ATTACHMENT I

PROPOSED TECHNICAL SPECIFICATION CHANGES REGARDING NEW CONTAINMENT ISOLATION VALVES IN THE RESIDUAL HEAT REMOVAL (RHR) KEEP-FULL SYSTEM

JPTS-90-001

New York Power Authority

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
Docket No. 50-333

TABLE 3.7-1
(Sh. 12 of 15)

PRIMARY CONTAINMENT ISOLATION VALVES

CONTAINMENT PENETRATION	PENETRATION FUNCTION	VALVE NUMBER	ISOLATION SIGNAL	CLOSE TIME (SEC) (5)	NORMAL STATUS (7)	REMARKS
210A (con't)	RHR to Suppression Pool	10MOV-16A	R	N/A	Closed	Pump minimum flow.
		10MOV-21A	G,R	N/A	Closed	Heat exchanger drain.
		10MOV-167A	R	N/A	Closed	Heat exchanger vent.
		10RHR-95A	Reverse Flow	N/A	Open	RHR Keep-Full min. flow
	RCIC	13MOV-27	K,R	5	Closed	Pump minimum flow.
	Core Spray Test to Suppression Pool	14MOV-5A	R	N/A	Open	Pump minimum flow.
		14MOV-26A	G,R	45	Closed	Throttle valve for flow test.
		14CSP-62A	Reverse Flow	N/A	Open	Core Spray Keep-Full min. flow.
210B	RHR to Suppression Pool	10MOV-34B	G,R	70	Closed	Throttle valve for flow test and suppression pool cooling. Note 2.
		10MOV-16B	R	N/A	Closed	Pump minimum flow.
		10MOV-21B	G,R	N/A	Closed	Heat exchanger drain.
		10MOV-167B	R	N/A	Closed	Heat exchanger vent.
		10RHR-95B	Reverse Flow	N/A	Open	RHR Keep-Full min. flow
	Core Spray Test to Suppression Pool	14CSP-62B	Reverse Flow	N/A	Open	Core Spray Keep-Full min. flow.

TABLE 4.7-2

EXCEPTION TO TYPE C TESTS

CONTAINMENT PENETRATION	PENETRATION FUNCTION	VALVE NUMBER	LOCAL LEAK RATE TEST PERFORMED
202B	Vacuum Breaker - Reactor Building to Suppression Chamber	27AOV-101A 27AOV-101B	These valves will be tested in the reverse direction.
205	Pressure Suppression Chamber Purge Exhaust (Air or Nitrogen)	27AOV-117 27MOV-117	These valves will be tested in the reverse direction.
210A	RHR to Suppression Pool, RCIC, Core Spray Test to Suppression Pool	10MOV-16A 10MOV-21A 10MOV-34A 10MOV-167A 13MOV-27 14MOV-5A 14MOV-26A 10RHR-95A 14CSP-62A	Will not be tested as lines are water sealed by suppression chamber water. Valve 10MOV-34A is tested during the Type C test of Penetration X-211A.
210B	RHR to Suppression Pool, HPCI, Core Spray Test to Suppression Pool	10MOV-16B 10MOV-21B 10MOV-34B 10MOV-167B 14MOV-5B 14MOV-26B 23MOV-25 10RHR-95B 14CSP-62B	Will not be tested as lines are water sealed by suppression chamber water. Valve 10MOV-34B is tested during the Type C test of Penetration X-211B.
211A	RHR to Suppression Spray Header	10MOV-38A	This valve will be tested in the reverse direction.

ATTACHMENT II

SAFETY EVALUATION FOR PROPOSED TECHNICAL SPECIFICATION CHANGES REGARDING NEW CONTAINMENT ISOLATION VALVES IN THE RESIDUAL HEAT REMOVAL (RHR) KEEP-FULL SYSTEM

JPTS-90-001

New York Power Authority

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
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I. DESCRIPTION OF THE PROPOSED CHANGES

The proposed changes to the James A. FitzPatrick Technical Specifications revises Tables 3.7-1 ("Primary Containment Isolation Valves" on page 206c, Reference 1) and 4.7-2 ("Exception to Type C Tests" on page 213, Reference 1). These changes reflect the two Containment Isolation Valves (CIVs) in the Residual Heat Removal (RHR) and Core Spray keep-full systems.

A. RHR Keep-Full System

The two Containment Isolation Valves (CIVs) denoted as 10RHR-95A and 10RHR-95B are added to Tables 3.7-1 and 4.7-2, listed under the Containment Penetration heading X-210A and X-210B respectively (Attachment I).

B. Core Spray Keep-Full System

The two CIVs denoted as 14CSP-62A and 14CSP-62B are added to Tables 3.7-1 and 4.7-2, listed under the Containment Penetration heading X-210A and X-210B respectively (Attachment I).

II. PURPOSE OF THE PROPOSED CHANGES

The purpose of these changes is to revise the FitzPatrick Technical Specifications (Reference 2) to reflect the RHR and Core Spray keep-full systems.

A. RHR Keep-Full System

The change to the FitzPatrick Technical Specifications reflects the two CIVs in the RHR system with a "keep-full" subsystem. The RHR keep-full system maintains the discharge piping in a water-solid condition, thereby increasing the overall system reliability of the RHR subsystem loops by reducing the potential for water hammer.

B. Core Spray Keep-Full System

The amendment to the FitzPatrick Technical Specifications reflects the as-built configuration of the core spray keep-full subsystem. The Core Spray keep-full system maintains both Core Spray discharge lines full of water to reduce the potential for water hammer in the piping during core spray operation.

III. IMPACT OF THE PROPOSED CHANGES

A. RHR Keep-Full System

The original design requirement for CIVs as specified in the as-licensed FitzPatrick FSAR Section 7.3.4.3 (Reference 3) is:

> "Process lines that penetrate the primary containment but do not communicate directly with the reactor vessel, the primary containment free space, or the environs, have at least one Group C isolation valve located outside the primary containment which may close either by process action (reverse flow) or by remote manual operation."

The RHR keep-full minimum flow line penetrates primary containment through penetrations X-210A and B. Neither line communicates directly with the containment free space, reactor vessel, or the environs. Lines that communicate directly with water in the torus (as is the case with the minimum flow connections) requires that each line contain one CIV. Check valve 10RHR-95A isolates penetration X-210A and check valve 10RHR-95B isolates penetration X-210B.

NUREG-0737 Item II.E.4.2 (Reference 4) requires licensees to review operating plants for containment isolation dependability. A comprehensive review of the containment isolation design of the FitzPatrick plant and a comparison of the design to the NUREG acceptance criteria has been completed. According to the response to NUREG-0737 Item II.E.4.2 (Reference 5), the RHR and Core Spray systems have been classified as essential systems because their operation is required for accident mitigation. The CIVs installed to both RHR and Core Spray keep-full systems will not affect the requirements outlined in this document.

The integrity of the RHR System, as a pressure boundary, will not be degraded by the addition of the keep-full pumps and piping since the design temperature and pressure of the RHR Keep-Full System is equal to the design temperature and pressure of the RHR System. The integrity of the new RHR keep-full system will be verified by hydrostatic in-service leak test in accordance with ANSI B31.1 (1967) (Reference 6). The heat generated by the RHR keep-full pump motors and the heat transferred through the RHR keep-full system insulated piping is not significant and will not affect environmental qualification parameters in the east and west crescent zones. The addition of this system was evaluated to comply with Appendix R and Fire Protection using EDP-30, "Review Procedure for Ensuring Long Term Appendix R and Fire Protection Compliance" (Reference 7). These modifications will not invalidate any assumptions in the FitzPatrick Appendix R Fire Protection Analysis. The RHR keep-full system will not adversely affect any of the modes of operation of the RHR System as defined in FSAR Section 4.8.

The keep-full system minimum flow penetration lines are submerged below the torus water level. In accordance with Section 7.3.4.3 of the original FSAR the check valves are acceptable for use as CIVs on these lines. These CIVs are exempt from Type C leak rate testing, because the piping inside containment is sealed with fluid from a seal system (torus water). Therefore, these CIVs are added to the list of Exception to Type C Tests, Table 4.7.2.

B. Core Spray Keep-Full System

The Core Spray keep-full check valves meet the same original design requirement (specified in the original FitzPatrick FSAR Section 7.3.4.3,) as the RHR keep-full check valves. The Core Spray keep-full system minimum flow lines penetrate primary containment through penetrations X-210A and B. Neither line communicates directly with the containment free space, reactor vessel, or the environs. Lines that communicate directly with water in the torus (as is the case with the minimum flow connections) are required to contain one CIV. Check valve 14CSP-62A isolates penetration X-210A and check valve 14CSP-62B isolates penetration X-210B.

The keep-full pumps and piping will not degrade the integrity of the Core Spray system as a pressure boundary, since the design temperature and pressure of the Core Spray keep-full system is equal to the design temperature and pressure of the Core Spray system. The Core Spray keep-full system will not adversely affect any modes of operation of the Core Spray system as defined in the FSAR Section 6.4.3.

The keep-full system minimum flow penetration lines are submerged below the torus water level. In accordance with Section 7.3.4.3 of the original FSAR the check valves are acceptable for use as CIVs on these lines. These CIVs are exempt from Type C leak rate testing, because the piping inside containment is sealed with fluid from a seal system (torus water). Therefore, these CIVs are added to the list of Type C Tests, Table 4.7-2.

IV. EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATION

Operation of the James A. FitzPatrick Nuclear Power Plant in accordance with this proposed amendment would not involve a significant hazards consideration, as defined in 10 CFR 50.92, since the proposed changes would not:

1. involve a significant increase in the probability of an accident or consequence previously evaluated.

   The RHR keep-full system maintains the discharge piping full of water, thereby increasing the overall reliability and reducing the potential for water hammer. The RHR system is designed to mitigate the consequences of analyzed accidents and is normally in the standby mode. This system can not initiate accidents and the proposed changes have no effect on the probability of occurrence of previously evaluated accidents.

   The Core Spray keep-full system maintains both Core Spray discharge lines full of water, preventing water hammer in the piping during system startup. The Core Spray system is designed to protect the core by spraying water over the fuel assemblies to remove decay heat following the postulated design basis LOCA. This system can not initiate accidents and the proposed changes have no effect on the probability of occurrence of previously evaluated accidents.

   The applicable criteria, equipment quality standards, and design considerations have been satisfied for both RHR and Core Spray keep-full systems.

2. create the possibility of a new or different kind of accident from those previously evaluated because the keep-full systems will not cause either the RHR or the Core Spray systems to fail as a result of inadvertent actuations or the failure to operate on demand.

3. involve a significant reduction in the margin of safety as defined in the basis for Technical Specifications. The RHR and Core Spray keep-full systems will not adversely affect any of the modes of operation of the RHR System (as defined in the FSAR Section 4.8) and the Core Spray System (as defined in FSAR Section 6.4.3). The proposed changes to both the RHR and Core Spray keep-full systems were evaluated using EDP-30, "Review Procedure for Ensuring Long Term Appendix R and Fire Protection Compliance". These modifications will not invalidate any assumptions in the FitzPatrick Appendix R Fire Protection Analysis.

V. IMPLEMENTATION OF THE PROPOSED CHANGES

Implementation of the proposed changes will not impact the ALARA or Fire Protection Programs at the FitzPatrick plant, nor will the changes impact the environment.

VI. CONCLUSION

These changes, as proposed, do not constitute an unreviewed safety question as defined in 10 CFR 50.59. That is, they:

a. will not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report;

b. will not increase the possibility for an accident or malfunction of a different type from any evaluated previously in the safety analysis report;

c. will not reduce the margin of safety as defined in the basis for any technical specification; and

d. involve no significant hazards consideration, as defined in 10 CFR 50.92.

VII. BIBLIOGRAPHY

1. James A. FitzPatrick Nuclear Power Plant Technical Specifications, Volume 1A ; Table 4.7.2 "Exception to Type C Tests", Part 4.7, and Table 3.7.1 "Primary Containment Isolation Valves".

2. James A. FitzPatrick Nuclear Power Plant Updated Final Safety Analysis Report (FSAR), Vol. 2 Sec. 4.8 - Residual Heat Removal System and Vol. 3 Sec. 7.3 - Table 7.3-1 (Sh. 12 of 18).

3. James A. FitzPatrick Nuclear Power Plant FSAR (Original), Vol. 3 Sec. 7.3.4.3 (Supplement 13).

4. NUREG-0737 Item II.E.4.2 "Containment Isolation Dependability".

5. Power Authority of the State of New York, James A. FitzPatrick Nuclear Power Plant, Response to NUREG-0737 Item II.E.4.2 "Containment Isolation Dependability".

6. ANSI B31.1 Code for Pressure Piping (1967).

7. "Review Procedure for Ensuring Long Term Appendix R and Fire Protection Compliance" (EDP-30).

8. 10CFR50, Appendix J "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors".

9. 10CFR50, Appendix A "Licensing of Production and Utilization Facilities".