director of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Mr. Daniel R. Muller, Director
BWR Project Directorate No. 1
Division of BWR Licensing

Subject: James A. FitzPatrick Nuclear Power Plant
Docket No. 50-333
Response to Safety Evaluation Report for
Inservice Testing (IST) Program for the
1st Ten Year Interval

References: 1. NRC letter, D. B. Vassallo to J. P. Bayne,
dated December 5, 1983
2. NYPA letter John C. Brons to D. B. Vassallo,
dated November 15, 1985 (JPN-85-82)

Dear Sir:

Enclosed is the Authority's response to the Safety Evaluation Report (SER) which addresses both the IST Program for Pumps and Valves and the relief requests for the 1st ten year interval for the FitzPatrick Plant.

The IST Program for Pumps and Valves for the 2nd ten year interval has been submitted via Reference 2. The program has addressed all the outstanding items covered in the SER.

A detailed point by point response to the SER is provided in Attachment I. A brief summary is presented here.

In general, the Authority has agreed with the NRC Staff on increasing the scope of the program and their position on various relief requests. For the 2nd ten year interval, the Authority has expanded the IST Program and has included all the containment isolation valves. Relief requests have been submitted for certain cycling requirements for the large containment vent and purge valves. Any relief requests which were denied for the 1st interval have not been included in the program for the 2nd interval.

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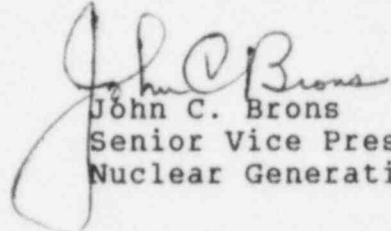
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The diesel generator auxiliary systems have not been included in the 2nd interval program, because the Authority considers that, the high degree of reliability of the diesel systems, the operability tests, preventative maintenance, and design redundancy provide reasonable justification to preclude the need for any additional testing. The Authority concurs with the staff position that the fire protection system is no longer regarded as suitable for inclusion in the IST Program.

The Authority considers that the submittal of the 2nd ten year IST Program and this response to the SER should resolve all outstanding concerns on this subject.

If you have any questions regarding this matter, please contact Mr. J. A. Gray, Jr. of my staff.

Very truly yours,


John C. Brons
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ATTACHMENT I TO JPN-85-87

RESPONSE TO SAFETY EVALUATION REPORT
FOR THE IST PROGRAM FOR THE 1st
TEN YEAR INTERVAL

New York Power Authority
James A. FitzPatrick Nuclear Power Plant
Docket No. 50-333

INTRODUCTION

The attached listing represents a point by point response to the Safety Evaluation of Requests For Relief From Inservice Testing Requirements (SER) transmitted December 5, 1983. The item numbers of the response correspond to the SER item numbers. With the exceptions of some questions as to program scope, there are few differences between the Authority's submitted program for the second interval and the Staff positions reflected in this SER.

We believe it is worth noting that most of the relief requests not favorably received were added to the program following a 1979 meeting. During this meeting, the components were evaluated one at a time and agreement was reached between the Authority, members of the NRC (Staff) and a consultant retained by the Authority, on the content of the submittal. Although JAF Technical Specifications required (and still require) monthly operability testing of all ECCS pumps, the Staff's interpretation regarding non-redundant ECCS testing led to relief requests on High Pressure Core Cooling and Standby Liquid Control systems. The Authority continued to test the systems in accordance with the Technical Specifications. This led to an SER which withheld relief which had been requested at Staff prompting. The Technical Specifications testing through the interval together with the IST evaluation of the test results should alleviate staff concerns that the plant practice was not as conservative as the code required testing during this interval.

The submittal for the second interval (and actual practice during the first interval) should resolve many of the apparent concerns of this SER since they were in essence "paper problems".

A. GENERAL CONSIDERATIONS

1. SAFETY RELATED COMPONENTS

The Authority submitted a program for the second inspection interval in November of 1985. This program had an expanded scope that included all containment isolation valves including those in the Breathing, Instrument and Service Air and DW/Torus Leak Rate Analyzer systems. Both the Drywell Inerting, Containment Atmosphere Dilution and Purge Flow and the Standby Gas Treatment systems were added to the program by the inclusion of those valves performing a safety function. However, relief requests were submitted for certain cycling requirements of the large containment vent and purge valves.

Although the components of the Differential Pressurization system are physically installed, the system has been found to be unnecessary and it has never been used.

The Authority has reviewed the emergency diesel generator auxiliary systems to determine the feasibility of conducting meaningful operational readiness tests in accordance with the Code. The results of this review indicate no revision to the IST Program is required for the following reasons:

- a. Site experience of near perfect diesel reliability factors, (.99/1.00), which were reported in our response to Generic Letter 84-15. These reliability factors were established during a period when conservative Technical Specifications forced EDG testing for ECCS LCOs. These requirements, since changed in response to Generic Letter 84-15, led to annual test challenges of up to 80 starts per year. The diesels performed as well as they did due to the comprehensive maintenance program in place at FitzPatrick. Since no idle capability exists, every test is quick cold start and demonstrates the timely operation of all components required to ensure unit availability.
- b. Within the air starting system, two valves (one solenoid and one air relay valve) perform a safety function, i.e. they must properly operate to start the diesel. These are quick acting valves which support the overall requirement of a diesel system being capable of electrical loading within 10 seconds. Since the proper performance of these valves is demonstrated with each diesel start, no further testing is required.

- c. The fuel oil transfer system which consists of 4 transfer pumps per diesel system - 2 diesels/system) demonstrates reliability through redundancy. Each EDG has a day tank sufficient for nearly three hours of rated diesel operation. Level switches in the tank activate up to two transfer pumps for each diesel with individual capability to overflow a nearly empty day tank supplying a loaded diesel in under one hour. In addition, repositioning a few manual valves will align any of two storage tanks to either day tank via any of four pumps within each set of diesels. The existing technical specifications, operability tests, preventative maintenance activities and design redundancy preclude the need for additional testing.

Discussions with the NRC staff on program scope revealed that the fire protection system was no longer regarded as suitable for inclusion in the IST program. The Authority concurs with this position.

The Authority agrees with the staff position regarding the Reactor Core Isolation Cooling system and has removed all components from the program except those valves with a containment isolation function.

2. VALVE EXERCISING REQUIREMENTS

The Authority concurs with the staff evaluation.

3. STROKE TESTING OF CHECK VALVES

The submitted program utilizes rated flow through the check valves for the operability demonstration or periodic disassembly and inspection.

4. TEST FREQUENCY OF CHECK VALVES TESTED AT COLD SHUTDOWN

The Authority revised the first interval program cold shutdown testing of check valves to no more often than once every three months. This feature has been retained in the second interval program.

5. VALVE TESTING AT COLD SHUTDOWN

Similar wording with the same intent existed in the first interval program. This feature has been retained in the second interval.

6. LICENSEE REQUEST FOR RELIEF TO TEST VALVES AT COLD SHUTDOWN

The Authority used the relief provided in the code for valves being tested during cold shutdown. Relief has been specifically requested only in cases where a difference of interpretation may exist between the Authority and the staff. Valves tested during cold shutdown are designated by the test and interval symbols in the submitted program.

7. TECHNICAL SPECIFICATION AMENDMENT TO INCLUDE THE INSERVICE TESTING PROGRAM

The Technical Specifications (TS) during the first interval were conservative relative to the IST program in that the TS requirements met or exceeded the IST Program. With the Code specified frequency changing to once every three months for IST the degree of conservatism increases. This general rule does not apply to the Containment Inerting, Atmosphere Dilution and Purge or Main Steam Leak Collection systems whose technical specification change submittals have yet to complete the NRC review process.

FitzPatrick is preparing a TS amendment package which will include the appropriate basis statements referenced in the SER and will delete ECCS LCO testing that is inconsistent with the intent of the NRC Staff Guidelines FOR EXCLUDING EXERCISING (CYCLING) TESTS OF CERTAIN VALVES DURING PLANT OPERATION. Submittal of the proposed T.S. amendment will occur in early 1986.

B. DRAWING LIST

No comments

C. PUMP TESTING RELIEF REQUESTS

1. RESIDUAL HEAT REMOVAL (RHR) AND CORE SPRAY PUMPS

The relief requested (and granted) by this ALARA based issue of test frequency was addressed by changes in the 1980 Code. No further relief is necessary.

2. RHR SERVICE WATER AND EMERGENCY SERVICE WATER PUMPS

Relief was requested (and granted) from the requirement to measure inlet pressure (forebay level) both before and during the pump test as forebay level is independent of pump operation.

Relief was requested (and granted) from the requirement to measure inlet pressure on these vertical submerged open line shaft pumps. The same requests have been included in the second interval submittal.

3. RHR SERVICE WATER AND EMERGENCY SERVICE WATER PUMPS

Relief was requested (and granted) from the requirements to observe proper lubrication and measure bearing temperatures for these vertical submerged open line shaft pumps. The same request has been included in the second interval submittal.

4. HIGH PRESSURE COOLANT INJECTION PUMP (HPCI)

The relief requested (and granted) by this ALARA based issue of test frequency was addressed by changes in the 1980 Code. The Authority will seek no relief from the quarterly test frequency.

5. STANDBY LIQUID CONTROL PUMPS (SLC)

The program for the second test interval requires SLC pump testing at the 1980 Code specified frequency of once each quarter.

6. CORE SPRAY PUMPS

The relief requested (and granted) for these pumps concerned the inappropriateness of bearing temperature measurements to this pump design. The same request has been included in the second interval submittal.

7. HIGH PRESSURE COOLANT INJECTION PUMP

The relief requested (and granted) for this pump concerned the inappropriateness of bearing temperature measurements to this pump design. The same request has been included in the second interval submittal.

8. STANDBY LIQUID CONTROL PUMPS

The relief requested (and granted) for these pumps concerned the inability to conduct a full five minute test given the capacity of the test tank. The same request has been included in the second interval submittal.

9. STANDBY LIQUID CONTROL PUMPS

The relief requested (and granted) for these pumps concerned the inappropriateness of bearing temperature measurement to this pump design. The same request has been included in the second interval submittal.

D. GENERIC VALVE TESTING RELIEF REQUESTS

1. CONTAINMENT ISOLATION VALVES

The associated relief request response confirmed the Staff position that 10 CFR 50, Appendix J, Type C testing met the intent of most of the Code specified leak rate testing. The balance of the requirements include individual leak rates (or equivalent penetration leak rates where valves are not tested individually), trending for valves 6 inches or larger and specific corrective actions related to these limits. These requirements were incorporated into the LLRT performed during the last refuel outage in the first interval as agreed to with the Staff. The Authority will continue to meet these requirements in future leak rate testing unless the applicable Code changes and specific relief is sought and granted.

2. CATEGORY A & B VALVES

The general relief request from all code specified corrective action was rescinded by a pump and valve program change that completed the site approval cycle on 2/1/84. The staff received this information in Rev. 3 Change 2 to the first interval program via NYPA letter JPN-83-84 dated October 7, 1983.

E. REACTOR BUILDING COOLING WATER SYSTEM

1. CATEGORY A AND A/C VALVES

- a. The penetrations these valves isolate were upgraded by the addition of air operated valves with Control Room switches. The RBC check valves no longer provide the containment isolation function. They do prevent backflow into the non-seismic RBC piping in the event the Emergency Service Water backup cooling feature is utilized. The submitted program for the second interval continues to request relief from exercising these check valves which serve as a boundary between lake water and demineralized water. Because they no longer serve the containment isolation function, the frequency of disassembly and inspection has been changed in the second interval program.

- b. The installation of the upgraded containment isolation valves mentioned in (a) above has displaced these manual isolation valves from their previous containment isolation function. The manual valves revert to maintenance or test valves and are no longer included in the IST program. (The air operated containment isolation valves have been included in the submittal for the second interval with a relief request analogous to the prior containment isolation valves.)

2. CATEGORY C VALVES

- a. These valves are in the Emergency Service Water system and prevent back flow from the RBC system during normal RBC operation. The same type of relief (as granted for the first interval) and alternate test method has been included in the submittal for the second interval. (ESW-25 and 27 are now called ESW-31A and B.)
- b. The RBC valves listed here provide isolation of non-seismic RBC piping should the backup feature of ESW be utilized. Some additional RBC checks with similar functions have been identified and included in the submittal for the second interval. These additional valves have been included in the same type of relief request as was granted for the first interval.
- c. These Service Water valves isolate non-seismic service water piping from the Emergency Service Water backup supplies. Additional service water check valves with this function have been identified and included in the submittal for the second interval. These additional valves have been included in the same type of relief request as was granted for the first interval.

F. RESIDUAL HEAT REMOVAL (RHR)

1. CATEGORY A VALVES

- a. Rerouting the test piping and providing additional instrumentation has reduced the exposure and complexity required to test these LPCI Injection Isolation valves. The submittal for the second interval requires testing in accordance with the quarterly Code requirement.

G. STANDBY LIQUID CONTROL SYSTEM (SLC)

1. CATEGORY A VALVES

- a. The SLC injection check valves will be tested in the second interval in accordance with the granted relief and alternate testing identified for the first interval.

2. CATEGORY C VALVES

- a. The SLC pump discharge check valves will be tested in accordance with Code requirements for the second interval.

H. REACTOR CORE ISOLATION COOLING SYSTEM (RCIC)

1. CATEGORY A VALVES

- a. The containment isolation valves for the RCIC steam supply lines will be tested in accordance with the Code requirements for the second interval.
- b. The containment isolation valves for the RCIC turbine exhaust to the suppression pool will be tested during the second interval in accordance with the first interval approved alternate test method. A relief request has been included in the second interval program.
- c. The containment isolation valve on the RCIC pump discharge line will be tested in accordance with the Code requirement for the second interval.

I. HIGH PRESSURE COOLANT INJECTION (HPCI)

1. CATEGORY A VALVES

- a. The containment isolation valve for the HPCI steam supply line will be tested in accordance with the Code during the second interval.
- b. The containment isolation valve for the HPCI warming steam supply line will be tested in accordance with the Code during the second interval.
- c. The containment isolation valves for the HPCI turbine exhaust to the suppression pool will be tested during the second interval in accordance with the first interval approved alternate test method. A relief request has been included in the second interval program.

- d. The containment isolation valve on the HPCI pump discharge line will be tested in accordance with Code requirements for the second interval.

2. CATEGORY B VALVES

- a. The back-up (for test purposes) containment isolation valve on the HPCI pump discharge line will be tested in accordance with Code requirements for the second interval.
- b. The HPCI minimum flow isolation tested in accordance with Code requirements in the second interval.
- c. The HPCI suction valve from the condensate storage tanks will be tested in accordance with the Code requirements during the second interval.
- d. The HPCI turbine steam stop and throttle valves will be exercised at least quarterly when the HPCI turbine is tested. The valves are no longer specifically addressed in the program because of the new criteria in IWV-1200, (Valves Exempt From Testing), exempting "valves used for system control".
- e. The HPCI lube oil cooler pressure control valves will be exercised at least quarterly with the HPCI turbine test. This valve is no longer in the program for the reason specified in (d) above.

3. CATEGORY C VALVES

- a. The check valve on the HPCI minimum flow line will be tested in accordance with Code requirements during the second interval. The HPCI turbine exhaust line check valves will be tested in accordance with the requested relief and alternate testing during the second interval. (This will involve operability testing during normal HPCI turbine tests).
- b. The turbine exhaust line vacuum breakers will be exercised with each IST test of the HPCI turbine. Closure will be verified by the LLRT performed during each refueling outage.
- c. The check valve on the line from the HPCI suppression pool suction will be disassembled and inspected each refuel outage to verify operability. This first interval approved alternate testing is contained in the submittal for the second interval.

J. CONTROL ROD DRIVE SYSTEM

1. CATEGORY B AND C VALVES

- a. The scram valves and safety function check valves associated with the hydraulic control unit will be tested in accordance with the current Technical Specifications rod selection schedule governing control rod drive testing. This scheme was approved for alternate testing in the first interval and has been re-submitted for the second interval.

K. MAIN STEAM SYSTEM

1. CATEGORY A VALVES

- a. The main steam isolation valves will be tested in accordance with Code requirements during the second interval.

L. FEEDWATER SYSTEM

1. CATEGORY A VALVES

- a. The containment isolation valves on the feed lines will be tested in accordance with the first interval approved relief and alternate test method during the second interval. Same relief request has been submitted for the second interval.
- b. Same as 'a' above.

M. REACTOR WATER CLEANUP SYSTEM (RWCU)

1. CATEGORY A VALVES

- a. The check valve on the RWCU return to the vessel will be tested in accordance with Code requirements during the second interval.

- N. The Authority concurs with NRC's list of valves that cannot be tested during power operation, but would like to point out the absence of some other valves that should be included. Examples from the first interval include the twenty-two vacuum breakers on the Safety Relief Valve Tailpipe which exhaust to the suppression pool. Additional valves in this category follow from the general scope expansion of the program as outlined in the second interval submittal. The additional valves are identified in that submittal.