

ATTACHMENT I TO JPN-93-048

JAMES A. FITZPATRICK

INSERVICE TESTING PROGRAM FOR PUMPS AND VALVES

REVISION 7

INSTRUCTIONS

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INSERVICE TESTING PROGRAM FOR PUMPS AND VALVES

Reviewed by: Plant Operations Review Committee

Meeting No. 93-045

Date: 3/31/93

Approved by: _____

RESIDENT MANAGER

Date: 4/6/93

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INSERVICE TESTING PROGRAM FOR PUMPS AND VALVES

1.0 INTRODUCTION

Revision 7 of the James A FitzPatrick ASME Inservice Testing (IST) Program will be in effect through the end of the second 120-month (10-year) interval unless changed and re-issued for reasons other than the routine update required at the start of the third interval per 10 CFR 50.55a(g). The third inspection interval begins on July 28, 1995.

This document outlines the IST Program for J.A. Fitzpatrick based on the requirements of Section XI of the ASME Boiler and Pressure Vessel Code, 1980 Edition, through Winter 1981 Addenda (the Code). References in this document to "IWP" or "IWV" correspond to Subsections IWP and IWV, respectively, of the Code, unless otherwise noted.

2.0 APPLICABLE DOCUMENTS

This IST Program Plan was developed per the requirements of the following documents:

- Title 10, Code of Federal Regulations, Part 50
- Final Safety Analysis Report, J.A. Fitzpatrick Nuclear Power Plant
- J.A. Fitzpatrick Technical Specifications
- ASME Boiler and Pressure Vessel Code, Section XI, 1980 Edition through Winter 1981 Addenda.
- NRC Safety Evaluation by the Office of Nuclear Reactor Regulation related to the Inservice Testing Program Relief Requests Power Authority of the State of New York James A. FitzPatrick Nuclear Power Plant Docket No. 50-333, Dated January 8, 1992.
- Safety Evaluation for Inservice Testing (IST) Program Relief Requests, James A. FitzPatrick Nuclear Power Plant, Dated July 28, 1992.

Other documents used for guidance in the development of the IST Program are listed below:

- NRC Regulatory Guide 1.26, "Quality Group Classifications and Standards for Water-, Steam-, and Radioactive-Waste-Contaminating Components of Nuclear Power Plants"
- Standard Review Plan NUREG 0800, Section 3.9.6, "Inservice Testing of Pumps and Valves"
- NRC Generic Letter 89-04, "Guidance on Developing Acceptable Inservice Testing Programs"
- NRC Minutes of the Public Meetings on Generic Letter 89-04

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APPENDIX B

VALVE TESTING PROGRAM

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VALVE TABLE

SYSTEM: Residual Heat Removal - SYSTEM ID: 10

DRAWING: FM-20A

VALVE ID	DWG CO-OR	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SECT. XI TEST	RR / CS	ALTERNATE TEST	REMARKS
10MOV-66B	D-3	2	B	20.00	GL	MO	TM-1 PI-3			
10RHR-262	H-3	2	C	4.00	CK	SA	RF-1			
10RHR-277	G-8	2	C	4.00	CK	SA	RF-1			
10RHR-42A	C-8	2	C	16.00	CK	SA	FF-1 RF-1			
10RHR-42B	C-3	2	C	16.00	CK	SA	FF-1 RF-1			
10RHR-42C	C-8	2	C	16.00	CK	SA	FF-1 RF-1			
10RHR-42D	C-3	2	C	16.00	CK	SA	FF-1 RF-1			
10RHR-52A	G-6	2	A	2.00	GA	MA	LJ-3	V19		
10RHC-52B	G-5	2	A	2.00	GA	MA	LJ-3	V19		
10RHR-64A	C-8	2	C	3.00	CK	SA	PF-1 RF-1 DA-6	V32		
10RHR-64B	C-3	2	C	3.00	CK	SA	PF-1 RF-1 DA-6	V32		

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VALVE TABLE

SYSTEM: Residual Heat Removal - SYSTEM ID: 10

DRAWING: FM-20A

VALVE ID	DWG CD-OR	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SECT. XI TEST	RR / CS	ALTERNATE TEST	REMARKS
10RHR-64C	D-8	2	C	3.00	CK	SA	PF-1 RF-1 DA-6	V32		
10RHR-64D	D-3	2	C	3.00	CK	SA	PF-1 RF-1 DA-6	V32		
10RHR-95A	C-8	2	C	0.75	SK	SA	RF-1	V56	RF-3	
10RHR-95B	3-5	2	C	0.75	SK	SA	RF-1	V56	RF-3	
10SV-35A	E-8	2	C	1.00	RL	SA	RL-4			
10SV-35B	E-3	2	C	1.00	RL	SA	RL-4			
10SV-40	D-5	2	C	1.00	RL	SA	RL-4			

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VALVE TABLE

SYSTEM: Radwaste - SYSTEM ID: 20

DRAWING: FM-17A

VALVE ID	DWG CO-OR	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SECT. XI TEST	RR / CS	ALTERNATE TEST	REMARKS
20AOV-83	F-6	2	A	3.00	BL	AO	TM-1 FC-1 PI-3 LJ-3	V29		
20AOV-95	C-6	2	A	3.00	BL	AO	TM-1 FC-1 PI-3 LJ-3	V29		
20MOV-82	F-7	2	A	3.00	GA	MO	TS-1 PI-3 LJ-3			
20MOV-94	C-7	2	A	3.00	GA	MO	TS-1 PI-3 LJ-3			

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Valve Relief Requests

NOTE V29 (cont.)

<u>VALVE ID</u>	<u>CATEGORY</u>	<u>CLASS</u>	<u>FUNCTION</u>
02-2SOV-001	A	1	Close
02-2SOV-002	A	1	Close
16-1AOV-101A, B	A	2	Close
16-1AOV-102A, B	A	2	Close
20AOV-83	A	2	Close
20AOV-95	A	2	Close
23HOV-1	B	2	Close
23AOV-39	B	2	Close
23AOV-42	B	2	Close
27SOV-119E1, E2, F1, F2	A	2	Close
27SOV-120E1, E2, F1, F2	A	2	Close
27SOV-122E1, E2, F1, F2	A	2	Close
27SOV-123E1, E2, F1, F2	A	2	Close
27SOV-124E1, E2, F1, F2	A	2	Close
27SOV-125A, B, C, D	A	2	Close
27SOV-135A, B, C, D	A	2	Close
27SOV-141	A	2	Open, Close
27SOV-145	A	2	Open, Close
27AOV-126A, B	B	2	Open, Close
27AOV-128A, B	B	2	Open, Close
27AOV-129A, B	B	2	Open, Close

Note: Function is the direction in which the valve is considered to be fast acting, ≤ 2 seconds.

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Valve Relief Requests

NOTE V30

This relief request has been withdrawn.

NOTE V31

This relief request has been withdrawn.

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INSERVICE TESTING PROGRAM FOR PUMPS AND VALVES

APPENDIX B

Valve Relief Requests

NOTE V32

SYSTEM: Residual Heat Removal (RHR)

VALVES: 10RHR-64A, B, C, D

CATEGORY: C

CLASS: 2

FUNCTION: These valves open on forward flow to provide minimum flow protection for the RHR pumps and close on reverse flow to prevent diversion of flow through an idle parallel pump.

TEST REQUIREMENT: Per IWV-3521, exercise these valves open every three months.

BASIS FOR RELIEF: These valves are exercised open every three months by flow during pump testing. However, quantitative flow measurement as a means of verifying these valves open has been determined to be impractical.

There is no installed flow instrumentation in the minimum flow line thus attempts at flow measurements are being made by strap on ultrasonic flow meters. Due to the minimum flow line configuration and operating conditions, there is a high amount of cavitation/turbulence in the line causing the ultrasonic flow meter to go into fault. Attempts have been made at different locations and with different size transducers, and faults still occur.

This test method requires the RHR pumps to be operated repeatedly (three to four times) at minimum flow conditions for the maximum time period (5 minutes) allowed by procedure. Running at this condition is undesirable, particularly for a test method that frequently does not yield meaningful results. NRC Information Notice 89-08 documented concerns about pump damage caused by operating at low flow conditions. When this test is performed with no flow measurements being taken, the time spent at minimum pump flow is short.

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Valve Relief Requests

NOTE V32 (cont.)

In addition, this testing must be performed in a radiation area which has caused increased exposure to personnel while multiple test attempts and transducer repositioning are accomplished. It is concluded that continued efforts with this method are not practical.

Attempts were made to distinguish the check valve opening impact on the valve bonnet using a seismic vibration probe. Meaningful results could not be obtained again due to the high background noise and vibration associated with a pump start at minimum flow.

The method of using process flow and pressure instrumentation in the main line to infer the flow in the minimum flow line was investigated. However, the small flow rate through the minimum flow line in comparison with the main line flow would not be discernable within the accuracy of the process instrumentation.

ALTERNATE TESTING: These valves will continue to be exercised open during quarterly pump testing without flow measurement.

Also, in accordance with Generic Letter 89-04 Position 2, at least once each operating cycle (normally a refuel outage) at least one (1) valve will be disassembled, inspected, and verified to be operable. The acceptance criteria as stated in the GL is provided in the maintenance procedure used for check valve disassembly. If any valve is found to be inoperable, the remaining valves will be disassembled and inspected prior to startup. The inspection schedule will be such that all four (4) valves in the group are inspected at least once every six (6) years.

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NOTE V33

This relief request has been withdrawn.

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APPENDIX C

Pump Changes

PAGE	PUMP ID(s)	CHANGE	REASON
		NONE	

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APPENDIX C

Valve Changes

PAGE(s)	VALVE ID(s)	CHANGE	REASON
61,62, 142,142a, 142b,142c	10RHR- 64A,B,C,D	Added PF-1 and DA-6 test requirements and Relief Request Note V32	Determined that valves are not full flow tested per Code requirements
78,141	20AOV-83,95	Added reference to Relief Request Note V29	Determined that valves are still fast acting