April 12, 2004

Mr. Michael Kansler
President
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT - RELIEF REQUEST VRR-08 RELATED TO THE THIRD 10-YEAR INSERVICE TESTING (IST) INTERVAL (TAC NO. MC0184)

Dear Mr. Kansler:

By letter dated, July 8, 2003, Entergy Nuclear Operations, Inc. (the licensee) submitted Relief Request No. VRR-08 requesting relief from certain IST requirements for several check valves at James A. FitzPatrick Nuclear Power Plant (JAFNPP). In response to the staff's request for additional information (RAI), the licensee submitted additional information in its letter dated January 15, 2004, and deleted check valves 15RBC-214, 23HPI-13 and 23HPI-56 from its request. This relief request is associated with the third 10-year interval IST program for JAFNPP. The JAFNPP's IST program plan for the third 10-year interval is based on the requirements in Section XI of the 1989 Edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code). For IST of valves, the ASME Code, Section XI, Subsection IWV, references the 1987 Edition through the 1988 Addenda of the Operations and Maintenance (OM) Standard, Part 10 (OM-10), "Inservice Testing of Valves in Light-Water Reactor Power Plants."

The Nuclear Regulatory Commission (NRC) staff reviewed the proposed alternatives as discussed in the enclosed safety evaluation. Based on its review, the NRC staff concludes that the proposed alternative testing of check valves 23HPI-32, 61, 62, 130, and 131 using a disassembly-and-inspection method on a frequency of at least once during each operating cycle in lieu of once during each refueling outage as currently required by OM-10 paragraphs 3.2.2.2(e) and 4.3.2.4(c) provides an acceptable level of quality and safety. Accordingly, the

alternatives are authorized for use at JAFNPP, pursuant to 10 CFR 50.55a(a)(3)(i), for the remainder of the third 10-year interval IST.

Sincerely,

/RA by PTam for/

Richard J. Laufer, Chief, Section 1
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Office of Nuclear Reactor Regulation

Docket No. 50-333

Enclosure: Safety Evaluation

cc w/encl: See next page

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alternatives are authorized for use at JAFNPP, pursuant to 10 CFR 50.55a(a)(3)(i), for the remainder of the third 10-year interval IST.

Sincerely,

/RA by PTam for/

Richard J. Laufer, Chief, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-333

Enclosure: Safety Evaluation

cc w/encl: See next page

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELIEF REQUEST NO. VRR-08 FOR CHECK VALVES FOR THE

THIRD 10-YEAR INTERVAL INSERVICE TESTING PROGRAM

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

ENTERGY NUCLEAR OPERATIONS, INC.

DOCKET NO. 50-333

1.0 INTRODUCTION

By letter dated July 8, 2003, Entergy Nuclear Operations, Inc. (the licensee) submitted Relief Request VRR-08 requesting relief from certain inservice testing (IST) requirements for several valves at James A. FitzPatrick Nuclear Power Plant (JAFNPP). In response to the staff's request for additional information (RAI), the licensee submitted additional information in its letter dated January 15, 2004. In this RAI response, the licensee deleted check valves 15RBC-214, 23HPI-13 and 23HPI-56 from its request. Thus, in Relief Request VRR-08, the licensee proposes an alternative testing frequency for performing IST of check valves 23HPI-32, 61, 62, 130, and 131. The check valves will be tested using a disassembly-and-inspection method on a frequency of at least once during each operating cycle in lieu of once during each refueling outage as currently required by American Society of Mechanical Engineers/American National Standards Institute (ASME/ANSI) OM-10 paragraphs 4.3.2.2 (e) and 4.3.2.4(c).

This relief request is applicable for the third 10-year interval IST program for JAFNPP. The JAFNPP third 10-year IST program interval began on September 30, 1997 and ends on August 30, 2007.

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations*, (10 CFR) 50.55a, requires that IST of certain ASME Boiler and Pressure Vessel Code (ASME Code) Class 1, 2, and 3 pumps and valves are performed in accordance with Section XI of the ASME Code and applicable addenda, except where alternatives have been authorized or relief has been requested by the licensee and granted by the Commission pursuant to 10 CFR 50.55a Sections (a)(3)(i), (a)(3)(ii), or (f)(6)(i). In proposing alternatives or requesting relief, the licensee must demonstrate that: (1) the proposed alternatives provide an acceptable level of quality and safety; (2) compliance would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety; or (3) conformance is impractical for its facility. Section 50.55a authorizes the Commission to approve alternatives and to grant relief from ASME Code requirements upon

making the necessary findings. Guidance related to the development and implementation of IST programs is given in Generic Letter (GL) 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," issued April 3, 1989, and Supplement 1 issued April 4, 1995. Also see NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants," and NUREG/CR-6396, "Examples, Clarifications, and Guidance on Preparing Requests for Relief from Pump and Valve Inservice Testing Requirements."

The 1989 Edition of the ASME Code is the applicable Code of record for the third 10-year interval IST program at the JAFNPP. Subsection IWV of the 1989 Edition specifies the requirements for IST of valves and references Part 10 of the ANSI/ASME Operations and Maintenance Standards (OM-10) as the rules for IST of valves.

The Nuclear Regulatory Commission's (NRC's) findings with respect to authorizing alternatives and granting or denying the IST program relief requests are discussed below.

3.0 TECHNICAL EVALUATION

The licensee's regulatory and technical analyses in support of its requests for relief from ASME OM Code IST requirements are described in the licensee's submittals dated July 8, 2003, and January 15, 2004. A description of the relief request and the staff evaluation follows.

3.1 Relief Request VRR-08

The licensee has requested relief for the check valves 23HPI-32, 61, 62, 130, and 131 from the ASME Code inservice tests that are required to be performed every refueling outage as specified in OM-10 Code, Paragraph 4.3.2.2(e). Paragraph 4.3.2.2(e) states, "If exercising is not practicable during plant operation or cold shutdowns, it may be limited to full-stroke during refueling outage."

ASME/ANSI OM-10 paragraph 4.3.2.4 addresses methods that may be used to perform inservice testing activities for valves. Paragraph 4.3.2.4(c) states, "As an alternative to the testing in (a) or (b) above, disassembly every refueling outage to verify operability of check valves may be used."

3.1.1 Licensee's Basis for Relief:

"Performance of these IST activities on a refueling outage frequency is currently acceptable in accordance with ASME/ANSI OM-10. By specifying testing activities on a frequency commensurate with each refueling outage, OM-10 recognizes and establishes an acceptable time period between testing. Historically, the refueling outages have provided a convenient and defined time period in which testing activities could be safely and efficiently performed. The specific restriction of these activities to a refueling outage is unnecessarily restrictive, however, as an acceptable testing frequency can be maintained separately without being tied directly to a refueling outage while still managing plant risk in accordance with 10 CFR 50.65(a)(4). IST performed on a frequency that maintains the acceptable time period between testing activities during operating cycle is consistent with the intent of the OM-10 Code.

In response to the staff's RAI, the licensee submitted the following additional information, and deleted check valves 15RBC-214, 23HPI-13 and 23HPI-56 from this relief request.

Valve 23HPI-130

Valve 23HPI-130 is a 2 inch, ASME Class 2, IST Category C, check valve. This check valve opens to provide a flowpath for cooling water circulation through the high-pressure coolant injection (HPCI) turbine lube oil cooler and closes to prevent flow diversion. This valve is currently inspected using the alternative method described in ASME/ANSI OM-10, Section 4.3.2.4(c). The alternative method (valve disassembly) is used since there is no means for determining flowrate, thus, there is no means to verify full accident flow. There is also no provision on the valve for position indication, and there are no test taps and block valves to support a back-leakage test for verifying closure. Currently, this disassembly and inspection is conducted during each refueling outage in accordance with ASME/ANSI OM-10, Section 4.3.2.4(c).

Valve 23HPI-131

Valve 23HPI-131 is a 2-inch, ASME Class 2 , IST Category C, check valve. This check valve closes to prevent flow diversion from the HPCI Booster pump. This valve is currently inspected using the alternative method described in ASME/ANSI OM-10, Section 4.3.2.4(c). The alternative method (valve disassembly) is used since there is no provision on the valve for position indication, there are no test taps and block valves to support a back-leakage test for verifying closure. Currently, this disassembly and inspection is conducted during each refueling outage in accordance with ASME/ANSI OM-10, Section 4.3.2.4(c).

Valve 23HPI-32

Valve 23HPI-32 is a 16-inch, ASME Class 2 , IST Category C, check valve. This check valve closes during the suction swap from the Condensate Storage Tank (CST) to the torus to prevent diversion of the Torus flow from the HPCI pump suction. This valve is currently inspected using the alternative method described in ASME/ANSI OM-10, Section 4.3.2.4(c). The alternative method (valve disassembly) is used since there is no provision on the valve for position indication. There are no block valves between this valve and the HPCI pump to support a back-leakage test for verifying closure. Currently, this disassembly and inspection is conducted during each refueling outage in accordance with ASME/ANSI OM-10, Section 4.3.2.4(c).

Valve 23HPI-61

Valve 23HPI-61 is a 16-inch, ASME Class 2 , IST Category C, check valve. This check valve opens to provide a flowpath from the torus to the suction of the HPCI Booster pump and it closes on cessation of flow. This valve is currently inspected using the alternative method described in ASME/ANSI OM-10, Section 4.3.2.4(c). The alternative method (valve disassembly) is used since the only way to full flow exercise this valve is to pump water from the torus into the reactor vessel and the water quality in the torus makes this an impractical option. Additionally, there is no provision on the valve for position indication, and there are no test taps and block valves to support a back-leakage test for verifying closure. Currently, this disassembly and inspection is conducted during each refueling outage in accordance with ASME/ANSI OM-10, Section 4.3.2.4(c).

Valve 23HPI-62

Valve 23HPI-62 is a 4-inch, ASME Class 2 , IST Category C, check valve. This check valve opens to provide a flowpath for minimum flow from the HPCI pump and closes upon cessation of flow. This valve is currently inspected using the alternative method described in ASME/ANSI OM-10, Section 4.3.2.4(c). The alternative method (valve disassembly) is used because the configuration of the minimum flow motor-operated valve (MOV) control logic does not allow for full flow to be achieved through this valve under test conditions. Additionally, full stroke exercising cannot be verified with the existing instrumentation since there is no provision on the valve for position indication, and there are no test taps and block valves to support a back-leakage test for verifying closure. Currently, this disassembly and inspection is conducted during each refueling outage in accordance with ASME/ANSI OM-10, Section 4.3.2.4(c).

Table-1, System HPCI

Check Valve Identification	Code Class	Size (Inches)	Code Category	Function
23HPI-130	2	2	C	HPCI Gland Seal Cooling Return Check Valve
23HPI-131	2	2	C	HPCI Condensate Pump P-141 Discharge Check Valve
23HPI-32	2	16	C	HPCI Booster Pump P-1B Suction from Condensate Storage Tank CST 33TK-12A and B check valve
23HPI-61	2	16	C	HPCI Booster Pump P-1B Suction from Suppression Pool check valve
23HPI-62	2	4	C	HPCI Min Flow Line to RHR Check Valve

This request seeks to allow the same alternative to testing currently conducted during refueling outages to be performed during on-line maintenance windows. As allowed by ASME/ANSI OM-10, Section 4.3.2.4(c) these valves are disassembled and inspected once per cycle during the refueling outage, which for the JAFNPP is a 24-month cycle. The frequency proposed in this relief request remains 24 months. The requested relief will allow the testing of these five HPCI check valves to be performed during on-line maintenance windows.

JAFNPP proposes the alternative inservice testing frequency for the associated check valves based on the following:

1. Inservice testing performed on a refueling outage frequency is currently acceptable in accordance with ASME/ANSI OM-10 and GL 89-04. By specifying testing activities on a frequency commensurate with each refueling outage, OM-10 recognizes and establishes an acceptable time period between testing. Historically, the refueling

outages have provided a convenient and defined time period in which testing activities could be safely and efficiently performed. However, an acceptable testing frequency can be maintained separately without being tied directly to a refueling outage. Inservice testing performed on a frequency that maintains the acceptable time period between testing activities during the operating cycle is consistent with the intent of OM-10 and GL-89-04.

2. Over time, approximately the same number of tests will be performed using the proposed operating cycle test frequency as would be performed using the current refueling outage frequency. Thus, inservice testing activities performed during the proposed operating cycle test frequency provide an equivalent level of quality and safety as inservice testing performed at a refueling outage frequency.

3. Each of the valves within the scope of this relief request can be adequately isolated to ensure the safety of maintenance personnel and to ensure adequate protection of operable plant equipment.

4. The proposed relief would allow the addition of these activities to on-line maintenance windows where they can be worked along with other activities that have been risk assessed in accordance with industry guidance without affecting the total amount of system unavailability. The JAFNPP experience with the inspection and maintenance activities associated with the subject check valves as well as on-line HPCI system maintenance gives confidence that the addition of these valves to the scope of an
5. on-line maintenance window will not prolong the duration of the system outage.

JAFNPP performs on-line HPCI maintenance that includes tasks such as pump and turbine inspection/overhaul, and inspection of the governor and valve linkage. The system outage window for the basic inspections conducted on a 24-month frequency is approximately 72 hours; and for the major overhaul activities, which are currently on a 48-month frequency, the window will be larger. As shown in the maintenance history (Attachment 2 of Reference 5.2), the inspection of the subject check valves takes between 6 and 19 hours. The required inspections would be conducted simultaneously with the other maintenance scoped into the maintenance window. Based on maintenance history, scheduling experience, and work execution in past on-line maintenance windows on the HPCI system, this additional work neither extends the maintenance window nor increases the overall maintenance unavailability. Therefore, performing these IST inspections on-line would change neither the duration of the on-line maintenance activity nor the core damage probability (CDP) associated with the HPCI on-line maintenance activity. For these reasons, the risk/CDP over the entire operating/shutdown spectrum would remain unchanged with approval of this relief request.

The valves that will be used to provide isolation have an excellent history of providing adequate isolation for the disassembly and inspection of the check valves. Four of the five check valves (23HPI-32, 62, 130, and 131) addressed by the proposed relief are within the boundaries normally established for on-line maintenance of the HPCI main and booster pumps. Since the isolation has proven adequate to perform maintenance and inspections on these pumps including activities that breached the pressure boundary of the pumps, there is high confidence that isolation is also adequate for disassembly and inspection of the check valves. The remaining check valve (23HPI-61) is in the HPCI torus suction line and is isolated from the torus by 23MOV-58. Therefore, the conditions under which these valves must provide isolation

during on-line maintenance are similar to the conditions during plant shutdown where isolation has always been adequate.

Additionally, when breaching a pressure boundary the standard maintenance practice is to monitor the component being disassembled to ensure that there is no unexpected leakage during disassembly, thus verifying the integrity of the isolation boundary and allowing for recovery of safe conditions, should evidence of unexpected leakage become apparent.

Risk associated with on-line maintenance activities is controlled through JAFNPP's work control process. That process includes preventive measures for maintaining safety and minimizing risk while performing on-line maintenance such as:

1. Assessment of work activities by multiple independent personnel to ensure work activities in one system do not affect the abilities of redundant systems or trains to perform their safety function.

2. Establishment of redundant systems or trains as "Protected," so that these systems are less likely to be inadvertently made inoperable while they are being relied upon to operate during the period that another safety system is out of service for maintenance.

3. Providing additional management oversight for significant maintenance activities being conducted while in Technical Specification limiting condition for operation (LCO) Actions.

4. Conducting shift briefing to ensure that personnel are aware of active Technical Specification LCO Action statements.

5. Using human performance tools including pre-job briefings, self-checking and peer checking.

The level of quality associated with the inspection activities is independent of whether the inspection is performed on-line or during an outage. The same personnel, procedures, and acceptance criteria will be used in either case. The safe conduct of maintenance and inspection activities is built into the work control process. The inservice inspection activities will be planned when adequate isolation boundaries are established to protect the maintenance personnel involved in the activities and to protect operable plant equipment.

JAFNPP manages work windowns on a recurring cycle. Risk insight is used to ensure that proposed work or inspection activities are balancing reliability with unavailability. The work selection process provides the means to ensure, through the oversight of knowledgeable personnel, that when systems unavailability is incurred, the preventive maintenance, corrective maintenance, and other inspections required to maximize the system's reliability are included in the maintenance window. In that manner, each window is scoped to maximize the unavailability such that it is maintened at a level that minimizes over all risk. JAFNPP is confident that this rigorous work selection, scoping, and risk management system will identify all work that is more appropriately placed in outages, and schedule such work accordingly.

Inservice testing work performed on the HPCI check in this relief request and the other periodic work planned for the JAFNPP HPCI LCOs will cause the HPCI system to become inoperable. The 14-day shutdown action for the HPCI system inoperablity will be entered as the work

window begins. Work that requires entry into Technical Specification LCO Actions is planned and scheduled in accordance with the JAFNPP work control process previously described. The controls required by that process include establishing the scope of work such that only 50% of the allowed outage time is required to perform the scheduled work. In addition, the site uses LCO coordinators to provide continuous coverage for problem resolution. As discussed above, the inspection activities for the valves associated with this relief request typically take from 6 to 19 hours and the LCO windows for on-line maintenance are planned for considerably longer periods. Based on historical performance of the subject valves, the inclusion of these activities in the LCO windows would not affect the duration of the time spent in the LCO Actions.

The requested relief is supported by the inspection history (Attachment 2 of Reference 5.2) that shows there have been no deficiencies noted in the past three inspection intervals using this frequency. The 2-year periodic disassembly and inspection activities on these check valves is appropriate as evidenced by the acceptance of this periodicity by ASME/ANSI OM-10. The acceptability of performing these inspections on-line is addressed above. This acceptability is reinforced by experience from performing other on-line safety system maintenance activities effectively at JAFNPP. The excellent performance history of these valves and lack of other HPCI system maintenance required on a quarterly basis shows that quarterly testing of these valves would impose a high HPCI unavailability penalty with little or no improvement in reliability. Therefore, performing these inspections on-line on a quarterly basis remains impractical, as it would result in a net degradation in plant safety. This analysis applies to each of the check valves that remain in the scope of the relief request.

3.1.2 Licensee Proposed Alternative Testing (as stated by the licensee):

OM-10, Section 4.3.2.4(c) allows disassembly each refueling outage to verify operability as an alternative to quarterly testing. This testing will be performed, with the exception that testing will at a frequency of at least once per operating cycle in lieu of during each refueling outage.

3.1.3 Evaluation

ASME OM-10, Paragraph 4.3.2 requires check valves to be exercised to their safety position(s) quarterly, if practical, otherwise at cold shutdowns. If this, too, is not practicable, the Code allows testing to be deferred to refueling outages. The licensee proposes, as an alternative, to perform the inspection IST activities once every refuel cycle in lieu of during the refueling outage. Paragraphs 4.3.2.2(e) and 4.3.2.4(c) of OM-10 and GL 89-04 Position 2 limit the performance of check valve IST activities (including disassembly) to refueling outages.

The licensee states that as more system outages are performed on-line, it is evident that selected refueling outage inservice testing activities could be performed during system outages on-line without sacrificing quality or safety. The licensee proposes, as an alternative, to perform the IST disassembly and inspection activities during normal plant operation (on-line), in conjunction with appropriate system outages, or during refueling outages. In any case, disassembly, inspection, and manual exercising will be performed at least once each operating cycle (i.e., 24-months).

All the check valves (23HPI-32, 61, 62, 130 and 131) are in the HPCI system, and are ASME Class 2 components. The licensee's design criteria for the plant require component isolation of all Class 2 valves covered in the relief request from the reactor coolant system (RCS) pressure.

The HPCI system 23HPI-32 and 23HPI-61 valves are 16-inch diameter check valves. These relatively large check valves are located in the HPCI pump suction line from the CST and suppression chamber (torus) respectively. The HPCI pump suction is normally aligned to the CST during normal operation and the system is provided with automatic controls which swap the suction to suppression chamber should CST level-fall below a specific setpoint. The valve 23HPI-62 is a 4-inch check valve, and provides a flowpath for minimum flow from the HPCI pump. The valves 23HPI-130 and 131 are 2-inch check valves. The valve 23HPI-130 provides a flow path for cooling water circulation through the HPCI turbine lube oil cooler. The valve 23HPI-131 is to prevent flow diversion from the HPCI booster pump.

The licensee states that the valves that will be used to provide isolation have an excellent history of providing adequate isolation for the disassembly and inspection of the check valves. Four of the five check valves (23HPI-32, 62, 130, and 131) included in the proposed relief are within the boundaries normally established for on-line maintenance of the HPCI main and booster pumps. Since the isolation has proven adequate to perform maintenance and inspections on these pumps including activities that breached the pressure boundary of the pumps, there is high confidence that isolation is also adequate for disassembly and inspection of the check valves. The remaining check valve (23HPI-61) is in HPCI torus suction line and is isolated from the torus by 23MOV-58.

The NRC staff finds that disassembly and inspection of HPCI system check valves 23HPI-32, 61, 62, 130, and 131 can be safely accomplished during system outages when the plant is on-line. The NRC staff's finding is based on the following considerations:

1. Approximately the same number of inservice tests will be performed using the proposed operating cycle test frequency as would be performed using the Code refueling outage frequency. IST performed on a frequency (24 months) that maintains the acceptable time period between testing activities during the operating cycle (i.e., 24 months) is consistent with the intent of the ASME OM Code and GL 89-04.

2. Over time, approximately the same number of tests will be performed using the proposed operating cycle test frequency as would be performed using the current refueling outage frequency.

3. During inservice testing of check valves 23HPI-32, 62, 130, and 131, the licensee will perform on-line testing within the boundaries normally established for on-line maintenance of the HPCI main and booster pumps. The check valve 23HPI-61 inservice testing will be performed by isolating it from torus by 23MOV-58, since this check valve is in HPCI torus suction line. The conditions under which these valves must provide isolation during on-line maintenance are similar to the conditions during plant shutdown or refueling outages.

4. There are no technical barriers to performing these IST activities during either the refueling outage or the operating cycle.

5. The HPCI system outage window for the basic inspections conducted on a 24-month frequency is approximately 72 hours. For the major overhaul activities, which are currently on a 48-month frequency, the window will be larger. The inspection of the subject check valves 23HPI-32, 61, 62, 130, and 131 takes between 6 and 19 hours. The required IST would be conducted simultaneously with the other maintenance scoped into maintenance window. This will provide an adequate margin to complete disassembly and inspection IST activities during HPCI system outage.

6. Typical on-line HPCI system outages are scheduled utilizing only 50 percent of the allowable LCO time limit of 14 days. The valves associated with this relief request typically take from 6 to 19 hours and the LCO windows for on-line maintenance are planned for considerably longer periods. This provides adequate margin to complete disassembly and inspection activities in an orderly manner.

7. Performing these IST inspections on-line would change neither the duration of the on-line maintenance activity nor the CDP associated with the HPCI on-line maintenance activity.

On the basis of these considerations, the NRC staff finds that the proposed alternative provides an acceptable level of quality and safety.

4.0 CONCLUSION

Based on the NRC staff's review of the information provided in the relief request, the staff concludes that the licensee's proposed alternative will provide an acceptable level of quality and safety. Therefore, the proposed alternative for the check valves 23HPI-32, 61, 62, 130, and 131 to perform inservice testing once per operating cycle, in lieu of once per refueling outage is authorized pursuant to 10 CFR 50.55a(a)(3)(i).

5.0 REFERENCES

1. Entergy's letter from T. A. Sullivan to NRC "Proposed Relief Request No. VRR-08 for James A. FitzPatrick Nuclear Power Plant, Inservice Testing Program," Docket No. 50-333, dated July 8, 2003.

2. Entergy's letter from T. A. Sullivan to NRC "Response to Request for Additional Information regarding Proposed Relief Request No. VRR-08 for James A. FitzPatrick Nuclear Power Plant, Inservice Testing Program," Docket No. 50-333, dated January 15, 2004.

3. Drawing No. FM-25A, Rev. 67, Flow Diagram - High Pressure Coolant Injection System 23, James A. FitzPatrick Nuclear Power Plant (Attachment to Reference 5.2).

4. *U.S. Code of Federal Regulations*, Domestic Licensing of Production and Utilization Facilities," Part 50, Chapter I, Title 10, "Energy," Section 50.55a, Codes and standards.

5. *U.S. Code of Federal Regulations*, Domestic Licensing of Production and Utilization Facilities," Part 50, Chapter I, Title 10, "Energy," Section 50.65, Requirements for monitoring the effectiveness of maintenance at nuclear power plants.

6. U.S. Nuclear Regulatory Commission, “Guidance on Developing Acceptable Inservice Testing Program, “Generic Letter 89-04 through Supplement 1, April 4, 1995.

7. U.S. Nuclear Regulatory Commission, “Guidance for Inservice Testing at Nuclear Power Plants,” NUREG-1482, April 1995.

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Date: April 12, 2004