Entergy

Entergy Nuclear Northeast
Entergy Nuclear Operations, Inc.
James A. Fitzpatrick NPP
P.O. Box 110
Lycoming, NY 13093
Tel 315 342 3840

September 26, 2007
JAFP-07-0116

United States Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Subject: **James A. FitzPatrick Nuclear Power Plant**
Docket No. 50-333
License No. DPR-59
Fourth Interval Inservice Testing Program for Pumps and Valves

Dear Sir or Madam:

This letter submits the Fourth Interval Inservice Testing (IST) Program for Pumps and Valves, JAF-RPT-MULTI-03365 Revision 10, for the James A. FitzPatrick Nuclear Power Plant.

There are no new commitments contained in this letter.

Questions concerning this submittal may be addressed to Mr. Jim Costedio at (315) 349-6358.

Very truly yours,

Jim Costedio
Licensing Manager

JC:ed
Enclosure

A047
NRR

cc: Mr. Samuel Collins
Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406-1415

Mr. John Boska
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Mail Stop O-8-C2
Washington D.C. 20555

Resident Inspector's Office
U.S. Nuclear Regulatory Commission
James A. FitzPatrick Nuclear Power Plant
P.O. Box 136
Lycoming, New York 13093

Entergy

ENTERGY NUCLEAR

Engineering Report Cover Sheet

Engineering Report Title:

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

INSERVICE TESTING PROGRAM FOR PUMPS AND VALVES

FOURTH TEN YEAR INTERVAL

Engineering Report Type:

New ☐ Revision ☒ Cancelled ☐ Superseded ☐

Applicable Site(s)

IP1 ☐ IP2 ☐ IP3 ☐ JAF ☒ PNPS ☐ VY ☐ WPO ☐
ANO1 ☐ ANO2 ☐ ECH ☐ GGNS ☐ RBS ☐ WF3 ☐

EC No. ☒**N/A;** ☐**3053**

Report Origin: ☒ Entergy ☐ Vendor
Vendor Document No.: _____

Quality-Related: ☒ Yes ☐ No

Prepared by: John M. Scranton / _____ Date: 9/24/07
Responsible Engineer (Print Name/Sign)

Design Verified/ N/A Date:
Design Verifier (if required) (Print Name/Sign)

Reviewed by: William C. Pelzer / _____ Date: 9/24/07
Reviewer (Print Name/Sign)

Reviewed by*: N/A Date: _____
ANII (if required) (Print Name/Sign)

Approved by: Daniel Vandermark / Daniel Vandermark Date: 9/24/07
Supervisor (Print Name/Sign)

INSERVICE TESTING PROGRAM PLAN

For The 4th Ten Year Interval
Effective October 1, 2007

James A. FitzPatrick Nuclear Power Plant

Commercial Service Date: October 17, 1974

Facility Name:
James A. FitzPatrick NPP
P.O. Box 110
Lycoming, NY 13093

Owner:
Entergy Nuclear Operations, Inc.
P.O. Box 110
Lycoming, NY 13093

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 General

This document outlines Fourth Ten–Year Interval Program Plan for In-service Testing (IST) of Pumps and Valves at the James A. FitzPatrick (JAF) Nuclear Power Plant. This Program Plan was prepared in accordance with the rules of the ASME Code for Operation and Maintenance of Nuclear Power Plants, ASME OM Code-2001, through the ASME OMb Code-2003 Addenda (OM-2001 through Omb-2003 – "The Code").

1.2 Commercial Operation Date and IST Intervals

The James A. FitzPatrick (JAF) Nuclear Power Plant began commercial operation on October 17, 1974, and the First Ten–Year ISI/IST Interval began on that date. The Third Interval start date was extended from October, 1996 to October, 1997 (JPN-94-037, JPN-96-019, and JPN-97-015). This extension used the allowable 12 months total extension of intervals permitted by the Code.

The Third-Interval IST Program was applicable for the interval from October 1, 1997 through September 30, 2007. Therefore, the 4th 10-Year IST Interval is applicable from October 1, 2007 through September 30, 2017.

1.3 Applicable Codes

The Fourth 10-Year Interval Program Plan complies with the OM-2001 Edition through the OMb-2003 Addenda, which was incorporated by reference into 10CFR50.55a via Federal Register/Vol 69, No. 190 on October 1, 2004. The Third 10–Year Interval IST Program Plan complied with ASME Section XI, 1989 Edition.

2.0 REGULATORY BASIS AND SCOPE

2.1 10CFR50

The fundamental requirement for the testing of pumps and valves comes from 10CFR50.55a(f), which requires, in part, that:

"Throughout the service life of a boiling or pressurized water cooled nuclear power facility, pumps and valves which are classified as ASME Code Class 1, Class 2, and Class 3 must meet the inservice test requirements...set forth in Section XI of Editions of the ASME Boiler and Pressure Vessel Code and Addenda that...are incorporated by reference in paragraph (b) of this section..."

Pump and valve inservice testing is also required by 10CFR50 Appendix A, "General Design Criteria For Nuclear Power Plants," GDC 1; and 10CFR50, Appendix B, "Quality Assurance Criteria For Nuclear Power Plants And Fuel Reprocessing Plants," Criterion XI.

Appendix A GDC 1 states in part,

"Structures, systems, and components important to safety shall be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions to be performed."

Appendix B Criterion XI, "Test Control," states in part,

"A test program shall be established to assure that all testing required to demonstrate that structures, system, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents. The test program shall include, as appropriate ...operational tests during nuclear power plant operation of structures, system, and components. Test procedures shall include provisions for assuring that all prerequisites for the given test have been met, that adequate test instrumentation is available and used, and that the test is performed under suitable environmental conditions."

2.2 ASME Boiler and Pressure Vessel Code

The specific regulatory basis for the IST program is 10CFR50.55a(f), "In service Testing Requirements." This section of 10CFR50 requires the following:

The testing performed during the second (and successive) 120–month interval must comply with the requirements of the Code Edition incorporated by 10CFR50.55a(b) 12 months prior to the start of the interval.

For FitzPatrick, the Fourth 120–month interval began on October 1, 2007. Therefore, the Code Edition of interest is the one endorsed by NRC in 10CFR50.55a via Federal Register/Vol 69, No. 190 on October 1, 2004. The Code Edition in effect on October 1, 2006 was the OM 2001 Edition through OMb 2003.

2.3 OM 2001 and OMb 2003 Addenda

The organization of the new Code is significantly different than the Code used for the Third Interval IST Program Plan. This Program Plan is written to conform generally to the outline structure of the new Code. The new Code contains the following major sections:

- ISTA: General Requirements
- ISTB: In service Testing of Pumps
- ISTC: In service Testing of Valves
- Appendix I: In service Testing of Pressure Relief Devices

3.0 APPLICABLE DOCUMENTS

This IST Program was developed in accordance with 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

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

- 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"
- NUREG-1482 Revision 1, "Guidelines for Inservice Testing at Nuclear Power Plants"

4.0 SYSTEM CLASSIFICATION

In the NRC Safety Evaluation dated May 2, 1991 for the J.A. FitzPatrick Section XI pressure test program, the NRC evaluated the deletion of certain Class II-augmented air/nitrogen systems from the inservice inspection program. These systems included the Drywell Inerting, CAD, and Purge system, the Containment Differential Pressurization system, the Breathing, Instrument, and Service Air system, the Containment Hydrogen Monitoring system, and the Standby Gas Treatment system. The NRC's evaluation found, based on a review of the regulations, the ASME Code, and regulatory guides, that there is no basis for requiring inservice inspection of these particular systems.

Although this finding related only to the hydrostatic testing of these systems, the basis for classification of these systems would also be applicable to the IST program. Therefore, in accordance with NUREG-1482, components in these systems are not required to be in the IST program. They may be included in the IST program and designated as non-Code or augmented components (see section 8.0 Augmented Testing). Relief requests for non-Code components may be implemented without NRC evaluation and approval.

Containment isolation valves in the systems listed above have been included as Category A valves in the IST program. Other safety-related components in those systems have also been included in the IST Program and identified as augmented components. In addition to the systems listed above, portions of the Main Steam Leakage Control System contain valves that are not within the scope of 10 CFR 50.55a. These valves have also been classified as augmented in the J.A. FitzPatrick IST Program.

4.1 IST Technical Position Papers

Certain systems and components have been evaluated for inclusion in the IST Program based on the above and other industry guidance. IST Program Technical Position Papers have been prepared to document this evaluation to ensure a thorough thought process was applied and documented. The following Position Papers are references to the JAF IST Program:

IST-02-01	RHRSW MOV Testing (10MOV-89A/B, 148A/B, 149A/B)
IST-02-02	Reactor Core Isolation Cooling System Testing
IST-02-03	Emergency Diesel Generator System Testing

5.0 INSERVICE TESTING PROGRAM FOR PUMPS

5.1 Code Compliance

This IST Program is based on the requirements of ASME OM Code-2001, through the ASME OMb Code-2003 Addenda. Where these requirements have been determined to be impractical, conformance would cause unreasonable hardship without any compensating increase in safety, or an alternative test provides an acceptable level of quality and safety, relief from Code requirements is requested pursuant to the requirements of 10 CFR 50. 55a (f)(6)(i).

5.2 Allowable Ranges of Test Quantities

The allowable ranges for test parameters as specified in ASME OM Code-2001, through the ASME OMb Code-2003 Addenda will be used for all measurements of pressure, flow, and vibration except as provided for in specific relief requests.

5.3 Testing Intervals

The test frequency for pumps included in the IST Program will be as set forth in ASME OM Code-2001, through the ASME OMb Code-2003 Addenda. A band of ± 25 percent of the test interval may be applied to a test schedule as allowed by the J.A. FitzPatrick Technical Specifications to provide for operational flexibility.

5.4 Pump Program Table

Appendix A lists those pumps included in the IST Program with references to parameters to be measured and applicable requests for relief.

5.5 Relief Requests for Pump Testing

Appendix A includes relief requests related to pump testing.

6.0 INSERVICE TESTING PROGRAM FOR VALVES

6.1 Code Compliance

This IST Program is based on the requirements of ASME OM Code-2001, through the ASME OMb Code-2003 Addenda. Where these requirements have been determined to be impractical, conformance would cause unreasonable hardship without any compensating increase in safety, or an alternative test provides an acceptable level of quality and safety, relief from Code requirements is requested pursuant to the requirements of 10 CFR 50. 55a (f)(6)(i).

6.2 Testing Intervals

The test frequency for valves included in the IST Program will be as set forth in ASME OM Code-2001, through the ASME OMb Code-2003 Addenda. A band of ± 25 percent of the test interval may be applied to a test schedule as allowed by the J.A. FitzPatrick Technical Specifications to provide for operational flexibility. Where quarterly testing of valves is impractical, testing may be performed during cold shutdown or refueling outage periods as permitted by ASME OM Code-2001, through the ASME OMb Code-2003 Addenda.

6.3 Stroke Time Acceptance Criteria

The acceptance criteria for the stroke times of power-actuated valves will be as set forth in ASME OM Code-2001, through the ASME OMb Code-2003 Addenda.

6.4 Check Valve Testing

Full-stroke exercising of check valves to the open position using system flow requires that the maximum required accident condition flow be used and measured. Deviations from this requirement must satisfy the requirements of NUREG-1482 revision 1.

6.4.1 Non-intrusive Check Valve Testing and Condition Monitoring

The use of non-intrusive check valve testing methods, such as Acoustics, Ultrasonics and Eddy Current are employed at JAF. These check valve testing methodologies will be utilized to supplement existing forward and reverse flow check valve testing and enhance the ability to monitor and predict check valve performance.

6.5 Containment Isolation Valves

Containment isolation valves that do not provide a reactor coolant system pressure isolation function are tested in accordance with ASME OM Code-2001, through the ASME OMb Code-2003 Addenda. In addition, as required by 10 CFR 50.55a(b)(2)(vii), containment isolation valves are analyzed in accordance with ASME OM Code-2001, through the ASME OMb Code-2003 Addenda and corrective action is applied in accordance with ASME

OM Code-2001, through the ASME OMb Code-2003 Addenda.

6.6 Valve Program Table

Appendix B lists those valves included in the IST Program with references to required testing, respective test intervals, applicable requests for relief and cold shutdown and refueling outage justifications.

6.7 Relief Requests for Valve Testing

Appendix B includes relief requests, cold shutdown justifications, and refueling outage justifications related to valve testing.

7.0 SYSTEMS SUBJECT TO TESTING

SYSTEM #	SYSTEM NAME	DRAWING #
01-125	Standby Gas Treatment	FM-48A
02	Automatic Depressurization	FM-29A
02-2	Reactor Water Recirculation	FM-26A
02-3	Nuclear Boiler Instrumentation	FM-47A
03	Control Rod Drive	FM-27B
07	Neutron Tip Monitors	FM-119A
10	Residual Heat Removal	FM-20A,B
11	Standby Liquid Control	FM-21A
12	Reactor Water Cleanup	FM-24A
13	Reactor Core Isolation Cooling	FM-22A
14	Core Spray	FM-23A
15	Reactor Building Closed Loop Cooling	FM-15A,B
16-1	Leak Rate Analyzer	FM-49A
20	Radioactive Waste	FM-17A
23	High Pressure Cooling Injection	FM-25A
27	Containment Atmosphere Dilution	FM-18A,B,D
29	Main Steam	FM-29A

SYSTEM #	SYSTEM NAME	DRAWING #
34	Feedwater	FM-34A
39	Breathing, Instrument & Service Air	FM-39A
46	Service & Emergency Service Water	FM-46A,B
66	Reactor Building Service Ventilation (Service Water)	FB-10H
70	Control Room Service & Chilled Water	FB-35E

8.0 AUGMENTED TESTING

Pumps and valves that are not within the designated James A. Fitzpatrick Code Class 1, 2, or 3 boundaries are not under the jurisdiction of ASME OM Code-2001, through the ASME OMb Code-2003 Addenda and are considered augmented components. Additionally, there may be components within the Code Class 1, 2, or 3 boundaries with safety functions outside the licensing basis of the plant. These components may have safety functions that are classified as augmented. Such components or safety functions are considered augmented in the IST program plan and associated testing may not necessarily meet all requirements established in ASME OM Code-2001, through the ASME OMb Code-2003 Addenda. Relief requests, cold shutdown justifications, and refueling outage justifications for augmented components are provided for information only and do not necessarily require approval.

9.0 IST PROGRAM COMPONENT BASIS DOCUMENT – JAF-RPT-MULTI-04406

The IST Program Component Basis Document provides the basis for component inclusion and exclusion. This is a living document and may be revised and/or have pending changes exclusive of the IST Program Plan. Administrative control for the Basis Document will be documented in AP-19.05.

APPENDIX A

PUMP TESTING PROGRAM

Table of Contents

APPENDIX A
PUMP TABLE EXPLANATION

Summary of Information Provided

The Pump Table provides the following information:

- System
- Individual pump identifier
- Class
- Group
- The drawing on which the pump appears
- Drawing coordinates
- Speed[1], if variable
- Differential pressure[1]
- Discharge pressure[1] (positive displacement pumps)
- Flow rate[1]
- Vibration[1]
- Test interval
- Relief Request
- Test Procedure

(1) These parameters are each addressed with either an "X" indicating the parameter is measured, an "X" with a PRR notation indicates relief is requested to modify or eliminate measurement of the parameter. A blank indicates that measurement of the respective parameter is not applicable.

Pump Relief Requests

PRR-XX refers to relief requests for the Pump Testing Program. Each pump request for relief provides the following information:

* System

* Individual pump identifier

* Code Classification

* Safety Function

* Code test requirement for which relief is requested

* Basis for relief

* Proposed alternate testing

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
PUMP TABLE

SYSTEM / NOMENCLATURE	PUMP ID	CLASS	GROUP	DWG No.	DWG CO-ORD	SPEED	DIFF PRESS	DISCH PRESS	FLOW RATE	VIBE	INPSECTION FREQUENCY	RELIEF REQUEST	TEST PROC
RHR Service Water	10P-1A	3	A	FM-20B	B-6		X		X	X	Quarterly	PRR-04	ST-2XA
							X		X	X	2YR Comp Pump Test	PRR-04	
RHR Service Water	10P-1B	3	A	FM-20B	B-5		X		X	X	Quarterly	PRR-04	ST-2XA
							X		X	X	2YR Comp Pump Test	PRR-04	
RHR Service Water	10P-1C	3	A	FM-20B	C-6		X		X	X	Quarterly	PRR-04	ST-2XA
							X		X	X	2YR Comp Pump Test	PRR-04	
RHR Service Water	10P-1D	3	A	FM-20B	C-5		X		X	X	Quarterly	PRR-04	ST-2XA
							X		X	X	2YR Comp Pump Test	PRR-04	
Residual Heat Removal LPCI Pump	10P-3A	2	A	FM-20A	C-7		X		X	X	Quarterly		ST-2AL
							X		X	X	2YR Comp Pump Test		
Residual Heat Removal LPCI Pump	10P-3B	2	A	FM-20A	C-4		X		X	X	Quarterly		ST-2AL
							X		X	X	2YR Comp Pump Test		
Residual Heat Removal LPCI Pump	10P-3C	2	A	FM-20A	C-7		X		X	X	Quarterly		ST-2AM
							X		X	X	2YR Comp Pump Test		
Residual Heat Removal LPCI Pump	10P-3D	2	A	FM-20A	C-4		X		X	X	Quarterly		ST-2AM
							X		X	X	2YR Comp Pump Test		
Standby Liquid Control Pump	11P-2A	2	B	FM-21A	D-4				X		Quarterly		ST-6HA
								X	X	X	2YR Comp Pump Test	PRR-01	
Standby Liquid Control Pump	11P-2B	2	B	FM-21A	B-4				X		Quarterly		ST-6HB
								X	X	X	2YR Comp Pump Test	PRR-01	
Core Spray Pump	14P-1A	2	B	FM-23A	C-8		X		X		Quarterly	PRR-02	ST-3PA
							X		X	X	2YR Comp Pump Test		
Core Spray Pump	14P-1B	2	B	FM-23A	C-3		X		X		Quarterly	PRR-02	ST-3PB
							X		X	X	2YR Comp Pump Test		
High Pressure Coolant Injecetion Booster Pump	23P-1B	2	B	FM-25A	E-5		X		X		Quarterly		ST-4N
							X		X	X	2YR Comp Pump Test		
High Pressure Coolant Injecetion Main Pump	23P-1M	2	B	FM-25A	E-4	X	X		X		Quarterly		ST-4N
						X	X		X	X	2YR Comp Pump Test		
Emergency Service Water Pump	46P-2A	3	B	FM-46B	D-8		X		X		Quarterly	PRR-03 PRR-04	ST-8Q
							X		X	X	2YR Comp Pump Test	PRR-03 PRR-04	
Emergency Service Water Pump	46P-2B	3	B	FM-46B	C-8		X		X		Quarterly	PRR-03 PRR-04	ST-8Q
							X		X	X	2YR Comp Pump Test	PRR-03 PRR-04	

APPENDIX A

Pump Relief Requests

PRR-01

System:
STANDBY LIQUID CONTROL (SLC)

ASME Code Components Affected:
11P-2A, B

Component/System Function:
These pumps inject borated water into the reactor vessel as an alternate means for negative reactivity addition and reactor shutdown.

Applicable Code Edition and Addenda:
ASME OM Code-2001 including 2003 Addenda

OM Code Category:
Group B

Applicable Code Requirement:
ISTB-3500, "Data Collection", 3510, "General", 3510(e), "Frequency Response", the frequency response range of the vibration measuring transducers and their readout system shall be from one-third minimum pump shaft rotational speed to at least 1000 Hz.

Reason for Request:
The nominal speed of the SLC pumps is 520 RPM, which correlates to a rotational frequency of 8.67 Hz. Table ISTB-3510-1, "Required Instrument Accuracy", requires the frequency response range of the vibration measuring transducers and their readout system to be accurate to +/- 5% full scale over the range of 2.89 - 1000 Hz.

FitzPatrick Nuclear Station has instruments for use during surveillance testing with certified accuracy of +/- 5% full scale over a range of 5-2000 Hz. Calibration is verified accurate using a system test methodology over a range of 10-1000 Hz in units of displacement (mils p-p) and 6.5-1000 Hz in units of velocity (ips peak). The system test verification is limited by the capability of the calibration shaker system to accurately sustain vibration at meaningful amplitudes outside the tested frequencies. The certified calibration +/- 5% range is arrived at through addition of individual transducer and meter inaccuracies over the stated frequency range.

The instrument lower frequency response limits are a result of high-pass filters installed to eliminate low frequency elements associated with the input signal from entering the process of single and

double integration. These filters prevent low frequency electronic noise from distorting reading in the resultant units (ips, mils). As a side effect, any actual vibration occurring at low frequencies is filtered out. This is a necessary trade-off, as 1 mv of electronic noise at 2.5 Hz translates to approximately 62.6 mils p-p with the accelerometer used with these instruments, at a nominal sensitivity of 50 mv/g.

FitzPatrick Nuclear Station has extensively researched this issue concerning Code compliance and intent, and feels that, for these pumps, procurement of equipment capable of meeting the Code required accuracy is impractical with little or no benefit. Instrumentation capable of meeting the Code for these pumps is cumbersome, difficult to operate, prone to human error, costly to purchase and expensive to calibrate. The number of vendors that supply instrumentation accurate at these frequencies is limited, and there are even fewer vendors capable of performing the required calibration services. Most standard qualified calibration laboratories provide calibration services only to a minimum of 10 Hz.

Proposed Alternative and Basis for Use:

In addition to the impracticality of procuring the instruments, FitzPatrick Nuclear Station feels that the instruments presently used are adequate to assess the condition of these pumps. The manufacturer of these pumps, Union Pump Company, Battle Creek, Michigan, has stated that these pumps, being of a simplified reciprocating design, have no failure mechanism that would be revealed at frequencies less than shaft speed. Union Pump has stated that all failure modes of this pump resulting in increasing vibration will be manifested at shaft speed frequency or harmonics thereof. In light of the information provided by Union Pump, monitoring sub-synchronous vibration for these pumps is not needed, but super-synchronous readings will provide meaningful information in the detection of imminent machinery faults.

A search of the EPIX (formerly INPO NPRDS) database has revealed only one failure reported for pumps of this or similar design whose discovery mentioned increased vibration levels. The cited cause of the failure was improper endplay set leading to gearing failure. Failures of this type would normally be detected at running (shaft) speed frequency, harmonics thereof, or non-harmonic super-synchronous bearing defect frequencies. It should also be noted that these are standby pumps that are normally operated only during pump and valve testing. In the unlikely event this system is required to fulfill its design function, only one of the two redundant pumps need operate for a period of 23 to 125 minutes.

In addition to vibration monitoring performed for the IST Program, these pumps are included in the FitzPatrick Nuclear Station Rotating Equipment Monitoring Program. Vibration spectral data is periodically collected and analyzed for the pump and gear motors in addition to those required by the Code. The equipment used by the Rotating Equipment Program is certified accurate to +/- 5% over a frequency range of 5-2000 Hz and is also limited by high-pass integrating filters, but allows for discrete frequency analysis and trending using FFTs (Fast Fourier Transforms). Vendor specifications state that this equipment should provide fairly accurate data down to 2 Hz in units of acceleration (g peak) by using the raw transducer signal, negating the need for integration. Study of low frequency spectra taken in g peak with these instruments has revealed no distinct sub-synchronous peaks above the noise floor acceleration signal.

In light of their rigorous testing and limited design run time, it is not likely that a minor mechanical fault would prevent these pumps from fulfilling their design function and unlikely that development of a major fault would go unnoticed.

Proposed Alternative Testing:

The vibration measurements will be taken using instrumentation accurate to +/- 5% full scale over a frequency response range of 6.5 Hz to 1000 Hz. The data will be evaluated in accordance with ISTB-6000, "Monitoring, Evaluation, and Analysis".

Duration of Proposed Alternative:

The proposed alternative identified in this 10CFR50.55a Request shall be utilized during the Fourth Ten Year IST Interval.

Precedents:

This 10CFR50.55a Request was previously approved for the Interval 3 IST Program in NRC SER dated November 17, 1998 (TAC No. MA0096). The circumstances and basis for the previous NRC approval have not changed.

References:

None

APPENDIX A

Pump Relief Requests

PRR-02

System:
CORE SPRAY (CSP)

ASME Code Components Affected:
14P-1A, B

Component/System Function:
Pump cooling water from the suppression pool to the reactor in the event of a LOCA.

Applicable Code Edition and Addenda:
ASME OM Code-2001 including 2003 Addenda

OM Code Category:
Group B

Applicable Code Requirement:
ISTB-3500, "Data Collection", 3510, "General", 3510(b), "Range", the full scale-range of each analog instrument shall be not greater than three times the reference value.

Reason for Request:
The differential pressure for the Core Spray pumps is calculated using the installed suction and discharge pressure gauges. The suction pressure gauge is designed to provide adequate suction pressure indication during all expected operating conditions. The full-scale range, 60 psig, is sufficient for a post-accident condition when the torus is at the maximum accident pressure. This, however, exceeds the range limit for the suction pressure under the test condition (approximately 5 psig).

The installed suction pressure gauge and discharge pressure instrumentation loop are calibrated to within +/- 2% full scale accuracy. The full-scale range of the pump discharge pressure instrumentation loop is 500 psig. Pump discharge pressure during testing is typically 300 psig. Thus the maximum variation due to inaccuracy in measured suction pressure is +/- 1.2 psi and in measured discharge pressure is +/- 10 psi. Thus, the differential pressure would be 295 +/- 11.2 psi or an inaccuracy of 3.8%. If the full scale range of the suction pressure gauge was within the Code allowable of 3 times the reference value or 15 psig, the resulting differential pressure measurement would be 295 +/- 10.3 psi or an inaccuracy of 3.5%.

Proposed Alternative and Basis for Use:
The increase in inaccuracy of 0.3% is insignificant and does not warrant the additional manpower and exposure required to change the suction pressure gauge for test purposes.

In addition, the Code would allow a full-scale range for the discharge pressure measurement of 900 psig. This would translate into a differential pressure measurement of 295 +/- 18.3 psig or an inaccuracy of 6.2%. The existing measurement is significantly better than the maximum Code allowable inaccuracy.

Proposed Alternative Testing:
The existing installed plant suction pressure gauges will be used to determine the pump differential pressure for testing of the Core Spray pumps.

Duration of Proposed Alternative:
The proposed alternative identified in this 10CFR50.55a Request shall be utilized during the Fourth Ten Year IST Interval.

Precedents:
This 10CFR50.55a Request was previously approved for the Interval 3 IST Program in NRC SER dated November 17, 1998 (TAC No. MA0096). The circumstances and basis for the previous NRC approval have not changed.

References:
None

APPENDIX A

Pump Relief Requests

PRR-03

System:
EMERGENCY SERVICE WATER (ESW)

ASME Code Components Affected:
46P-2A, B

Component/System Function:
These pumps provide cooling water for safety-related heat loads during a loss-of-coolant design basis accident.

Applicable Code Edition and Addenda:
ASME OM Code-2001 including 2003 Addenda

OM Code Category:
Group B

Applicable Code Requirement:
ISTA-3130, "Application of Codes Cases", ISTA-3130(b) states, "Code Cases shall be applicable to the edition and addenda specified in the test plan."

ISTB-5222(b), "The differential pressure or flow rate shall then be determined and compared to its reference value."

ISTB-5222(c), "System resistance may be varied as necessary to achieve the reference point."

ISTB- 5223(b), "The resistance of the system shall be varied until the flow rate equals the reference point."

Reason for Request:
Emergency Service Water (ESW) systems are designed such that the total pump flow cannot be adjusted to one finite value for the purpose of testing without adversely affecting the system flow balance and Technical Specification operability requirements. These pumps must be tested in a manner that the service water loop remains properly flow balanced during and after the testing and each supplied load remains fully operable per Technical Specifications to maintain the required level of plant safety during plant operation.

The ESW water system loops are not designed with a full flow test line with a single throttle valve. The flow therefore cannot be throttled to a fixed reference value every time. Total pump flow rate can only be measured using the total system flow indication installed on the common supply header. Only the flows of the serviced components can be individually throttled. Each load is throttled to a FSAR required flow range which must be satisfied for the load to be operable. All loads are aligned in parallel, and all receive ESW flow when the associated ESW pump is running, regardless whether the served component is in service or not.

During power operation, all loops of ESW are required to be operable per the Technical Specifications. A loop of ESW cannot be taken out of service for testing without entering a Limiting Condition for Operation (LCO) Action Statement. With each loop of ESW balanced a requirement to quarterly adjust ESW loop flow to one specific flow value for inservice testing conflicts with system design and operability requirements(i.e. flow balance) as required by Technical Specifications.

It is extremely difficult or impossible to return to a specific flow rate or differential pressure for testing these pumps. Multiple reference points could be established according to the Code, but it would be impossible to obtain reference values at every possible point. An alternative to the testing requirements of ISTB is to base the acceptance criteria on a reference curve.

ISTA-3130, "Application of Codes Cases", ISTA-3130(b) states, Code Cases shall be applicable to the edition and addenda specified in the test plan.

NUREG-1482, Revision 1, Section 5.2 states "ASME introduced Code Case OMN-9, "Use of Pump Curves for Testing"" which the NRC staff subsequently included in RG 1.192. NUREG 1482, Section 4.2.5 further states; "The use of OMN-9 requires relief because OMN-9 is only applicable to the ASME OM Code 1990 through ASME OMb Code 1992. Licensees with a Code of record that is not applicable to the acceptance of this Code Case may submit a request for relief to apply the Code Case consistent with the indicated conditions to provide an acceptable level of quality and safety. The Code of record for FitzPatrick Nuclear Station's Fourth 10-Year IST Interval is ASME OM Code-2001 Edition w/2003 Addenda. Code Case OMN-9, as stated in RG 1.192, is applicable to the ASME OM Code 1990 Edition through OMb Code 1992 Addenda.

Proposed Alternative and Basis for Use:

Flow rate and Total Developed Pump Head (in accordance with NUREG-1482 section 5.5.3) will be measured during inservice testing in the as-found condition and compared to an established reference curve developed in accordance with Code Case OMN-9 and the additional conditions as prescribed in RG 1.192

FitzPatrick Nuclear Station requests approval to use the guidelines set forth in Code Case OMN-9 , "Use of a Pump Curve for Testing," including the associated conditions prescribed in RG 1.192, Operation and Maintenance Code Case Acceptability, ASME OM Code, in lieu of the ASME OM Code paragraphs ISTB-5222 and ISTB-5223 requirements for ESW pumps 46P-2A and 46P-2B

Code Case OMN-9 should be considered acceptable for use with OM Code-2001 Edition w/2003

Addenda as the Code of record. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), FitzPatrick Nuclear Station requests relief from the specific ISTB Code requirements identified in this relief request

Proposed Alternative Testing

Flow rate and Total Developed Pump Head will be measured during inservice testing in the as-found condition and compared to an established reference curve developed in accordance with Code Case OMN-9 and the additional conditions as prescribed in RG 1.192.

Duration of Proposed Alternative:

The proposed alternative identified in this 10CFR50.55a Request shall be utilized during the Fourth Ten Year IST Interval.

Precedents:

This 10CFR50.55a Request was previously approved for the Interval 3 IST Program in NRC SER dated November 17, 1998 (TAC No. MA0096). The circumstances and basis for the previous NRC approval have not changed.

References:

Code Case OMN-9 , "Use of a Pump Curve for Testing"

Regulatory Guide 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code", Table 1, "Acceptable OM Code Cases"

OM Code-2001 w/ 2003 Addenda, Paragraph ISTA-3130, "Application of Code Cases"

APPENDIX A

Pump Relief Requests

PRR-04

System:

RHR Service Water (System 010)

Emergency Service Water (System 046)

ASME Code Components Affected:

Smooth Running Pumps in the IST Program
10P-1A
10P-1B
10P-1C
10P-1D
46P-2A
46P-2B

Component/System Function:

Provide cooling water to RHR Heat Exchangers during a design basis event
Provide cooling water to Emergency Diesel Generators and Essential Cooling Water loads

Applicable Code Edition and Addenda:

ASME OM Code-2001 including 2003 Addenda

OM Code Category:

Group A and Group B

Applicable Code Requirement:

ISTB-3300, "Reference Values", ISTB-3300(a), states; Initial reference values shall be determined from the results of testing meeting the requirements of ISTB-3100, "Preservice Testing", or from the results of the first inservice test.

ISTB-3100(d), states; Reference values shall be established at a point(s) of operation (reference point) readily duplicated during subsequent tests.

ISTB-3300(f), states; All subsequent test results shall be compared to these initial reference values or to new reference values established in accordance with ISTB-3310, ISTB-3320, or ISTB-6200(c).

ISTB-5120, "Inservice Testing", ISTB-5121, "Group A Test Procedure", ISTB-5121(e) and ISTB-5123(e), "Group A Test and Comprehensive Test Procedure", states; All deviations from the reference values shall be compared with the ranges of Table ISTB-5121-1 and corrective action taken as specified in ISTB-6200. Vibration measurements shall be compared to both the relative and absolute criteria shown in the alert and required action ranges of Table-ISTB-5121-1. For example, if vibration exceeds either 6Vr, or 0.7 in./sec, the pump is in the required action range.

ISTB-5220, "Inservice Testing", ISTB-5221, "Group A Test Procedure", ISTB-5221(e) and ISTB-5223(e), "Group A Test and Comprehensive Test Procedure", states; All deviations from the reference values shall be compared with the ranges of Table ISTB-5221-1 and corrective action taken as specified in ISTB-6200. Vibration measurements shall be compared to both the relative and absolute criteria shown in the alert and required action ranges of Table-ISTB-5221-1. For example, if vibration exceeds either 6Vr, or 0.7 in./sec, the pump is in the required action range.

ISTB-5320, "Inservice Testing", ISTB-5321, "Group A Test Procedure", ISTB-5321(e) and ISTB-5323(e), "Group A Test and Comprehensive Test Procedure", states; All deviations from the reference values shall be compared with the ranges of Table ISTB-5321-1 or 5321-2, as applicable and corrective action taken as specified in ISTB-6200. Vibration measurements shall be compared to both the relative and absolute criteria shown in the alert and required action ranges of Table-ISTB-5321-1 or 5321-2 as applicable. For example, if vibration exceeds either 6Vr, or 0.7 in./sec, the pump is in the required action range.

Reason for Request:

The smooth running pumps in the FitzPatrick Nuclear Station IST Program have at least one vibration reference value (Vr) that is currently less than 0.05 in/sec. A small value for Vr produces a small acceptable range for pump operation. The OM Code Acceptable Range limit for pump vibrations from Table ISTB-5121-1, Table ISTB-5221-1, Table ISTB-5321-1 and Table ISTB-5321-2 for both the Group A test and Comprehensive test is <=2.5 Vr. Based on a small acceptable range, a smooth running pump could be subject to unnecessary corrective action if it exceeds this limit.

ISTB-6200(a), "Corrective Action – Alert Range", states; If the measured test parameter values fall within the alert range of Table ISTB-5121-1, Table ISTB-5221-1, Table ISTB-5321-1 or Table ISTB-5321-2, as applicable, the frequency of testing specified in ISTB-3400 shall be doubled until the cause of the deviation is determined and the condition is corrected.

For very small reference values for vibrations, flow variations, hydraulic noise and instrument error can be a significant portion of the reading and affect the repeatability of subsequent measurements. Also, experience gathered by the FitzPatrick Nuclear Station Predictive Maintenance (PdM) Group has shown that changes in vibration levels in the range of 0.05 in/sec do not normally indicate significant degradation in pump performance.

In order to avoid unnecessary corrective actions, a minimum value for Vr of 0.05 in/sec is proposed. This minimum value would be applied to individual vibration locations for those pumps with reference vibration values less than 0.05 in/sec.

Therefore, the smallest OM Code Acceptable Range limit for any IST pump vibration location would be no lower than 2.5 times Vr, or 0.125 in/sec, which is within the "fair" range of the "General Machinery Vibration Severity Chart" provided by IRD Mechanalysis, Inc. Likewise, the smallest OM Code Alert Range limit for any IST Pump vibration location for which the pump would be inoperable would be no lower than 6 times Vr, or 0.300 in/sec.

For comparison purposes, ASME XI, Table IWP-3100-2, "Allowable Ranges of Test Quantities", specifies a vibration Acceptable Range limit of 1.0 mil for a displacement reference value <=0.5 mils. In velocity units, a displacement reference value of 0.5 mils is equivalent to 0.047 in/sec for an 1800 rpm pump and 0.094 in/sec for a 3600 rpm pump.The effective minimum reference value proposed (0.05 in/sec) for smooth-running pumps is roughly equal to the ASME XI IWP reference value for an 1800 rpm pump and more conservative than the reference value for a 3600 rpm pump.

Without this relief, the Acceptable Range limit for some extremely smooth running pumps is reduced by as much as a factor of 10.

In addition to the requirements of ISTB for IST, the pumps in the FitzPatrick Nuclear Station IST Program are also included in the FitzPatrick Nuclear Station PdM Program. The FitzPatrick Nuclear Station PdM Program currently employs predictive monitoring techniques such as: vibration monitoring and analysis beyond that required by ISTB, bearing temperature trending, oil sampling and analysis, and/or thermography analysis as applicable.

If the measured parameters are outside the normal operating range or are determined by analysis to be trending toward an unacceptable degraded state, appropriate actions are taken that may include: a Condition Report (CR) initiated, increased monitoring to establish a rate of change, review of component specific information to identify cause, and removal of the pump from service to perform maintenance.

It should be noted that the pumps in the IST Program will remain in the FitzPatrick Nuclear Station PdM Program even if certain pumps have very low vibration readings and are considered to be smooth running pumps.

Proposed Alternative and Basis for Use:

In lieu of applying the vibration acceptance criteria ranges specified in Table ISTB-5121-1, Table ISTB-5221-1, Table ISTB-5321-1 or Table ISTB-5321-2, as applicable, smooth running pumps with a measured reference value below 0.05 in/sec for a particular vibration measure location will have subsequent test results for that location compared to an Acceptable Range limit of 0.125 in/sec and an Alert Range limit of 0.300 in/sec (based on a minimum reference value 0.05 in/sec). These proposed ranges shall be applied to vibration test results during both Group A tests and Comprehensive tests.

In addition to the Code requirements, pumps in the FitzPatrick Nuclear Station IST Program are included in and will remain in the FitzPatrick Nuclear Station PdM Program regardless of their smooth running status.

Using the provisions of this 10CFR50.55a Request as an alternative to the specific requirements of ISTB identified above will provide adequate indication of pump performance and continue to provide an acceptable level of quality and safety without unnecessarily imposing corrective action since changes in vibration levels in the range of 0.05 in/sec do not normally indicate significant degradation in pump performance.

Proposed Alternative Testing:

Smooth running pumps with a measured reference value below 0.05 in/sec for a particular vibration measure location will have subsequent test results for that location compared to an Acceptable Range limit of 0.125 in/sec and an Alert Range limit of 0.300 in/sec (based on a minimum reference value 0.05 in/sec). These proposed ranges shall be applied to vibration test results during both Group A tests and Comprehensive tests.

Using the provisions of this relief request as an alternative to the vibration acceptance criteria ranges specified in Table ISTB-5121-1, Table ISTB-5221-1, Table ISTB-5321-1 or Table ISTB-5321-2 provides an acceptable level of quality and safety since the alternative provides reasonable assurance of pump operational readiness and the ability to detect pump degradation. Therefore, pursuant to 10 CFR 50.55a(f)(6)(i), FitzPatrick requests relief from the specific ISTB Code requirements identified in this 10CFR50.55a Request.

Duration of Proposed Alternative:

The proposed alternative identified in this 10CFR50.55a Request shall be utilized during the Fourth Ten Year IST Interval.

Precedents:

None at FitzPatrick Nuclear Station.

For similar relief, refer to Beaver Valley Power Station, Unit 2, Docket No.50-412, SER Date December 27, 2004, Evaluation of Inservice Testing Pump Relief Request PRR-8, (TAC No. MC3241)

For an additional similar relief request, refer to Diablo Canyon Power Plant, Unit Nos. 1 and 2 - Approval of Relief Requests P-RR1, P-RR2, and P-RR3 for the Third 10-year Pump and Valve Inservice Testing Program Interval (TAC Nos. MC6632 AND MC6633) SER Dated January 30, 2006.

References:

NUREG-1482, Rev.1, Section 5.4, "Monitoring Pump Vibration in Accordance with ISTB"

General Machinery Vibration Severity Chart provided by IRD Mechanalysis, Inc.

Beaver Valley Power Station, Unit 2, Docket No.50-412, SER Date December 27, 2004, Evaluation of Inservice Testing Pump Relief Request PRR-8, (TAC No. MC3241

Diablo Canyon Power Plant, Unit Nos. 1 and 2 - Approval of Relief Requests P-RR1, P-RR2, and P-RR3 for the Third 10-year Pump and Valve Inservice Testing Program Interval (TAC Nos. MC6632 AND MC6633) SER Dated January 30, 2006.

APPENDIX B

VALVE TESTING PROGRAM

APPENDIX B

VALVE TESTING PROGRAM

Table of Contents

APPENDIX B

VALVE TESTING PROGRAM

Table of Contents

APPENDIX B

VALVE TABLE EXPLANATION

Summary of Information Provided

The Valve Table is sorted by system number, then drawing number, and provides the following information:

- Individual valve identifier
- Drawing coordinates
- Code Class
- IST Category
- Nominal size
- Valve type
- Actuator type
- Test required
- Relief request (RR)/cold shutdown (CS) justification/ refueling outage (RO) justification
- Alternate test
- Test Procedure
- Remarks

APPENDIX B

Cold Shutdown Justification

CSJ-XX refer to cold shutdown justifications which provide the justification for testing affected components at cold shutdown instead of every three months. The Cold Shutdown Justifications provide the following information:

* System
* Individual valve identifier
* Valve category
* Safety function
* Justification

Refueling Outage Justification

ROJ-XX refer to refueling outage justifications which provide the justification for testing affected components at refueling outages instead of every three months or at cold shutdown. The Refueling Outage Justifications provide the following information:

* System
* Individual valve identifier
* Valve category
* Safety function
* Justification

APPENDIX B

Valve Relief Requests

VRR-XX refer to relief requests for the Valve Testing Program. Each valve request for relief provides the following information:

* System
* Individual valve identifier
* Valve category
* Code Classification
* Safety Function
* Code test requirement for which relief is requested
* Basis for relief
* Proposed alternate testing

APPENDIX B

Valve Symbols

Valve Types

3W	Three-way valve
AN	Angle valve
BF	Butterfly valve
BK	Ball check
BL	Ball valve
CK	Swing check
GA	Gate valve
GL	Globe valve
LK	Lift check
NK	Non-return valve
PG	Plug valve
RD	Rupture disk
RV	Relief valve
SC	Stop check
SK	Spring check
TK	Testable check
WK	Wafer check
XP	Explosive valve

Valve Actuator Types

AO	Air operator
EH	Electro-hydraulic
HO	Hydraulic operator
MA	Manual operator
MO	Motor operator
PA	Pilot actuated
SA	Self actuated
SO	Solenoid operator
SP	Spring operator
SQ	Squib actuator

APPENDIX B

Test Method

Test Requirement

PIT	Valve position indication
ETO	Exercise test to open position
ETC	Exercise test to closed position
PEO	Partial exercise to open position
PEC	Partial exercise to closed position
STO	Full stroke time measured to open position
STC	Full stroke time measured to close position
FSO	Fail safe test to the open position
FSC	Fail safe test to the closed position
LKJ	Leak test per 10 CFR 50 Appendix J
LKO	Leak test for other than containment isolation valve
RLF	Relief valve test
VBT	Vacuum breaker operability test
FFT	Check valve forward flow verification test
RFC	Check valve reverse flow closure test
PFT	Check valve partial flow test
MME	Check valve exercise using manual mechanical exerciser
DIS	Check valve disassembly and inspection
XPT	Explosively actuated valve test
RDT	Rupture disk test
XVD	Explosive valve internal inspection
NIT	Non Intrusive Check Valve Test

Test Frequency

-1	Quarterly	-6	10 CFR 50 Appendix J
-2	Cold Shutdown	-7	Appendix I Section I-1320
-3	Refueling	-8	Appendix I Section I-1350
-4	1 year	-9	ISTC-5260
-5	2 years	-10	Appendix I Section I-1360
		-11	Tech Spec Requirement

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Standby Gas Treatment DRAWING: FM-48A

VALVE ID / NAME	DWG CO-ORD	CODE CLASS ACT / PASS.	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY POSITION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
01-125MOV-100A	C-6	2A ACTIVE	B	4.00	BF	MO	O/C	STO-1 STC-1 PIT-5				ST-7E ST-7E ST-41D	AUGMENTED
01-125MOV-100B	F-6	2A	B	4.00	BF	MO	O/C	STO-1 STC-1 PIT-5				ST-7F ST-7F ST-41D	AUGMENTED
01-125MOV-11	G-8	2A	B	24.00	BF	MO	O	STO-1 PIT-5				ST-7E ST-41D	AUGMENTED
01-125MOV-12	F-8	2A	B	24.00	BF	MO	O	STO-1 PIT-5				ST-7F ST-41D	AUGMENTED
01-125MOV-14A	D-6	2A	B	24.00	BF	MO	O/C	STO-1 STC-1 PIT-5				ST-7E ST-7E ST-41D	AUGMENTED
01-125MOV-14B	E-6	2A	B	24.00	BF	MO	O/C	STO-1 STC-1 PIT-5				ST-7F ST-7F ST-41D	AUGMENTED
01-125MOV-15A	D-3	2A	B	24.00	BF	MO	O	STO-1 PIT-5				ST-7E ST-41D	AUGMENTED
01-125MOV-15B	F-3	2A	B	24.00	BF	MO	O	STO-1 PIT-5				ST-7F ST-41D	AUGMENTED

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Automatic Depressurization System DRAWING: FM-29A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY POSITION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
02AOV-17	G-7	1	B	1.00	GL	AO	C	PIT-5				ST-41K	PASSIVE
02AOV-18	G-7	1	B	1.00	GL	AO	C	PIT-5				ST-41K	PASSIVE
02RV-1	D-7	2	C	3.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02RV-2	D-7	2	C	3.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02RV-3	D-7	2	C	3.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02RV-4	D-7	2	C	3.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02RV-5	D-7	2	C	3.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02RV-6	D-7	2	C	3.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02RV-7	D-7	2	C	3.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02RV-8	D-7	2	C	3.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02RV-9	D-7	2	C	3.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02RV-10	D-7	2	C	3.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02RV-11	D-7	2	C	3.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Automatic Depressurization System DRAWING: FM-29A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY POSITION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
02RV-71A	G-6	1	B/C	6.00	RV	SA, AO	O	STO-1			ETO-3	ST-22B	
								STC-1					
								RLF-7				MST-102.05	
02RV-71B	G-6	1	B/C	6.00	RV	SA, AO	O	STO-1			ETO-3	ST-22B	
								STC-1					
								RLF-7				MST-102.05	
02RV-71C	G-6	1	B/C	6.00	RV	SA, AO	O	STO-1			ETO-3	ST-22B	
								STC-1					
								RLF-7				MST-102.05	
02RV-71D	F-6	1	B/C	6.00	RV	SA, AO	O	STO-1			ETO-3	ST-22B	
								STC-1					
								RLF-7				MST-102.05	
02RV-71E	F-7	1	B/C	6.00	RV	SA, AO	O	STO-1			ETO-3	ST-22B	
								STC-1					
								RLF-7				MST-102.05	
02RV-71F	F-7	1	B/C	6.00	RV	SA, AO	O	STO-1			ETO-3	ST-22B	
								STC-1					
								RLF-7				MST-102.05	
02RV-71G	F-7	1	B/C	6.00	RV	SA, AO	O	STO-1			ETO-3	ST-22B	
								STC-1					
								RLF-7				MST-102.05	
02RV-71H	G-7	1	B/C	6.00	RV	SA, AO	O	STO-1			ETO-3	ST-22B	
								STC-1					
								RLF-7				MST-102.05	
02RV-71J	G-7	1	B/C	6.00	RV	SA, AO	O	STO-1			ETO-3	ST-22B	
								STC-1					
								RLF-7				MST-102.05	
02RV-71K	G-6	1	B/C	6.00	RV	SA, AO	O	STO-1			ETO-3	ST-22B	
								STC-1					
								RLF-7				MST-102.05	
02RV-71L	F-7	1	B/C	6.00	RV	SA, AO	O	STO-1			ETO-3	ST-22B	
								STC-1					
								RLF-7				MST-102.05	
02VB-1	C-7	2	C	10.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02VB-2	C-7	2	C	10.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Automatic Depressurization System DRAWING: FM-29A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY POSITION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
02VB-3	C-7	2	C	10.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02VB-4	C-7	2	C	10.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02VB-5	C-7	2	C	10.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02VB-6	C-7	2	C	10.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02VB-7	C-7	2	C	10.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02VB-8	C-7	2	C	10.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02VB-9	C-7	2	C	10.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02VB-10	C-7	2	C	10.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	
02VB-11	C-7	2	C	10.00	CK	SA	O/C	ETO-1	ROJ-04		MME-3	ST-68B	
								ETC-1			MME-3	ST-68B	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Reactor Water Recirc DRAWING: FM-26A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
02-2AOV-39	E-4	1	A	1.00	GA	AO	C	STC-1				ST-1C	
								FSC-1				ST-1C	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X41	
02-2AOV-40	E-3	1	A	1.00	GA	AO	C	STC-1				ST-1C	
								FSC-1				ST-1C	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X41	
02-2EFV-PS-128A	B-6	1	A/C	1.00	BK	SA	C	ETC-1	ROJ-01	VRR-03	ETC-3	ISP-1	VALVE ISOLATES ON EXCESS FLOW
								LKO-5			LKO-3	ISP-1	
02-2EFV-PS-128B	B-6	1	A/C	1.00	BK	SA	C	ETC-1	ROJ-01	VRR-03	ETC-3	ISP-1	VALVE ISOLATES ON EXCESS FLOW
								LKO-5			LKO-3	ISP-1	
02-2EFV-PT-24A	C-3	1	A/C	1.00	BK	SA	C	ETC-1	ROJ-01	VRR-03	ETC-3	ISP-1	VALVE ISOLATES ON EXCESS FLOW
								LKO-5			LKO-3	ISP-1	
02-2EFV-PT-24B	C-8	1	A/C	1.00	BK	SA	C	ETC-1	ROJ-01	VRR-03	ETC-3	ISP-1	VALVE ISOLATES ON EXCESS FLOW
								LKO-5			LKO-3	ISP-1	
02-2EFV-PT-25A	C-3	1	A/C	1.00	BK	SA	C	ETC-1	ROJ-01	VRR-03	ETC-3	ISP-1	VALVE ISOLATES ON EXCESS FLOW
								LKO-5			LKO-3	ISP-1	
02-2EFV-PT-25B	C-8	1	A/C	1.00	BK	SA	C	ETC-1	ROJ-01	VRR-03	ETC-3	ISP-1	VALVE ISOLATES ON EXCESS FLOW
								LKO-5			LKO-3	ISP-1	
02-2RWR-13A	C-3	1	A/C	0.75	SK	SA	C	RFC-1	ROJ-02		RFC-3	ST-39B-X31AC	
								LKJ-6					
								FFT-1			ISTC-3550		
02-2RWR-13B	C-8	1	A/C	0.75	SK	SA	C	RFC-1	ROJ-02		RFC-3	ST-39B-X31BC	
								LKJ-6					
								FFT-1			ISTC-3550		
02-2RWR-41A	D-3	1	A/C	0.75	SK	SA	C	RFC-1	ROJ-03		RFC-3	ST-39B-X31AC	
								LKJ-6					
								FFT-1			ISTC-3550		
02-2RWR-41B	D-8	1	A/C	0.75	SK	SA	C	RFC-1	ROJ-03		RFC-3	ST-39B-X31BC	
								LKJ-6					
								FFT-1			ISTC-3550		
02-2EFV1-DPT111A	E-3	1	A/C	1.00	BK	SA	C	ETC-1	ROJ-01	VRR-03	ETC-3	ISP-1	VALVE ISOLATES ON EXCESS FLOW
								LKO-5			LKO-3	ISP-1	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Reactor Water Recirc DRAWING: FM-26A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY POSITION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
02-2EFV1-DPT111B	E-8	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-2EFV1-FT110A	F-3	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-2EFV1-FT110C	D-3	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-2EFV1-FT110E	F-8	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-2EFV1-FT110G	D-8	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-2EFV2-DPT111A	E-3	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-2EFV2-DPT111B	E-8	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-2EFV2-FT110A	F-3	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-2EFV2-FT110C	D-3	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-2EFV2-FT110E	F-8	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
O22EFV2-FT110G	D-8	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-2MOV-53A	C-3	1	B	28.00	GA	MO	C	STC-1 PIT-5	CSJ-01		STC-2	ST-27A ST-41K	
02-2MOV-53B	C-8	1	B	28.00	GA	MO	C	STC-1 PIT-5	CSJ-01		STC-2	ST-27A ST-41K	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Nuclear Boiler Instrumentation DRAWING: FM-47A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY POSITION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
02-3EFV-11	F-7	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-13A	E-7	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-13B	E-4	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-15A	E-7	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-15B	E-4	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-15N	B-7	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-17A	D-7	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-17B	D-4	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-19A	D-7	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-19B	D-4	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-21A	H-5	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-21B	C-7	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-21C	C-4	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-21D	H-4	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-23	F-7	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Nuclear Boiler Instrumentation DRAWING: FM-47A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY POSITION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
02-3EFV-23A	H-5	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-23B	D-7	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-23C	D-4	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-23D	C-7	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-25	C-7	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-31A	H-5	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-31B	H-5	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-31C	H-5	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-31D	H-5	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-31E	D-7	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-31F	H-5	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-31G	G-5	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-31H	G-5	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-31J	H-4	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-31K	H-4	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Nuclear Boiler Instrumentation DRAWING: FM-47A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY POSITION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
02-3EFV-31L	H-4	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-31M	D-4	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-31N	H-4	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-31P	H-4	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-31R	G-4	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-31S	G-4	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
02-3EFV-33	B-4	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Control Rod Drive DRAWING: FM-27B

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY POSITION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
O3AOV-126	C-4	2	B	1.00	GL	AO	O	STO-1			ETO-3	RAP-7.4.1	SCRAM TIME TEST
								FSO-1				RAP-7.4.1	GL89-04 POSITION 7
O3AOV-127	D-4	2	B	1.00	GL	AO	O	STO-1			ETO-3	RAP-7.4.1	SCRAM TIME TEST
								FSO-1				RAP-7.4.1	GL89-04 POSITION 7
03AOV-32	H-4	2	B	1.00	GL	AO	C	STC-1				ST-20MB	
								FSC-1				ST-20MB	
								PIT-5				ST-41D	
03AOV-33	F-4	2	B	2.00	GL	AO	C	STC-1				ST-20MB	
								FSC-1				ST-20MB	
								PIT-5				ST-41D	
03AOV-34	H-4	2	B	1.00	GL	AO	C	STC-1				ST-20MB	
								FSC-1				ST-20MB	
								PIT-5				ST-41D	
03AOV-35	F-4	2	B	2.00	GL	AO	C	STC-1				ST-20MB	
								FSC-1				ST-20MB	
								PIT-5				ST-41D	
03AOV-36	H-6	2	B	1.00	GL	AO	C	STC-1				ST-20MA	
								FSC-1				ST-20MA	
								PIT-5				ST-41D	
03AOV-37	F-6	2	B	2.00	GL	AO	C	STC-1				ST-20MA	
								FSC-1				ST-20MA	
								PIT-5				ST-41D	
03AOV-38	H-6	2	B	1.00	GL	AO	C	STC-1				ST-20MA	
								FSC-1				ST-20MA	
								PIT-5				ST-41D	
03AOV-39	F-6	2	B	2.00	GL	AO	C	STC-1				ST-20MA	
								FSC-1				ST-20MA	
								PIT-5				ST-41D	
03HCU-114	D-4	2	C	0.75	BK	SA	O	FFT-1			FFT-3	RAP-7.4.1	SCRAM TIME TEST GL89-04 POSITION 7
								RFC-1					Skid Mounted
03HCU-115	C-4	2	C	0.50	BK	SA	C	RFC-1	ROJ-27		RFC-3	ST-68A	
								FFT-1			ISTC-3500		
03HCU-138	C-4	2	C	0.50	BK	SA	C	RFC-1				ST-20C	RFC VIA ROD MOTION
								FFT-1			ISTC-3500		

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Control Rod Drive DRAWING: FM-27B

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY POSITION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
O3SOV-120	C-4	2	B	0.50	GA	SO	C	STC-1			ETC-3	ST-20C	SCRAM TIME TEST
								FSC-1				ST-20C	GL89-04 POSITION 7
O3SOV-121	C-4	2	B	0.50	GA	SO	C	STC-1			ETC-3	ST-20C	SCRAM TIME TEST
								FSC-1				ST-20C	GL89-04 POSITION 7
03SOV-122	C-4	2	B	0.50	GA	SO	C	STC-1			ETC-3	ST-20C	SCRAM TIME TEST
								FSC-1				ST-20C	GL89-04 POSITION 7
03SOV-123	C-4	2	B	0.50	GA	SO	C	STC-1			ETC-3	ST-20C	SCRAM TIME TEST
								FSC-1				ST-20C	GL89-04 POSITION 7

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Traversing Incore Probe DRAWING: FM-119A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY POSITION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	REMARKS
07EV-104A	F-5	2	D	0.375	XP	SQ	C	XPT-9				ISP-7-2
07EV-104B	F-4	2	D	0.375	XP	SQ	C	XPT-9				ISP-7-2
07EV-104C	F-4	2	D	0.375	XP	SQ	C	XPT-9				ISP-7-2
07SOV-104A	F-5	2	A	0.375	BL	SO	C	STC-1		VRR-02		ST-1C
								FSC-1				ST-1C
								PIT-5				ST-41K
								LKJ-6				ST-39B-X35
07SOV-104B	F-4	2	A	0.375	BL	SO	C	STC-1		VRR-02		ST-1C
								FSC-1				ST-1C
								PIT-5				ST-41K
								LKJ-6				ST-39B-X35
07SOV-104C	F-4	2	A	0.375	BL	SO	C	STC-1		VRR-02		ST-1C
								FSC-1				ST-1C
								PIT-5				ST-41K
								LKJ-6				ST-39B-X35

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Residule Heat Removal DRAWING: FM-20A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY POSITION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
10AOV-68A	F-6	1	A/C	24.00	TK	SA, AO	O/C	FFT-1	ROJ-29		FFT-3	ST-2AG	
								RFC-1	ROJ-29		LKO-5	ST-39J	
								LKO-5				ST-39J	
10AOV-68B	F-5	1	A/C	24.00	TK	SA, AO	O/C	FFT-1	ROJ-29		FFT-3	ST-2AH	
								RFC-1	ROJ-29		LKO-5	ST-39J	
								LKO-5				ST-39J	
10MOV-13A	B-6	2	B	20.00	GA	MO	O/C	STO-1				ST-2AL	
								STC-1				ST-2AL	
								PIT-5				ST-41K	
10MOV-13B	C-4	2	B	20.00	GA	MO	O/C	STO-1				ST-2AM	
								STC-1				ST-2AM	
								PIT-5				ST-41K	
10MOV-13C	C-6	2	B	20.00	GA	MO	O/C	STO-1				ST-2AL	
								STC-1				ST-2AL	
								PIT-5				ST-41K	
10MOV-13D	C-5	2	B	20.00	GA	MO	O/C	STO-1				ST-2AM	
								STC-1				ST-2AM	
								PIT-5				ST-41K	
10MOV-15A	C-6	2	B	20.00	GA	MO	C	STC-1				ST-2AL	
								PIT-5				ST-41K	
10MOV-15B	C-4	2	B	20.00	GA	MO	C	STC-1				ST-2AM	
								PIT-5				ST-41K	
10MOV-15C	C-6	2	B	20.00	GA	MO	C	STC-1				ST-2AL	
								PIT-5				ST-41K	
10MOV-15D	C-4	2	B	20.00	GA	MO	C	STC-1				ST-2AM	
								PIT-5				ST-41K	
10MOV-16A	D-8	2	B	4.00	GA	MO	O/C	STO-1				ST-2AL	
								STC-1				ST-2AL	
								PIT-5				ST-41K	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Residule Heat Removal DRAWING: FM-20A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
10MOV-16B	D-3	2	B	4.00	GA	MO	O/C	STO-1				ST-2AM	
								STC-1				ST-2AM	
								PIT-5				ST-41K	
10MOV-17	D-5	1	A	20.00	GA	MO	C	STC-1	ROJ-28		STC-3	ST-1S	
								PIT-5				ST-41K	LKO-5 SATISFIED BY LKJ-3
								LKO-5			LKJ-3	TST-121	PER JAF-CALC-MISC-00554
								LKJ-6				ST-39B-X12	
10MOV-18	E-5	1	A	20.00	GA	MO	C	STC-1	ROJ-28		STC-3	ST-1S	JAF-SE-96-017
								PIT-5				ST-41K	
								LKO-5				ST-2AS	
10MOV-25A	F-8	1	A	24.00	GA	MO	O/C	STO-1				ST-2AL	LKO-5 SATISFIED BY LKJ-3
								STC-1				ST-2AL	PER JAF-CALC-MISC-00554
								PIT-5				ST-41K	
								LKO-5			LKJ-3	ST-2JA	
								LKJ-6				ST-39B-X13A	
10MOV-25B	F-3	1	A	24.00	GA	MO	O/C	STO-1				ST-2AM	LKO-5 SATISFIED BY LKJ-3
								STC-1				ST-2AM	PER JAF-CALC-MISC-00554
								PIT-5				ST-41K	
								LKO-5			LKJ-3	ST-2JB	
								LKJ-6				ST-39B-X13B	
10MOV-26A	G-7	2	A	10.00	GA	MO	O/C	STO-1				ST-2AL	JAF-SE-96-017
								STC-1				ST-2AL	
								PIT-5				ST-41K	
10MOV-26B	G-4	2	A	10.00	GA	MO	O/C	STO-1				ST-2AM	JAF-SE-96-017
								STC-1				ST-2AM	
								PIT-5				ST-41K	
10MOV-27A	F-8	1	A	18.00	AN	MO	O/C	STO-1				ST-2AL	JAF-SE-96-017
								STC-1				ST-2AL	
								PIT-5				ST-41K	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Residule Heat Removal DRAWING: FM-20A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
10MOV-27B	F-3	1	A	18.00	AN	MO	O/C	STO-1				ST-2AM	JAF-SE-96-017
								STC-1				ST-2AM	
								PIT-5				ST-41K	
10MOV-31A	G-6	2	A	10.00	GL	MO	O/C	STO-1				ST-2AL	
								STC-1				ST-2AL	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X39A	
10MOV-31B	G-5	2	A	10.00	GL	MO	O/C	STO-1				ST-2AM	
								STC-1				ST-2AM	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X39B	
10MOV-34A	E-7	2	B	14.00	GL	MO	O/C	STO-1				ST-2AL	
								STC-1				ST-2AL	
								PIT-5				ST-41K	
10MOV-34B	E-3	2	B	14.00	GL	MO	O/C	STO-1				ST-2AM	
								STC-1				ST-2AM	
								PIT-5				ST-41K	
10MOV-38A	E-7	2	A	4.00	GL	MO	O/C	STO-1				ST-2AL	
								STC-1				ST-2AL	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X211A	
10MOV-38B	E-4	2	A	4.00	GL	MO	O/C	STO-1				ST-2AM	
								STC-1				ST-2AM	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X211B	
10MOV-39A	E-8	2	A	16.00	GL	MO	O/C	STO-1				ST-2AL	JAF-SE-96-017
								STC-1				ST-2AL	
								PIT-5				ST-41K	
10MOV-39B	E-3	2	A	16.00	GL	MO	O/C	STO-1				ST-2AM	JAF-SE-96-017
								STC-1				ST-2AM	
								PIT-5				ST-41K	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Residule Heat Removal DRAWING: FM-20A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
10MOV-66A	D-8	2	B	20.00	GL	MO	O/C	STO-1				ST-2AL	
								STC-1				ST-2AL	
								PIT-5				ST-41K	
10MOV-66B	D-3	2	B	20.00	GL	MO	O/C	STO-1				ST-2AM	
								STC-1				ST-2AM	
								PIT-5				ST-41K	
10RHR-262	H-3	2	C	4.00	CK	SA	C	RFC-1				ST-2AD	
								FFT-1				ST-2AD	
10RHR-277	G-8	2	C	4.00	CK	SA	C	RFC-1				ST-2AD	
								FFT-1				ST-2AD	
10RHR-42A	C-8	2	C	16.00	CK	SA	O/C	FFT-1				ST-2AL	
								RFC-1				ST-2AL	
10RHR-42B	C-3	2	C	16.00	CK	SA	O/C	FFT-1				ST-2AM	
								RFC-1				ST-2AM	
10RHR-42C	C-8	2	C	16.00	CK	SA	O/C	FFT-1				ST-2AL	
								RFC-1				ST-2AL	
10RHR-42D	C-3	2	C	16.00	CK	SA	O/C	FFT-1				ST-2AM	
								RFC-1				ST-2AM	
10RHR-64A	C-8	2	C	3.00	CK	SA	O/C	FFT-1	ROJ-05		PFT-1	ST-2AL	AT LEAST ONE VALVE PER OUTAGE
								RFC-1			DIS-3	MST-059.12	WITH ALL VALVES IN GROUP
													INSPECTED AT LEAST ONCE/8 YRS.
10RHR-64B	C-3	2	C	3.00	CK	SA	O/C	FFT-1	ROJ-05		PFT-1	ST-2AM	AT LEAST ONE VALVE PER OUTAGE
								RFC-1			DIS-3	MST-059.12	WITH ALL VALVES IN GROUP
													INSPECTED AT LEAST ONCE/8 YRS.
10RHR-64C	D-8	2	C	3.00	CK	SA	O/C	FFT-1	ROJ-05		PFT-1	ST-2AL	AT LEAST ONE VALVE PER OUTAGE
								RFC-1			DIS-3	MST-059.12	WITH ALL VALVES IN GROUP
													INSPECTED AT LEAST ONCE/8 YRS.
10RHR-64D	D-3	2	C	3.00	CK	SA	O/C	FFT-1	ROJ-05		PFT-1	ST-2AM	AT LEAST ONE VALVE PER OUTAGE
								RFC-1			DIS-3	MST-059.12	WITH ALL VALVES IN GROUP
													INSPECTED AT LEAST ONCE/8 YRS.

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Residule Heat Removal DRAWING: FM-20A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
10RHR-95A	C-8	2	C	0.75	SK	SA	C	RFC-1 FFT-1	ROJ-06		RFC-3 ISTC-3550	ST-2AB	
10RHR-95B	B-5	2	C	0.75	SK	SA	C	RFC-1 FFT-1	ROJ-06		RFC-3 ISTC-3550	ST-2AB	
10RV-41A	C-7	2	C	1.00	RV	SA	O	RLF-8				MP-059.07	
10RV-41B	C-4	2	C	1.00	RV	SA	O	RLF-8				MP-059.07	
10RV-41C	C-7	2	C	1.00	RV	SA	O	RLF-8				MP-059.07	
10RV-41D	C-4	2	C	1.00	RV	SA	O	RLF-8				MP-059.07	
10SV-35A	E-8	2	C	1.00	RV	SA	O	RLF-8				MP-059.07	
10SV-35B	E-3	2	C	1.00	RV	SA	O	RLF-8				MP-059.07	
10SV-40	D-5	2	C	1.00	RV	SA	O	RLF-8				MP-059.07	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Residule Heat Removal DRAWING: FM-20B

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
10AOV-71A	F-6	2	B	3.00	GL	AO	C	PIT-5				ST-41K	PASSIVE
10AOV-71B	F-5	2	B	3.00	GL	AO	C	PIT-5				ST-41K	PASSIVE
10MOV-12A	F-6	2	B	16.00	GA	MO	O	PIT-5				ST-41K	PASSIVE
10MOV-12B	F-5	2	B	16.00	GA	MO	O	PIT-5				ST-41K	PASSIVE
10MOV-148A	E-8	3	B	16.00	GA	MO	C	PIT-5				ST-41K	PASSIVE
10MOV-148B	E-2	3	B	16.00	GA	MO	C	PIT-5				ST-41K	PASSIVE
10MOV-149A	D-8	3	B	16.00	GA	MO	C	PIT-5				ST-41K	PASSIVE
10MOV-149B	D-2	3	B	16.00	GA	MO	C	PIT-5				ST-41K	PASSIVE
10MOV-167A	F-8	2	B	1.00	GL	MO	C	PIT-5				ST-41K	PASSIVE
10MOV-167B	F-3	2	B	1.00	GL	MO	C	PIT-5				ST-41K	PASSIVE
10MOV-65A	G-6	2	B	16.00	GL	MO	O	PIT-5				ST-41K	PASSIVE
10MOV-65B	G-5	2	B	16.00	GL	MO	O	PIT-5				ST-41K	PASSIVE
10MOV-89A	D-6	3	B	16.00	GA	MO	O	STO-1 PIT-5				ST-2XA ST-41D	
10MOV-89B	E-5	3	B	16.00	GA	MO	O	STO-1 PIT-5				ST-2XB ST-41D	
10RHR-14A	B-7	3	C	12.00	CK	SA	O/C	FFT-1 RFC-1				ST-2XA ST-2XA	
10RHR-14B	B-4	3	C	12.00	CK	SA	O/C	FFT-1 RFC-1				ST-2XB ST-2XB	
10RHR-14C	C-7	3	C	12.00	CK	SA	O/C	FFT-1 RFC-1				ST-2XA ST-2XA	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Residule Heat Removal DRAWING: FM-20B

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
10RHR-14D	C-4	3	C	12.00	CK	SA	O/C	FFT-1				ST-2XB	
								RFC-1				ST-2XB	
10RV-43A	E-7	3	C	0.75	RL	SA	O	RLF-8				MP-059.07	
10RV-43B	E-4	3	C	0.75	RL	SA	O	RLF-8				MP-059.07	
10RV-46A	F-7	2	C	0.75	RL	SA	O	RLF-8				MP-059.07	
10RV-46B	F-3	2	C	0.75	RL	SA	O	RLF-8				MP-059.07	
10SOV-101A	B-6	3	B	0.75	GL	SO	O	STO-1				ST-2XA	
								FSO-1				ST-2XA	
10SOV-101B	B-5	3	B	0.75	GL	SO	O	STO-1				ST-2XB	
								FSO-1				ST-2XB	
10SOV-101C	C-6	3	B	0.75	GL	SO	O	STO-1				ST-2XA	
								FSO-1				ST-2XA	
10SOV-101D	C-5	3	B	0.75	GL	SO	O	STO-1				ST-2XB	
								FSO-1				ST-2XB	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Residule Heat Removal DRAWING: FM-18C

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
10SOV-203	E-7	2	B	0.50	GA	SO	C	PIT-5				ST-41D	PASSIVE
10SOV-204	D-7	2	B	0.50	GA	SO	C	PIT-5				ST-41D	PASSIVE

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Standby Liquid Control DRAWING: FM-21A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
11EV-14A	D-6	1	D	1.50	XP	SQ	O	XPT-9				MST-011.11	
								XVD-3				MST-011.11	
11EV-14B	B-6	1	D	1.50	XP	SQ	O	XPT-9				MST-011.11	
								XVD-3				MST-011.11	
11SLC-16	C-7	1	A/C	1.50	CK	SA	O/C	FFT-1	ROJ-07		FFT-3	ST-6M	
								RFC-1			RFC-3	ST-39B-X42	
								LKJ-6				ST-39B-X42	
11SLC-17	D-7	1	A/C	1.50	SK	SA	O/C	FFT-1	ROJ-07		FFT-3	ST-6M	
								RFC-1			RFC-3	ST-39B-X42	
								LKJ-6				ST-39B-X42	
11SLC-43A	D-6	2	C	1.50	SK	SA	O/C	FFT-1				ST-6HA	
								RFC-1				ST-6HB	
11SLC-43B	B-6	2	C	1.50	SK	SA	O/C	FFT-1				ST-6HB	
								RFC-1				ST-6HA	
11SV-39A	D-4	2	C	1.00	RV	SA	C	RLF-8				MP-059.07	
11SV-39B	C-4	2	C	1.00	RV	SA	C	RLF-8				MP-059.07	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Reactor Water Clean Up DRAWING: FM-24A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
12MOV-15	E-8	1	A	6.00	GA	MO	C	STC-1	CSJ-07			ST-26M	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X14	
12MOV-18	E-7	1	A	6.00	GA	MO	C	STC-1	CSJ-07			ST-26M	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X14	
12MOV-69	H-7	1	A	4.00	GA	MO	C	STC-1	CSJ-07			ST-26M	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X9	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Reactor Core Isolation Cooling DRAWING: FM-22A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
13EFV-01A	F-7	1	A/C	1.00	BK	SA	C	ETC-1	ROJ-01		ETC-3	ISP-1	VALVE ISOLATES ON EXCESS FLOW
								LKO-5			LKO-3	ISP-1	
13EFV-01B	F-7	1	A/C	1.00	BK	SA	C	ETC-1	ROJ-01		ETC-3	ISP-1	VALVE ISOLATES ON EXCESS FLOW
								LKO-5			LKO-3	ISP-1	
13EFV-02A	G-7	1	A/C	1.00	BK	SA	C	ETC-1	ROJ-01		ETC-3	ISP-1	VALVE ISOLATES ON EXCESS FLOW
								LKO-5			LKO-3	ISP-1	
13EFV-02B	F-7	1	A/C	1.00	BK	SA	C	ETC-1	ROJ-01		ETC-3	ISP-1	VALVE ISOLATES ON EXCESS FLOW
								LKO-5			LKO-3	ISP-1	
13MOV-15	F-7	1	A	3.00	GA	MO	C	STC-1				ST-24J	
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X10	
13MOV-16	F-7	1	A	3.00	GA	MO	C	STC-1				ST-24J	
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X10	
13MOV-21	F-5	1	A	4.00	GA	MO	C	STC-1				ST-24J	
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X9	
13MOV-27	E-5	2	B	2.00	GL	MO	C	STC-1				ST-24J	
								PIT-5				ST-41D	
13MOV-41	D-7	2	B	6.00	GA	MO	C	STC-1				ST-24J	
								PIT-5				ST-41D	
13MOV-130	E-6	2	B	1.50	GA	MO	O	PIT-5				ST-41D	PASSIVE
13RCIC-22	F-6	1A	C	4.00	CK	SA	O	FFT-1	CSJ-09		MME-2	ST-4H	AUGMENTED
								RFC-1			MME-2	ST-4H	
13RCIC-37	E-6	2	C	1.50	CK	SA	O	FFT-1	ROJ-24		FFT-2	ST-4T	
								RFC-1			RFC-2		ISTC-5223
13RCIC-38	E-6	2	C	1.50	CK	SA	O	FFT-1	ROJ-24		FFT-2	ST-4T	
								RFC-1			RFC-2		ISTC-5223
13RCIC-4	D-6	2	A/C	8.00	LK	SA	C	RFC-1	ROJ-08		RFC-3	ST-24J	
								FFT-1				ST-24J	
								LKJ-6				ST-39B-X212	
13RCIC-5	C-6	2	A/C	8.00	LK	SA	C	RFC-1	ROJ-08		RFC-3	ST-24J	
								FFT-1				ST-24J	
								LKJ-6				ST-39B-X212	
13RCIC-7	C-7	2	C	2.00	SC	SA, MA	C	RFC-1	ROJ-25		RFC-3	ST-24L	
								FFT-1	ROJ-25		FFT-3	ST-24L	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Core Spray DRAWING: FM-23A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
14AOV-13A	G-6	1	A/C	10.00	TK	SA, AO	O/C	FFT-1	ROJ-09		FFT-3	ST-3F	
								RFC-1			RFC-3	ST-39J	
								PIT-5				ST-41K	
								LKO-5			LKO-3	ST-39J	
											PEO-2	ST-3M	
											PEC-2	ST-3M	
14AOV-13B	G-5	1	A/C	10.00	TK	SA, AO	O/C	FFT-1	ROJ-09		FFT-3	ST-3F	
								RFC-1			RFC-3	ST-39J	
								PIT-5				ST-41K	
								LKO-5			LKO-3	ST-39J	
											PEO-2	ST-3M	
											PEC-2	ST-3M	
14CSP-10A	D-8	2	C	12.00	CK	SA	O	FFT-1	ROJ-22		PFT-1/FFT-3	ST-3PA/3F	
								RFC-1	ROJ-22		NIT-4	EDP-PC-106	
14CSP-10B	D-3	2	C	12.00	CK	SA	O	FFT-1	ROJ-22		PFT-1/FFT-3		
								RFC-1	ROJ-22		NIT-4	EDP-PC-106	
14CSP-62A	E-7	2	C	1.00	SK	SA	C	RFC-1	ROJ-10		RFC-3	ST-3U	
								FFT-1			ISTC-3550		
14CSP-62B	E-3	2	C	1.00	SK	SA	C	RFC-1	ROJ-10		RFC-3	ST-3U	
								FFT-1			ISTC-3550		
14CSP-76A	F-7	2	C	2.00	SK	SA	C	RFC-1				ST-3QA	
								FFT-1				ST-3QA	
14CSP-76B	F-4	2	C	2.00	SK	SA	C	RFC-1				ST-3QB	
								FFT-1				ST-3QB	
14EFV-31A	E-4	1	A/C	1.00	BK	SA	O/C	ETC-1	ROJ-01		ETC-3	ISP-1	VALVE ISOLATES ON EXCESS FLOW
								LKO-5			LKO-3	ISP-1	
14EFV-31B	E-4	1	A/C	1.00	BK	SA	O/C	ETC-1	ROJ-01		ETC-3	ISP-1	VALVE ISOLATES ON EXCESS FLOW
								LKO-5			LKO-3	ISP-1	
14MOV-11A	F-7	1	A	10.00	GA	MO	O/C	STO-1				ST-3PA	JAF-SE-96-017
								STC-1				ST-3PA	
								PIT-5				ST-41K	
14MOV-11B	F-4	1	A	10.00	GA	MO	O/C	STO-1				ST-3PB	JAF-SE-96-017
								STC-1				ST-3PB	
								PIT-5				ST-41K	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Core Spray DRAWING: FM-23A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
14MOV-12A	F-6	1	A	10.00	GA	MO	O/C	STO-1				ST-3PA	
								STC-1				ST-3PA	
								PIT-5				ST-41K	
								LKO-5			LKJ-3	TST-117	LKO-5 SATISFIED BY LKJ-3
								LKJ-6				ST-39B-X16A	PER JAF-CALC-MISC-00554
14MOV-12B	F-4	1	A	10.00	GA	MO	O/C	STO-1				ST-3PB	
								STC-1				ST-3PB	
								PIT-5				ST-41K	
								LKO-5			LKJ-3	TST-118	LKO-5 SATISFIED BY LKJ-3
								LKJ-6				ST-39B-X16B	PER JAF-CALC-MISC-00554
14MOV-26A	F-7	2	B	8.00	GL	MO	C	STC-1				ST-3PA	
								PIT-5				ST-41D	
14MOV-26B	F-3	2	B	8.00	GL	MO	C	STC-1				ST-3PB	
								PIT-5				ST-41D	
14MOV-5A	E-7	2	B	3.00	GA	MO	O/C	STO-1				ST-3PA	
								STC-1				ST-3PA	
								PIT-5				ST-41D	
14MOV-5B	E-3	2	B	3.00	GA	MO	O/C	STO-1				ST-3PB	
								STC-1				ST-3PB	
								PIT-5				ST-41D	
14MOV-7A	C-6	2	B	16.00	GA	MO	O/C	STO-1				ST-3PA	
								STC-1				ST-3PA	
								PIT-5				ST-41D	
14MOV-7B	C-4	2	B	16.00	GA	MO	O/C	STO-1				ST-3PB	
								STC-1				ST-3PB	
								PIT-5				ST-41D	
14SV-20A	E-8	2	C	1.50	RL	SA	O	RLF-8				MP-059.07	
14SV-20B	E-2	2	C	1.50	RL	SA	O	RLF-8				MP-059.07	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Reactor Building Closed Loop Cooling Water DRAWING: FM-15B

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
15AOV-130A	C-7	2	A	6.00	GL	AO	C	STC-1 PIT-5 LKJ-6	CSJ-02		STC-2	ST-1R ST-41K ST-39B-X23	
15AOV-130B	D-4	2	A	4.00	GL	AO	C	STC-1 PIT-5 LKJ-6	CSJ-02		STC-2	ST-1R ST-41K ST-39B-X24	
15AOV-131A	E-7	2	A	4.00	GL	AO	C	STC-1 PIT-5 LKJ-6	CSJ-02		STC-2	ST-1R ST-41K ST-39B-X66	
15AOV-131B	E-4	2	A	4.00	GL	AO	C	STC-1 PIT-5 LKJ-6	CSJ-02		STC-2	ST-1R ST-41K ST-39B-X62	
15AOV-132A	F-4	2	A	4.00	GL	AO	C	STC-1 PIT-5 LKJ-6	CSJ-02		STC-2	ST-1R ST-41K ST-39B-X63	
15AOV-132B	F-7	2	A	4.00	GL	AO	C	STC-1 PIT-5 LKJ-6	CSJ-02		STC-2	ST-1R ST-41K ST-39B-X67	
15AOV-133A	F-4	2	A	4.00	GL	AO	C	STC-1 PIT-5 LKJ-6	CSJ-02		STC-2	ST-1R ST-41K ST-39B-X64	
15AOV-133B	F-7	2	A	4.00	GL	AO	C	STC-1 PIT-5 LKJ-6	CSJ-02		STC-2	ST-1R ST-41K ST-39B-X68	
15AOV-134A	C-6	2	A	1.50	GL	AO	C	STC-1 PIT-5 LKJ-6	CSJ-02		STC-2	ST-1R ST-41K ST-39B-X65	
15RBC-61	F-7	3A	C	1.00	SK	SA	C	RFC-1 FFT-1				ST-41J	Augmented exclusion

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Reactor Building Closed Loop Cooling Water DRAWING: FM-18C

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
15RBC-214	E-7	3	C	1.00	CK	SA	C	RFC-1	ROJ-11		DIS-3	MST-059.45	GL-89-04 Pos. 2
								FFT-1	ROJ-11		DIS-3	MST-059.46	
15SOV-215	E-7	3	B	1.00	GL	SO	C	PIT-5				ST-41D	PASSIVE

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Leak Rate Aanalysis DRAWING: FM-49A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQTS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
16-1AOV-101A	D-7	2	A	0.375	GA	AO	C	STC-1				ST-1C	FAST ACTING VALVE
								FSC-1				ST-1C	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X45	
16-1AOV-101B	E-7	2	A	0.375	GA	AO	C	STC-1				ST-1C	FAST ACTING VALVE
								FSC-1				ST-1C	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X45	
16-1AOV-102A	D-7	2	A	0.375	GA	AO	C	STC-1				ST-1C	FAST ACTING VALVE
								FSC-1				ST-1C	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X218	
16-1AOV-102B	C-7	2	A	0.375	GA	AO	C	STC-1				ST-1C	FAST ACTING VALVE
								FSC-1				ST-1C	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X218	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Radwaste DRAWING: FM-17A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
20AOV-83	H-6	2	A	3.00	BL	AO	C	STC-1				ST-1C	FAST ACTING VALVE
								FSC-1				ST-1U	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X18	
20AOV-95	D-6	2	A	3.00	BL	AO	C	STC-1				ST-1C	FAST ACTING VALVE
								FSC-1				ST-1U	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X19	
20MOV-82	H-7	2	A	3.00	GA	MO	C	STC-1				ST-1C	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X18	
20MOV-94	D-7	2	A	3.00	GA	MO	C	STC-1				ST-1C	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X19	
20RD-18	H-7	2	D	1.00	RD	SA	O	RDT-10				PM TASK	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: High Pressure Coolant Injection DRAWING: FM-25A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQTS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
23AOV-42	G-2	2	B	1.00	GA	AO	C	STC-1 FSC-1 PIT-5				ST-4N ST-4N ST-41D	FAST ACTING VALVE
23EFV-01A	G-6	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
23EFV-01B	G-7	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
23EFV-02A	G-7	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
23EFV-02B	G-7	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
23HOV-1	F-3	2	B	10.00	GA	HO	O/C	STO-1 STC-1 PIT-5				ST-4N ST-4N ST-41D	FAST ACTING VALVE
23HPI-12	C-6	2	A/C	16.00	LK	SA	O/C	FFT-1 RFC-1 LKJ-6	 ROJ-12		 RFC-3	ST-4N ST-39B-X214 ST-39B-X214	
23HPI-13	C-7	2	C	2.00	SC	SA, MA	O/C	FFT-1 RFC-1	ROJ-13 ROJ-26		DIS-3 RFC-2	MST-059.11 ST-4W	
23HPI-130	C-5	2	C	2.00	SK	SA	O/C	FFT-1 RFC-1	ROJ-17	VRR-04	DIS-3 PFT-1	MST-059.45 ST-4N	
23HPI-131	C-5	2	C	2.00	SK	SA	C	RFC-1 FFT-1	ROJ-18	VRR-04	DIS-3 DIS-3	MST-059.45 MST-059.45	
23HPI-18	F-7	1	C	14.00	CK	SA	O	FFT-1 RFC-1	CSJ-03		MME-2 MME-2	ST-4H ST-4H	
23HPI-32	G-5	2	C	16.00	CK	SA	C	RFC-1 FFT-1	ROJ-14	VRR-04	DIS-3 DIS-3	MST-059.12 MST-059.12	
23HPI-402	E-7	2A	C	2.00	CK	SA	O/C	FFT-1 RFC-1	ROJ-23		FFT-2 RFC-2	ST-4T	ISTC-5223
23HPI-403	E-7	2A	C	2.00	CK	SA	O/C	FFT-1 RFC-1	ROJ-23		FFT-2 RFC-2	ST-4T	ISTC-5223

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: High Pressure Coolant Injeection DRAWING: FM-25A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
23HPI-56	C-6	2	C	2.00	SK	SA	O	FFT-1	ROJ-13		DIS-3	MST-059.45	
								RFC-1	ROJ-13		DIS-3	MST-059.45	
23HPI-61	B-7	2	C	16.00	CK	SA	O	FFT-1	ROJ-15		PFT-3	ST-4M	
								RFC-1	ROJ-15	VRR-04	DIS-3	MST-059.12	
23HPI-62	F-4	2	C	4.00	CK	SA	O	FFT-1	ROJ-16	VRR-04	DIS-3	MST-059.12	
								RFC-1	ROJ-16		DIS-3	MST-059.12	
23HPI-65	C-6	2	A/C	20.00	LK	SA	O/C	FFT-1				ST-4N	
								RFC-1	ROJ-12		RFC-3	ST-39B-X214	
								LKJ-6				ST-39B-X214	
23MOV-14	F-3	2	B	10.00	GA	MO	O	STO-1				ST-4N	
								PIT-5				ST-41D	
23MOV-15	F-8	1	A	10.00	GA	MO	O/C	STO-1				ST-4N	
								STC-1				ST-4N	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X11	
23MOV-16	F-7	1	A	10.00	GA	MO	O/C	STO-1				ST-4N	
								STC-1				ST-4N	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X11	
23MOV-17	G-5	2	B	16.00	GA	MO	C	STC-1				ST-4N	
								PIT-5				ST-41D	
23MOV-19	F-6	1	A	14.00	GA	MO	O/C	STO-1				ST-4N	
								STC-1				ST-4N	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X9	
23MOV-20	F-6	2	B	14.00	GA	MO	O	STO-1				ST-4N	
								PIT-5				ST-41D	
23MOV-21	G-6	2	B	8.00	GL	MO	C	STC-1				ST-4N	
								PIT-5				ST-41D	
23MOV-25	F-5	2	B	4.00	GL	MO	O/C	STO-1				ST-4N	
								STC-1				ST-4N	
								PIT-5				ST-41D	
23MOV-57	F-5	2	B	16.00	GA	MO	O	STO-1				ST-4N	
								PIT-5				ST-41D	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: High Pressure Coolant Injection DRAWING: FM-25A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
23MOV-58	C-7	2	B	16.00	GA	MO	O/C	STO-1				ST-4N	
								STC-1				ST-4N	
								PIT-5				ST-41D	
23MOV-59	E-7	2	B	2.00	GA	MO		PIT-5				ST-41D	
23MOV-60	F-7	1	A	1.00	GL	MO	C	STC-1				ST-4N	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X11	
23SV-34	E-5	2	C	1.00	RV	SA	O	RLF-8				MP-059.07	
23SV-66	D-5	2	C	2.00	RV	SA	O	RLF-8				MP-059.07	
23Z-7	F-3	2	D	16.00	RD	SA	O	RDT-10				PM TASK	
23Z-8	F-3	2A	D	16.00	RD	SA	O	RDT-10				PM TASK	AUGMENTED

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Containment Atmosphere Dilution / Vent & Purge DRAWING: FM-18A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
27AOV-126A	G-5	2A	B	1.00	GL	AO	O	STO-1				ST-25BA	AUGMENTED
								FSO-1				ST-25BA	FAST ACTING VALVE
								PIT-5				ST-41D	
27AOV-126B	F-5	2A	B	1.00	GL	AO	O	STO-1				ST-25BB	AUGMENTED
								FSO-1				ST-25BB	FAST ACTING VALVE
								PIT-5				ST-41D	
27AOV-128A	G-4	2A	B	1.50	GL	AO	O/C	STO-1				ST-25BA	AUGMENTED
								STC-1				ST-25BA	FAST ACTING VALVE
								FSO-1				ST-25BA	
								PIT-5				ST-41D	
27AOV-128B	E-4	2A	B	1.50	GL	AO	O/C	STO-1				ST-25BB	AUGMENTED
								STC-1				ST-25BB	FAST ACTING VALVE
								FSO-1				ST-25BB	
								PIT-5				ST-41D	
27AOV-129A	F-4	2A	B	1.00	GL	AO	O/C	STO-1				ST-25BA	AUGMENTED
								STC-1				ST-25BA	FAST ACTING VALVE
								FSO-1				ST-25BA	
								PIT-5				ST-41D	
27AOV-129B	F-4	2A	B	1.00	GL	AO	O/C	STO-1				ST-25BB	AUGMENTED
								STC-1				ST-25BB	FAST ACTING VALVE
								FSO-1				ST-25BB	
								PIT-5				ST-41D	
27CAD-19A	G-6	2A	C	2.00	CK	SA	O	FFT-1				ST-25DA	AUGMENTED
								RFC-1					Augmented Exclusion
27CAD-19B	C-6	2A	C	2.00	CK	SA	O	FFT-1				ST-25DB	AUGMENTED
								RFC-1					Augmented Exclusion
27RD-1A	F-7	2A	D	1.00	RD	SA	O	RDT-10				PM TASK	AUGMENTED
27RD-1B	C-7	2A	D	1.00	RD	SA	O	RDT-10				PM TASK	AUGMENTED
27RD-2A	F-6	2A	D	1.00	RD	SA	O	RDT-10				PM TASK	AUGMENTED
27RD-2B	C-6	2A	D	1.00	RD	SA	O	RDT-10				PM TASK	AUGMENTED
27SV-114A	G-6	2A	C	1.00	RV	SA	O	RLF-8				MP-059.07	AUGMENTED
27SV-114B	D-6	2A	C	1.00	RV	SA	O	RLF-8				MP-059.07	AUGMENTED

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Containment Atmosphere Dilution / Vent & Purge DRAWING: FM-18A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
27SV-115A	G-4	2A	C	0.50	RV	SA	O	RLF-8				MP-059.07	AUGMENTED
27SV-115B	E-4	2A	C	0.50	RV	SA	O	RLF-8				MP-059.07	AUGMENTED
27SV-118A	G-5	2A	C	0.50	RV	SA	O	RLF-8				MP-059.07	AUGMENTED
27SV-118B	C-6	2A	C	0.50	RV	SA	O	RLF-8				MP-059.07	AUGMENTED
27SV-119A	F-7	2A	C	0.50	RV	SA	O	RLF-8				MP-059.07	AUGMENTED
27SV-119B	C-7	2A	C	0.50	RV	SA	O	RLF-8				MP-059.07	AUGMENTED
27SV-201A	F-3	2A	C	1.00	RV	SA	O	RLF-8				MP-059.07	AUGMENTED
27SV-201B	F-3	2A	C	1.00	RV	SA	O	RLF-8				MP-059.07	AUGMENTED
27SV-202	H-3	2A	C	1.00	RV	SA	O	RLF-8				MP-059.07	AUGMENTED

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Containment Atmosphere Dilution / Vent & Purge DRAWING: FM-18B

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
27AOV-101A	C-6	2	A	20.00	BF	AO	O/C	STO-1				ST-15G	
								STC-1				ST-15G	
								FSC-1				ST-15G	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X202B/G	
27AOV-101B	C-6	2	A	20.00	BF	AO	O/C	STO-1				ST-15G	
								STC-1				ST-15G	
								FSC-1				ST-15G	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X202B/G	
27AOV-111	C-2	2	A	24.00	BF	AO	C	STC-1	CSJ-04		STC-2	ST-68	
								FSC-1			FSC-2	ST-68	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X25/71	
27AOV-112	C-3	2	A	24.00	BF	AO	C	STC-1	CSJ-04		STC-2	ST-68	
								FSC-1			FSC-2	ST-68	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X25/71	
27AOV-113	D-8	2	A	24.00	BF	AO	C	STC-1	CSJ-04		STC-2	ST-68	
								FSC-1			FSC-2	ST-68	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X26A/B	
27AOV-114	D-8	2	A	24.00	BF	AO	C	STC-1	CSJ-04		STC-2	ST-68	
								FSC-1			FSC-2	ST-68	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X26A/B	
27AOV-115	C-2	2	A	20.00	BF	AO	C	STC-1	CSJ-04		STC-2	ST-68	
								FSC-1			FSC-2	ST-68	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X220	
27AOV-116	C-3	2	A	20.00	BF	AO	C	STC-1	CSJ-04		STC-2	ST-68	
								FSC-1			FSC-2	ST-68	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X220	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Containment Atmosphere Dilution / Vent & Purge DRAWING: FM-18B

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
27AOV-117	B-8	2	A	20.00	BF	AO	C	STC-1				ST-1C	
								FSC-1				ST-1C	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X205	
27AOV-118	B-8	2	A	20.00	BF	AO	C	STC-1				ST-1C	
								FSC-1				ST-1C	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X205	
27AOV-131A	C-4	2	A	1.50	GL	AO	O/C	STO-1				ST-25BA	
								STC-1				ST-25BA	
								FSC-1				ST-25BA	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X25/71	
27AOV-131B	C-3	2	A	1.50	GL	AO	O/C	STO-1				ST-25BB	
								STC-1				ST-25BB	
								FSC-1				ST-25BB	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X25/71	
27AOV-132A	C-4	2	A	1.50	GL	AO	O/C	STO-1				ST-25BA	
								STC-1				ST-25BA	
								FSC-1				ST-25BA	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X220	
27AOV-132B	C-3	2	A	1.50	GL	AO	O/C	STO-1				ST-25BB	
								STC-1				ST-25BB	
								FSC-1				ST-25BB	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X220	
27CAD-67	C-4	2	A/C	1.50	SK	SA	O/C	FFT-1				ST-25DA	
								RFC-1				ST-25BA	
								LKJ-6				ST-39B-X220	
27CAD-68	C-4	2	A/C	1.50	SK	SA	O/C	FFT-1				ST-25DA	
								RFC-1				ST-25BA	
								LKJ-6				ST-39B-X25/71	
27CAD-69	C-3	2	A/C	1.50	SK	SA	O/C	FFT-1				ST-25DB	
								RFC-1				ST-25BB	
								LKJ-6				ST-39B-X25/71	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Containment Atmosphere Dilution / Vent & Purge DRAWING: FM-18B

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
27CAD-70	C-3	2	A/C	1.50	SK	SA	O/C	FFT-1				ST-25DB	
								RFC-1				ST-25BB	
								LKJ-6				ST-39B-X220	
27MOV-113	C-8	2	A	3.00	BF	MO	O/C	STO-1				ST-1C	
								STC-1				ST-1C	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X26A/B	
27MOV-117	B-8	2	A	3.00	BF	MO	O/C	STO-1				ST-1C	
								STC-1				ST-1C	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X205	
27MOV-120	H-8	2	B	12.00	BF	MO	O	STO-1				ST-1C	
								STC-1				ST-1C	
								PIT-5				ST-41D	
27MOV-121	H-8	2	B	6.00	BF	MO	O	STO-1				ST-25BB	
								PIT-5				ST-41D	
27MOV-122	C-8	2	A	3.00	GL	MO	O/C	STO-1				ST-1C	
								STC-1				ST-1C	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X26A/B	
27MOV-123	B-8	2	A	3.00	GL	MO	O/C	STO-1				ST-1C	
								STC-1				ST-1C	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X205	
27SOV-125A	F-5	2	A	1.00	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X52A	
27SOV-125B	F-4	2	A	1.00	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X55B	
27SOV-125C	F-5	2	A	1.00	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X52A	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Containment Atmosphere Dilution / Vent & Purge DRAWING: FM-18B

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
27SOV-125D	F-4	2	A	1.00	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X55B	
27SOV-135A	E-5	2	A	1.00	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X31AD	
27SOV-135B	F-5	2	A	1.00	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X31BD	
27SOV-135C	E-5	2	A	1.00	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X31AD	
27SOV-135D	F-5	2	A	1.00	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X31BD	
27VB-1	C-6	2	A/C	30.00	CK	SA	O/C	ETO-1			MME-1	ST-15J	
								ETC-1			MME-1	ST-15J	
								PIT-5				ST-41D	
								LKO-5			LKO-3	ST-39E	
27VB-2	C-6	2	A/C	30.00	CK	SA	O/C	ETO-1			MME-1	ST-15J	
								ETC-1			MME-1	ST-15J	
								PIT-5				ST-41D	
								LKO-5			LKO-3	ST-39E	
27VB-3	C-6	2	A/C	30.00	CK	SA	O/C	ETO-1			MME-1	ST-15J	
								ETC-1			MME-1	ST-15J	
								PIT-5				ST-41D	
								LKO-5			LKO-3	ST-39E	
27VB-4	C-6	2	A/C	30.00	CK	SA	O/C	ETO-1			MME-1	ST-15J	
								ETC-1			MME-1	ST-15J	
								PIT-5				ST-41D	
								LKO-5			LKO-3	ST-39E	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Containment Atmosphere Dilution / Vent & Purge DRAWING: FM-18B

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
27VB-5	C-6	2	A/C	30.00	CK	SA	O/C	ETO-1			MME-1	ST-15J	
								ETC-1			MME-1	ST-15J	
								PIT-5				ST-41D	
								LKO-5			LKO-3	ST-39E	
27VB-6	C-6	2	A/C	20.00	CK	SA	O/C	ETO-1			MME-1	ST-15G	
								ETC-1			MME-1	ST-15G	
								PIT-5				ST-15G	
								LKJ-6				ST-39B-X202B/G	
27VB-7	C-6	2	A/C	20.00	CK	SA	O/C	ETO-1			MME-1	ST-15G	
								ETC-1			MME-1	ST-15G	
								PIT-5				ST-15G	
								LKJ-6				ST-39B-X202B/G	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Containment Atmosphere Dilution / Vent & Purge DRAWING: FM-18D

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
27SOV-119E1	C-7	2	A	0.375	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X203A	
27SOV-119E2	C-6	2	A	0.375	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X203A	
27SOV-119F1	D-4	2	A	0.375	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X216	
27SOV-119F2	C-5	2	A	0.375	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X216	
27SOV-120E1	F-6	2	A	0.375	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X202B/G	
27SOV-120E2	F-6	2	A	0.375	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X202B/G	
27SOV-120F1	F-4	2	A	0.375	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X58C	
27SOV-120F2	F-4	2	A	0.375	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X58C	
27SOV-122E1	F-6	2	A	0.375	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X26A/B	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Containment Atmosphere Dilution / Vent & Purge DRAWING: FM-18D

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
27SOV-122E2	F-6	2	A	0.375	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X26A/B	
27SOV-122F1	G-4	2	A	0.375	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X58B	
27SOV-122F2	G-4	2	A	0.375	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X58B	
27SOV-123E1	E-6	2	A	0.375	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X59	
27SOV-123E2	E-6	2	A	0.375	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X59	
27SOV-123F1	F-4	2	A	0.375	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X58D	
27SOV-123F2	F-4	2	A	0.375	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X58D	
27SOV-124E1	C-4	2	A	1.00	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X203B	
27SOV-124E2	C-4	2	A	1.00	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X203B	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Containment Atmosphere Dilution / Vent & Purge DRAWING: FM-18D

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
27SOV-124F1	C-4	2	A	0.375	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X203B	
27SOV-124F2	C-4	2	A	0.375	GL	SO	C	STC-1				ST-1C	
								FSC-1				ST-1C	FAST ACTING VALVE
								PIT-5				ST-41D	
								LKJ-6				ST-39B-X203B	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Containment Atmosphere Dilution / Vent & Purge DRAWING: FM-39C

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
27SOV-141	E-6	2	A	1.00	GA	SO	O/C	STO-1				ST-1C	
								STC-1				ST-1C	FAST ACTING VALVE
								FSO-1				ST-1C	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X22	
27SOV-145	G-5	2	A	1.00	GA	SO	O/C	STO-1				ST-1C	
								STC-1				ST-1C	FAST ACTING VALVE
								FSO-1				ST-1C	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X57C	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Main Steam DRAWING: FM-29A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
29AOV-80A	E-5	1	A	24.00	GL	AO	C	STC-1	CSJ-08		STC-2	ST-1B	
								FSC-1	ROJ-19		FSC-3	ST-68B	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X7A	
29AOV-80B	D-5	1	A	24.00	GL	AO	C	STC-1	CSJ-08		STC-2	ST-1B	
								FSC-1	ROJ-19		FSC-3	ST-68B	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X7B	
29AOV-80C	D-5	1	A	24.00	GL	AO	C	STC-1	CSJ-08		STC-2	ST-1B	
								FSC-1	ROJ-19		FSC-3	ST-68B	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X7C	
29AOV-80D	D-5	1	A	24.00	GL	AO	C	STC-1	CSJ-08		STC-2	ST-1B	
								FSC-1	ROJ-19		FSC-3	ST-68B	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X7D	
29AOV-86A	G-4	1	A	24.00	GL	AO	C	STC-1	CSJ-08		STC-2	ST-1B	
								FSC-1	CSJ-05		FSC-2	ST-68	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X7A	
29AOV-86B	F-4	1	A	24.00	GL	AO	C	STC-1	CSJ-08		STC-2	ST-1B	
								FSC-1	CSJ-05		FSC-2	ST-68	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X7B	
29AOV-86C	E-4	1	A	24.00	GL	AO	C	STC-1	CSJ-08		STC-2	ST-1B	
								FSC-1	CSJ-05		FSC-2	ST-68	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X7C	
29AOV-86D	D-4	1	A	24.00	GL	AO	C	STC-1	CSJ-08		STC-2	ST-1B	
								FSC-1	CSJ-05		FSC-2	ST-68	
								PIT-5				ST-41K	
								LKJ-6				ST-39B-X7D	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Main Steam DRAWING: FM-29A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
29EFV-30A	F-5	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
29EFV-30B	F-5	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
29EFV-30C	F-5	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
29EFV-30D	F-5	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
29EFV-34A	F-8	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
29EFV-34B	F-8	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
29EFV-34C	F-8	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
29EFV-34D	F-8	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
29EFV-53A	E-8	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
29EFV-53B	E-8	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
29EFV-53C	E-8	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
29EFV-53D	E-8	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
29EFV-54A	E-5	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
29EFV-54B	E-5	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
29EFV-54C	E-5	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Main Steam DRAWING: FM-29A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
29EFV-54D	E-5	1	A/C	1.00	BK	SA	C	ETC-1 LKO-5	ROJ-01	VRR-03	ETC-3 LKO-3	ISP-1 ISP-1	VALVE ISOLATES ON EXCESS FLOW
29MOV-200A	C-3	2A	B	1.00	GL	MO	O	STO-1 PIT-5				ST-1MA ST-41D	AUGMENTED
29MOV-200B	B-3	2A	B	1.00	GL	MO	O	STO-1 PIT-5				ST-1MB ST-41D	AUGMENTED
29MOV-201A	C-3	2A	B	1.00	GL	MO	O/C	STO-1 STC-1 PIT-5				ST-1MA ST-1MA ST-41D	AUGMENTED
29MOV-201B	B-3	2A	B	1.00	GL	MO	O/C	STO-1 STC-1 PIT-5				ST-1MB ST-1MB ST-41D	AUGMENTED
29MOV-202A	C-3	2A	B	1.00	GL	MO	O/C	STO-1 STC-1 PIT-5				ST-1MA ST-1MA ST-41D	AUGMENTED
29MOV-202B	B-3	2A	B	1.00	GL	MO	O/C	STO-1 STC-1 PIT-5				ST-1MB ST-1MB ST-41D	AUGMENTED
29MOV-203A	H-3	2A	B	1.00	GL	MO	O	STO-1 PIT-5	CSJ-06		STO-2	ST-68 ST-41D	AUGMENTED
29MOV-203B	H-3	2A	B	1.00	GL	MO	O	STO-1 PIT-5	CSJ-06		STO-2	ST-68 ST-41D	AUGMENTED
29MOV-204A	C-3	2A	B	1.00	GL	MO	C	STC-1 PIT-5				ST-1MA ST-41D	AUGMENTED
29MOV-204B	B-3	2A	B	1.00	GL	MO	C	STC-1 PIT-5				ST-1MB ST-41D	AUGMENTED
29MOV-74	C-6	1	A	3.00	GA	MO	C	STC-1 PIT-5 LKJ-6				ST-1C ST-41K ST-39B-X8	
29MOV-77	C-5	1	A	3.00	GA	MO	C	STC-1 PIT-5 LKJ-6				ST-1C ST-41K ST-39B-X8	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Feedwater DRAWING: FM-34A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
34FWS-28A	E-7	1	A/C	18.00	CK	SA	C	RFC-1	ROJ-20		RFC-3	ST-39B-X9	
								FFT-1			ISTC-3550		
								LKJ-6			LKJ-3	ST-39B-X9	
34FWS-28B	F-7	1	A/C	18.00	CK	SA	C	RFC-1	ROJ-20		RFC-3	ST-39B-X9	
								FFT-1			ISTC-3550		
								LKJ-6			LKJ-3	ST-39B-X9	
34NRV-111A	E-7	1	A/C	18.00	NK	SA, AO	C	RFC-1	ROJ-30		RFC-2	ST-39B-X9	
								FFT-1			ISTC-3550		
								LKJ-6				ST-39B-X9	
								PIT-3				ST-41K	
34NRV-111B	F-7	1	A/C	18.00	NK	SA, AO	C	RFC-1	ROJ-30		RFC-2	ST-39B-X9	
								FFT-1			ISTC-3550		
								LKJ-6				ST-39B-X9	
								PIT-3				ST-41K	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Instrument Air DRAWING: FM-39C

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFTEY FUNCTION	TEST REQTS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
39IAS-22	E-5	2A	A/C	2.00	CK	SA	O/C	FFT-1 RFC-1 LKJ-6	ROJ-21		FFT-3	ST-68B ST-25C ST-39B-X22	AUGMENTED
39IAS-29	F-3	2A	A/C	1.00	CK	SA	O/C	FFT-1 RFC-1 LKJ-6	ROJ-21		FFT-3	ST-68B ST-25C ST-39B-X57C	AUGMENTED

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Service Water DRAWING: FB-35E

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
46(70)ESW-101	G-6	3	B	4.00	GA	MA	O	ETO-5				ST-8S	
46(70)ESW-102	C-6	3	B	4.00	GA	MA	O	ETO-5				ST-8S	
46(70)ESW-103	F-6	3	B	4.00	GA	MA	O	ETO-5				ST-8S	
46(70)ESW-104	C-6	3	B	4.00	GA	MA	O	ETO-5				ST-8S	
46(70)SWS-101	H-8	3	C	6.00	CK	SA	C	RFC-1				ST-8Q	
								FFT-1			ISTC-3550		
46(70)SWS-102	H-8	3	C	6.00	CK	SA	C	RFC-1				ST-8Q	
								FFT-1			ISTC-3550		
46(70)SWS-13	H-4	3	B	6.00	GL	MA	C	ETC-5				ST-8VA	
46(70)SWS-14	E-4	3	B	6.00	GL	MA	C	ETC-5				ST-8VB	
70TCV-120A	F-7	3	B	2.00	3W	AO	O	STO-1		VRR-05			OMN-8
								FSO-1				ST-41FA	
								ETO-1				ST-41FA	
70TCV-120B	C-6	3	B	2.00	3W	AO	O	STO-1		VRR-05			OMN-8
								FSO-1				ST-41FB	
								ETO-1				ST-41FB	
70TCV-121A	F-6	3	B	2.00	3W	AO	O	STO-1		VRR-05			OMN-8
								FSO-1				ST-41FA	
								ETO-1				ST-41FA	
70TCV-121B	C-7	3	B	2.00	3W	AO	O	STO-1		VRR-05			OMN-8
								FSO-1				ST-41FB	
								ETO-1				ST-41FB	
70WAC-12A	F-6	3	B	4.00	GA	MA	C	ETC-5				ST-8VA	
70WAC-12B	C-6	3	B	4.00	GA	MA	C	ETC-5				ST-8VB	
70WAC-5A	F-2	3	B	4.00	GA	MA	C	ETC-5				ST-8VA	
70WAC-5B	D-2	3	B	4.00	GA	MA	C	ETC-5				ST-8VB	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Service Water DRAWING: FM-46A

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
46SWS-67A	B-6	3	C	3.00	CK	SA	C	RFC-1				ST-8Q	
								FFT-1			ISTC-3550		
46SWS-67B	B-7	3	C	3.00	CK	SA	C	RFC-1				ST-8Q	
								FFT-1			ISTC-3550		
46SWS-68	B-6	3	C	3.00	CK	SA	C	RFC-1				ST-8Q	
								FFT-1			ISTC-3550		
46SWS-69	B-8	3	C	3.00	CK	SA	C	RFC-1				ST-8Q	
								FFT-1			ISTC-3550		
67PCV-101	D-2	3	B	2.50	GL	AO	O	STO-1		VRR-05			OMN-8
								FSO-1				ST-41FA	
								ETO-1				ST-41FA	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Service Water DRAWING: FM-46B

VALVE ID	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
46ESW-1A	E-7	3	C	12.00	CK	SA	O	FFT-1 RFC-1			 NIT-4	ST-8Q	
46ESW-1B	D-7	3	C	12.00	CK	SA	O	FFT-1 RFC-1			 NIT-4	ST-8Q	
46ESW-7A	E-5	3	C	6.00	CK	SA	O	FFT-1 RFC-1			 NIT-4	ST-8Q	
46ESW-7B	E-5	3	C	6.00	CK	SA	O	FFT-1 RFC-1			 NIT-4	ST-8Q	
46ESW-9A	E-4	3	C	8.00	CK	SA	O	FFT-1 RFC-1			 NIT-4	ST-8Q	
46ESW-9B	D-4	3	C	8.00	CK	SA	O	FFT-1 RFC-1			 NIT-4	ST-8Q	
46MOV-101A	E-6	3	B	10.00	GA	MO	O	STO-1 PIT-5				ST-8Q ST-41D	
46MOV-101B	C-6	3	B	10.00	GA	MO	O	STO-1 PIT-5				ST-8Q ST-41D	
46MOV-102A	E-6	3	B	8.00	GA	MO	C	STC-1 PIT-5				ST-8Q ST-41D	
46MOV-102B	D-6	3	B	8.00	GA	MO	C	STC-1 PIT-5				ST-8Q ST-41D	
46RV-112A	G-7	3	C	6.00	RL	SA	O	RLF-8				MP-059.07	
46RV-112B	F-6	3	C	6.00	RL	SA	O	RLF-8				MP-059.07	
46RV-112C	F-7	3	C	6.00	RL	SA	O	RLF-8				MP-059.07	
46RV-112D	G-6	3	C	6.00	RL	SA	O	RLF-8				MP-059.07	

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
INSERVICE TESTING PROGRAM
VALVE TABLE

SYSTEM: Service Water DRAWING: FB-10H

	DWG CO-ORD	CLASS	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACTUATOR TYPE	SAFETY FUNCTION	TEST REQ'TS	CSJ/ROJ	RELIEF REQUEST	ALTERNATE TEST	TEST PROCEDURE	REMARKS
46SWS-60A	C-5	3	C	4.00	CK	SA	C	RFC-1				ST-8Q	
								FFT-1			ISTC-3550		
46SWS-60B	C-5	3	C	4.00	CK	SA	C	RFC-1				ST-8Q	
								FFT-1			ISTC-3550		

APPENDIX B

Cold Shutdown Justifications

CSJ-01

SYSTEM:	**REACTOR WATER RECIRCULATION (RWR)**
COMPONENTS:	02MOV-53A, B CATEGORY: B
SAFETY FUNCTION:	These valves close, on low reactor pressure to isolate the faulted loop coincident with initiation of the RHR System in the LPCI mode, to prevent diversion of LPCI flow.
JUSTIFICATION:	To exercise these valves, the respective recirculation pump must be secured. Securing either pump (single loop operation) is limited by Technical Specification requirements. Single loop operation also requires a reduction in power. This hardship is not warranted since there is no compensating increase in the level of quality and safety.
ALTERNATE TEST:	These valves will be stroke time tested during cold shutdown when Reactor Water Recirculation Pumps can be secured in accordance with ISTC-3521(f) and (g).

CSJ-02

SYSTEM:	**REACTOR BUILDING CLOSED LOOP COOLING (RBC)**
COMPONENTS:	15AOV-130A, B; 15AOV-131A, B; 15AOV-132A, B; 15AOV-133A, B; 15AOV-134A CATEGORY: A
SAFETY FUNCTION:	These valves close to provide containment isolation.
JUSTIFICATION:	During normal plant operation, these valves must remain open to provide cooling water to the Drywell coolers, Drywell equipment drain sump cooler, cooling water to the recirculation pump motor and seal coolers. Closing these valves during plant operation could cause a spike in drywell pressure due to the loss of cooling water flow, which may result in a reactor scram and plant shutdown, or damage to the recirculation pumps.
ALTERNATE TEST:	These valves will be stroke time tested during cold shutdowns in accordance with ISTC-3521(f) and (g).

CSJ-03

SYSTEM:	**HIGH PRESSURE COOLANT INJECTION (HPCI)**
COMPONENTS:	23HPI-18 CATEGORY: C
SAFETY FUNCTION:	This valve opens to provide a flowpath for the HPCI system injection to the reactor vessel.
JUSTIFICATION:	With the reactor at operating pressure, the HPCI pump can develop sufficient discharge pressure to open this valve, however HPCI injection of cold water to the reactor vessel during critical operation could result in an undesirable reactivity excursion and thermal transient to the piping components. During plant operation, the differential pressure developed across the valve disc could be in excess of 1000 psid - precluding manual manipulation of the valve. Therefore, this valve cannot be exercised during normal plant operation.
ALTERNATE TEST:	This valve will be mechanical exercise tested during cold shutdown in accordance with ISTC-3522(d) and (e).

CSJ-04

SYSTEM:	**CONTAINMENT VENT & PURGE (CAD)**
COMPONENTS:	27AOV-111, 112, 113 CATEGORY: A 27AOV-114, 115, 116
SAFETY FUNCTION:	These valves close to provide a containment isolation function.
JUSTIFICATION:	Due to NRC concerns that these valves will not close under Design Basis Accident conditions, they will not be opened whenever primary containment is required except for safety-related reasons.
ALTERNATE TEST:	These valves will be stroke time tested during cold shutdown in accordance with ISTC-3521(f) and (g).

CSJ-05

SYSTEM:	**MAIN STEAM (MSS)**	
COMPONENTS:	29AOV-86A, B, C, D	CATEGORY: A
SAFETY FUNCTION:	These valves close to provide containment isolation.	
JUSTIFICATION:	Performance of the fail close test for the MSIVs requires entry into the Steam Tunnel. This cannot be done during normal operation.	
ALTERNATE TEST:	These valves will be fail safe tested during cold shutdown in accordance with ISTC-3521(f) and (g).	

CSJ-06

SYSTEM:	**MAIN STEAM (MSS)**	
COMPONENTS:	29MOV-203A, B	CATEGORY: B
SAFETY FUNCTION:	These valves open to provide flowpaths for post-accident MSIV packing leak-off to the Standby Gas Treatment System.	
JUSTIFICATION:	Opening these valves during power operation could subject downstream piping to pressures in excess of its 150 psig design pressure.	
ALTERNATE TEST:	These valves will be stroke time tested during cold shutdown in accordance with ISTC-3521(f) and (g).	

CSJ-07

SYSTEM:	**REACTOR WATER CLEANUP**
COMPONENTS:	12MOV-15, 12MOV-18, 12MOV-69 CATEGORY: A
SAFETY FUNCTION:	These valves close to provide containment isolation. The valves also close on, low reactor water level or high RWCU ambient temperature to protect the core in case of a break in the RWCU piping and on SLC actuation to prevent removal of boron.
JUSTIFICATION:	Cycling these valves during operation has significant negative effects to reactor water chemistry that could result in power reduction or plant shutdown. Radiation exposure received during system alterations to perform the testing during operation has also resulted in excessive personnel exposure. Cycling the system during operation causes thermal transients that places undue stress on the piping and pumps. Testing of these valves during operation subjects the system to unacceptable chemical and thermal transients and excessive personnel radiation exposure. As discussed in NUREG-1482 Paragraph 2.4.5 these negative effects place impractical conditions on the system and justify cold shutdown deferral.
ALTERNATE TEST:	These valves will be stroke time tested during cold shutdown in accordance with ISTC-3521(f) and (g).

CSJ-08

SYSTEM:	**MAIN STEAM (MSS)**
COMPONENTS:	29AOV-80A, B, C, D; 29AOV-86A, B, C, D
CATEGORY:	A
SAFETY FUNCTION:	These valves close to provide containment isolation.
JUSTIFICATION:	Full stroke testing of MSIV's at power places the plant in an abnormal operating condition and introduces an unnecessary challenge to plant equipment. This is in view of industry experience, both from an operational standpoint, and from the standpoint that stroking MSIV's at power is a contributor to valve seat degradation and resultant degraded containment isolation capability. (Ref: NUREG-1482)
ALTERNATE TEST:	Stroke timing during cold shutdown in accordance with ISTC-3521(f) and (g).is acceptable since valve actuator is designed to limit stroke time regardless of system dynamics present at time of testing.

CSJ-09

SYSTEM: **REACTOR CORE ISOLATION COOLING (RCIC)**

COMPONENTS: 13RCIC-22 CATEGORY: C

SAFETY FUNCTION: This valve opens to provide a flow path for the RCIC system injection to the reactor vessel.

JUSTIFICATION: With the reactor at operating pressure, the RCIC pump can develop sufficient discharge pressure to open this valve, however RCIC injection of cold water to the reactor vessel during critical operation could result in an undesirable reactivity excursion and thermal transient to the piping components. During plant operation, the differential pressure developed across the valve disc could be in excess of 1000 psid - precluding manual manipulation of the valve. Therefore, this valve cannot be exercised during normal plant operation.

ALTERNATE TEST: This valve will be mechanical exercise tested during cold shutdown in accordance with ISTC-3522(d) and (e).

Refueling Outage Justifications

ROJ-01

SYSTEM: **VARIOUS**

COMPONENTS: Excess Flow Check Valves (Listed Below) CATEGORY: A/C

SAFETY FUNCTION: These valves close to isolate the respective instrument lines in the event of a pipe break downstream of the valves.

JUSTIFICATION: Exercising these valves requires isolation of their associated safety-related instrument, which could place the plant in an unsafe condition. In addition, the induced hydraulic transients resulting from establishing flow and subsequent valve closure would most likely result in an engineered safety feature actuation. During such testing, radiation doses to test personnel would be high due to the location of these valves and reactor water effluent during the test.

These valves cannot be tested during cold shutdown since the reactor vessel is not pressurized.

These valves will be tested during refueling outages during the primary system inservice pressure test in accordance with ISTC-3522(c) and (f).

EXCESS FLOW CHECK VALVES

02-2EFV-PS-128A,B
02-2EFV-PT-24A,B
02-2EFV-PT-25A,B
02-2EFV1-DPT-111A,B
02-2EFV1-FT-110A,C,E,G
02-2EFV2-DPT-111A,B
02-2EFV2-FT-110A,C,E,G
02-3EFV-11
02-3-EFV-13A,B
02-3EFV-15A,B
02-3EFV-15N
02-3EFV-17A,B
02-3EFV-19A,B
02-3EFV-21A,B,C,D
02-3EFV-23A,B,C,D
02-3EFV-23
02-3EFV-25
02-3EFV-31A,B,C,D
02-3EFV-31E,F,G,H
02-3EFV-31J,K,L,M
02-3EFV-31N,P,R,S
02-3EFV-33
13EFV-01A,B
13EFV-02A,B
14EFV-31A,B
23EFV-01A,B
23EFV-02A,B
29EFV-30A,B,C,D
29EFV-34A,B,C,D
29EFV-53A,B,C,D
29EFV-54A,B,C,D

ROJ-02

SYSTEM: **REACTOR WATER RECIRCULATION (RWR)**

COMPONENTS: 02-2RWR-13A, B CATEGORY: A/C

SAFETY FUNCTION: These recirculation pump seal water injection valves close to provide containment isolation.

JUSTIFICATION: Exercising these valves during normal operations or cold shutdown requires securing the Recirculation pumps and entering containment to check the valves closed by using a back-leakage test. Testing during operations is therefore impossible. Testing during cold shutdown by performing back-leakage tests would require extensive time for test equipment set-up and place an undue burden on the plant staff. In addition, entry into the containment may be prohibited if the drywell remains inerted.

Back-leakage testing and leakrate testing will be performed during each refueling outage in accordance with ISTC-3522(c) and (f).

ROJ-03

SYSTEM: **REACTOR WATER RECIRCULATION (RWR)**

COMPONENTS: 02-2RWR-41A,B CATEGORY: A/C

SAFETY FUNCTION: These recirculation pump seal purge check valves close to provide containment isolation.

JUSTIFICATION: Closing these valves any time Reactor Water Recirculation Pumps are running subjects the pump seals to thermal transients and pressure fluctuations, thereby, shortening seal life. Pressure fluctuations and oscillations can degrade the pressure-retaining ability of either or both seal stages. Additionally, securing seal purge flow while the Reactor Water Recirculation Pumps are running introduces reactor coolant and associated corrosion products into the seal cavity, which also shortens seal life.

ALTERNATE TEST: Back-leakage testing and leakrate testing will be performed during each refueling outage in accordance with ISTC-3522(c) and (f).

ROJ-04

SYSTEM: **AUTOMATIC DEPRESSURIZATION (ADS)**

COMPONENTS: 02RV-1 through 02RV-11
02VB-1 through 02VB-11 CATEGORY: C

SAFETY FUNCTION: These valves remain closed to prevent steam from an open safety/relief valve (SRV) from entering the drywell. They open following closure of an SRV to prevent the formation of a water column within the downcomer that could cause torus damage during subsequent lifting of the same SRV.

JUSTIFICATION: Exercising these valves requires local manipulation of each valve and thus entry into the containment. During plant operation at power, and on occasion while in cold shutdown, the containment atmosphere is maintained in a nitrogen-inerted condition. During such periods, entry into the containment is not practical due to personnel safety concerns.

ALTERNATE TEST: Testing will be performed during each refueling outage in accordance with ISTC-3522(c) and (f).

ROJ-05

SYSTEM: **RESIDUAL HEAT REMOVAL (RHR)**

COMPONENTS: 10RHR-64A, B, C, D CATEGORY: C

SAFETY 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.

JUSTIFICATION: These valves are exercised open every three months by flow during pump testing. However, quantitative flow measurements 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 with a 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

ROJ-05 (Continued)

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 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 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.

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 TEST: In accordance with Generic Letter 89-04, Position 2, during each refuel outage at least one (1) valve will be disassembled, inspected, and verified operable. The acceptance criteria as stated in the Generic Letter is provided in the maintenance procedure used for check valve disassemble. 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 eight (8) years.

ROJ-06

SYSTEM: **RESIDUAL HEAT REMOVAL (RHR)**

COMPONENTS: 10RHR-95A,B CATEGORY: C

SAFETY FUNCTION: These valves close to prevent reverse flow from the torus.

JUSTIFICATION: These are simple check valves with no means of determining disc position without performing a back leakage test. Performing such a test during plant operations would require setting up a test rig and performing a hydrostatic test. As discussed in NUREG 1482, the NRC has determined that the need to set up test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage.

During cold shutdown, the system lineup changes and the effort involved with setting up test equipment would constitute an unreasonable burden on the plant staff.

ALTERNATE TEST: These valves will be verified to close each refueling outage during a hydrostatic leak rate test in accordance with ISTC-3522(c) and (f).

ROJ-07

SYSTEM: **STANDBY LIQUID CONTROL (SLC)**

COMPONENTS: 11SLC-16 & 11SLC-17 CATEGORY: A/C

SAFETY FUNCTION: These valves prohibit backflow from the reactor vessel to the SLC System and provide for containment isolation. They open to permit SLC System flow to the reactor vessel.

JUSTIFICATION: Full or partial-stroke exercising these valves requires that flow be established through the subject check valves. The only practical means of initiating flow through these valves requires actuation of the SLC system and pumping from the SLC Tank to the reactor vessel. During normal plant operation, this would introduce boron into the reactor vessel resulting in unacceptable reactivity and chemistry transients. Testing during cold shutdown would result in chemistry transients and undue burden on the plant staff with respect to maintenance of the SLC pump explosive valves.

ALTERNATE TEST: Testing will be conducted during each refueling outage and as required by Technical Specifications, by injecting water into the reactor vessel by use of the Standby Liquid Control pumps. Following the exercise open test, the valves will be verified to close by means of a back-leakage test.

ROJ-08

SYSTEM: **REACTOR CORE ISOLATION COOLING (RCIC)**

COMPONENTS: 13RCIC-04 and 13RCIC-05 CATEGORY: A/C

SAFETY FUNCTION: These valves close to provide containment isolation.

JUSTIFICATION: There is no provision on either of these valves that provides position indication of the disc. As a result, valve closure must be verified by back-leakage testing. In order to verify valve closure by the back-leakage technique, the RCIC exhaust line must be isolated for the duration of the test causing the RCIC system to be inoperable.

The potential safety impact of voluntarily placing the RCIC system in an inoperable status during plant operation at power is considered to be imprudent and unwarranted in relation to any apparent gain in system reliability derived from the closure verification. In addition, the valves are located approximately twenty (20) feet from the floor necessitating erection of a large scaffold in the vicinity of the RCIC pump. This also is considered to be undesirable from the aspect of potential damage to RCIC system components should the scaffold be subjected to structural failure.

Based on the foregoing discussion, testing of these valves during plant operation at power is considered to be impractical. During cold shutdowns, erection of the scaffold in addition to other activities related to test performance would place an extreme burden on the plant staff and would likely result in unwarranted extensions to all forced outages with the added negative impact on plant performance and availability.

ALTERNATE TEST: These valves will be verified to close by performing a back-leakage test at each refueling outage in accordance with ISTC-3522(c) and (f).

ROJ-09

SYSTEM: **CORE SPRAY (CSP)**

COMPONENTS: 14AOV-13A,B CATEGORY: A/C

SAFETY FUNCTION: These valves open to provide flowpaths from the Core Spray System to the reactor vessel. They close for pressure isolation protection of the low pressure core spray piping.

JUSTIFICATION: There is no mechanism by which these valves can be full-stroke exercised without injecting water from the core spray pumps to the reactor vessel. During plant operation, the core spray pumps cannot produce sufficient discharge pressure to overcome reactor vessel pressure and provide flow into the vessel.

The installed air operators are capable of exercising the valves, providing there is not differential pressure across the valve seat. During plant operation, there is a significant differential pressure across the valve seat.

During cold shutdown, injecting into the reactor vessel requires a major effort to establish the prerequisite conditions and realignment of the Core Spray system to allow supplying water from the Condensate Storage Tank. Torus water cannot be used since it does not meet the chemistry requirements for reactor grade makeup. It is estimated that such a test would take about 24 hours to perform and would result in a significant burden on the plant operating staff. In addition, there is a potential for overfilling the reactor vessel and flooding the main steam lines. This could adversely affect the performance of the main steam safety/relief valves (SRVs) since a contributing factor to the historically poor performance of the SRVs is water contamination of the operators.

ALTERNATE TEST: During cold shutdowns, each of the valves will be exercised using the installed air operators (considered a partial-stroke). This test satisfies the exercising of both safety positions.

Each of the valves will be full-stroked exercised during each refuel outage in accordance with ISTC-3522(c) and (f) by injecting full accident flow into the reactor vessel. The closed position is leak tested every refuel outage per ISTC-3630(a). This position complies with the guidance of NUREG-1482, Section 4.1.6.

ROJ-10

SYSTEM: **CORE SPRAY (CSP)**

COMPONENTS: 14CSP-62A,B CATEGORY: C

SAFETY FUNCTION: These valves close to prevent reverse flow from the torus.

JUSTIFICATION: There are no position indicators or other means to verify closure of these valves. As a result, valve closure must be verified by back-leakage testing. Performing such a test during plant operations would require setting up for and performing a hydrostatic test. As discussed in NUREG 1482, section 4.1.4, the NRC has determined that the need to set up test equipment is adequate justification to defer backflow testing of a check valve until a refueling outage. During cold shutdown, the system lineup changes and the effort involved with setting up test equipment would constitute an unreasonable burden on the plant staff.

ALTERNATE TEST: These valves will be verified close each refueling outage in accordance with ISTC-3522(c) and (f) during a hydrostatic leak rate test.

ROJ-11

SYSTEM: **REACTOR BUILDING CLOSED LOOP COOLING (RBC)**

COMPONENTS: 15RBC-214 CATEGORY: C

SAFETY FUNCTION: This valve closes to prevent flow diversion when the Emergency Service Water system is supplying cooling water to RBC heat loads.

JUSTIFICATION: There is no provision on this valve that provides position indication of the disc. There are no test taps and block valves to enable a back-leakage test to verify closure.

ALTERNATE TEST: ISTC-5221(c) allows disassembly each refueling outage to verify operability as an alternative to quarterly testing.

ROJ-12

SYSTEM: **HIGH PRESSURE COOLANT INJECTION (HPCI)**

COMPONENTS: 23HPI-12 and 23HPI-65 CATEGORY: A/C

SAFETY FUNCTION: These valves close to provide containment isolation.

JUSTIFICATION: There is no provision on either of these valves that provides position indication of the disc. As a result, valve closure must be verified by back-leakage testing. In order to verify valve closure by the back-leakage technique, the HPCI exhaust line must be isolated for the duration of the test causing the HPCI system to be inoperable. The potential safety impact of voluntarily placing the HPCI system in an inoperable status during plant operation at power is considered to be imprudent and unwarranted in relation to any apparent gain in system reliability derived from the closure verification. In addition, the valves are located approximately twenty (20) feet from the floor necessitating erection of a large scaffold in the vicinity of the HPCI pump. This also is considered to be undesirable from the aspect of potential damage to HPCI system components should the scaffold be subjected to structural failure.

Based on the foregoing discussion, testing of these valves during plant operation at power is considered to be impractical. During cold shutdowns, erection of the scaffold in addition to other activities related to test performance would place an extreme burden on the plant staff and would likely result in unwarranted extensions to all forced outages with the added negative impact on plant performance and availability.

ALTERNATE TEST: These valves will be verified to close by performing a back-leakage test at each refueling outage in accordance with ISTC-3522(c) and (f).

ROJ-13

SYSTEM:	**HIGH PRESSURE COOLANT INJECTION (HPCI)**
COMPONENTS:	23HPI-13 and 23HPI-56 CATEGORY: C
SAFETY FUNCTION:	These valves open to permit HPCI turbine condensate to drain to the Torus and close on cessation of flow.
JUSTIFICATION:	There are no means for exercising these valves to the open position where positive indication of acceptable valve performance is verified. There is no provision that provides position indication of the disc. There are no test taps and block valves to enable a back-leakage test to verify closure.
ALTERNATE TEST:	ISTC-5221(c) allows disassembly each refueling outage to verify operability as an alternative to quarterly testing.

ROJ-14

SYSTEM:	**HIGH PRESSURE COOLANT INJECTION (HPCI)**
COMPONENTS:	23HPI-32 CATEGORY: C
SAFETY FUNCTION:	This valve closes during the suction swap from the Condensate Storage Tank to the torus to prevent diversion of the torus flow from the HPCI pump suction.
JUSTIFICATION:	There is no provision on this valve that provides position indication of the disc. There are no block valves between this valve and the suction of the HPCI pump to enable a back-leakage test to verify closure.
ALTERNATE TEST:	ISTC-5221(c) allows disassembly each refueling outage to verify operability as an alternative to quarterly testing. Valve Relief Request VRR-04 allows this activity to be performed during on-line system outages.

ROJ-15

SYSTEM: **HIGH PRESSURE COOLANT INJECTION (HPCI)**

COMPONENTS: 23HPI-61 CATEGORY: C

SAFETY FUNCTION: This valve opens to provide a flowpath from the torus to the suction of the HPCI booster pump. It closes on cessation of flow.

JUSTIFICATION: The only practical method available to full flow exercise this valve is to pump water from the torus into the reactor vessel. Due to the lack of suitable water quality in the torus, this option is not practical. There is no provision on this valve that provides position indication of the disc. There are no test taps and block valves to enable a back-leakage test to verify closure.

ALTERNATE TEST: ISTC-5221(c) allows disassembly each refueling outage to verify operability as an alternative to quarterly testing. Valve Relief Request VRR-04 allows this activity to be performed during on-line system outages. In addition, this valve will be partial-flow tested once per operating cycle.

ROJ-16

SYSTEM: **HIGH PRESSURE COOLANT INJECTION (HPCI)**

COMPONENTS: 23HPI-62 CATEGORY: C

SAFETY FUNCTION: This valve opens to provide a flowpath for minimum flow from the HPCI main pump. It closes on cessation of flow.

JUSTIFICATION: Due to the configuration of the minimum flow motor operated valve control logic, fully developed flow cannot be achieved through this check valve. Additionally, full-stroke exercising cannot be verified with existing instrumentation. There is no provision on this valve that provides position indication of the disc. There are no test taps and block valves to enable a back-leakage test to verify closure.

ALTERNATE TEST: ISTC-5221(c) allows disassembly each refueling outage to verify operability as an alternative to quarterly testing. Valve Relief Request VRR-04 allows this activity to be performed during on-line system outages.

ROJ-17

SYSTEM:	**HIGH PRESSURE COOLANT INJECTION (HPCI)**
COMPONENTS:	23HPI-130 CATEGORY: C
SAFETY FUNCTION:	This valve opens to provide a flowpath for cooling water circulation through the HPCI turbine lube oil cooler and closes to prevent flow diversion.
JUSTIFICATION:	This valve has no means of determining disc position or flowrate and, thus there is no mechanism for verifying full accident flow. In addition, there are no test taps and block valves to enable a back-leakage test to verify closure.
ALTERNATE TEST:	ISTC-5221(c) allows disassembly each refueling outage to verify operability as an alternative to quarterly testing. Valve Relief Request VRR-04 allows this activity to be performed during on-line system outages. In addition, this valve will be partial-flow tested once per operating cycle.

ROJ-18

SYSTEM:	**HIGH PRESSURE COOLANT INJECTION (HPCI)**
COMPONENTS:	23HPI-131 CATEGORY: C
SAFETY FUNCTION:	This valve closes to prevent flow diversion from the HPCI booster pump.
JUSTIFICATION:	There is no provision on this valve that provides position indication of the disc. There are no test taps and block valves to enable a back-leakage test to verify closure.
ALTERNATE TEST:	ISTC-5221(c) allows disassembly each refueling outage to verify operability as an alternative to quarterly testing. Valve Relief Request VRR-04 allows this activity to be performed during on-line system outages.

ROJ-19

SYSTEM: **MAIN STEAM (MSS)**

COMPONENTS: 29AOV-80A,B,C,D CATEGORY: A

SAFETY FUNCTION: These valves are normally open to provide steam to the main turbine generator and auxiliaries, and they close to isolate steam flow and for containment isolation.

JUSTIFICATION: Fail safe exercising these valves requires local manipulation of valves located inside containment. During plant operation at power, and on occasion while in cold shutdown, the containment atmosphere is maintained in a nitrogen-inerted condition. During such periods, entry into the containment is not practical due to personnel safety concerns.

ALTERNATE TEST: These valves will be verified to fail safe close at each refueling outage in accordance with ISTC-3521(e) and (h).

ROJ-20

SYSTEM: **FEEDWATER (FWS)**

COMPONENTS: 34FWS-28A, B CATEGORY: A/C

SAFETY FUNCTION: These valves close to provide containment isolation upon cessation of feedwater flow during accident conditions.

JUSTIFICATION: There is no provision on either of these valves that provides position indication of the disc. As a result, valve closure must be verified by back-leakage testing. During plant operation at power, these valves cannot be closed without precipitating a plant shutdown.

During cold shutdowns, performing a back-leakage test requires entry into the containment vessel and extensive system preparations, including draining of the main feedwater piping from the outlet of the sixth point feedwater heaters to the reactor vessel isolation valves (approximately 2000 gallons per line). Furthermore, testing of 34FWS-28B requires shutdown of the cleanup system. It is estimated that testing either of these valves would require up to 24 hours and demand significant staff resources. Also, entry into the containment at cold shutdown with the containment inerted is a personnel safety concern.

ALTERNATE TEST: Closure of these valves will be demonstrated during each refuel outage in accordance with ISTC-3522(c) and (f) by conducting a back-leakage test.

ROJ-21

SYSTEM: **INSTRUMENT AIR (IAS)**

COMPONENTS: 39IAS-22 & 39IAS-29 CATEGORY: A/C

SAFETY FUNCTION: These valves open to provide nitrogen to the MSIVs and the SRV accumulators inside the containment. They close for containment isolation.

JUSTIFICATION: Exercising these valves open is performed by charging the bleed-down header following MSIV testing. During plant operation at power, this is impractical since closure of the MSIVs would cause a plant trip. Also performing such a test requires entry into the containment vessel and local manipulation of test connections located inside the drywell.

During plant operation at power and, on occasion, while in the cold shutdown mode, the containment atmosphere is maintained in a nitrogen-inerted condition. During such periods, entry into the containment is not practical due to personnel safety concerns.

ALTERNATE TEST: These valves will be tested open at each refueling outage in accordance with ISTC-3522(c) and (f).

ROJ-22

SYSTEM: **CORE SPRAY (CSP)**

COMPONENTS: 14CSP-10A, B CATEGORY: C

SAFETY FUNCTION: The Core Spray pump discharge check valves open to allow flow to the CS spargers during injection for accident mitigation. They rapid close upon pump stopping to prevent draining the pump discharge piping.

DISCUSSION: Full stroke exercising as defined in Generic Letter 89-04 requires passing the maximum required accident condition flow through the valve. As defined in NEDC-31317P (JAF SAFER/GESTR), the Core Spray system maximum required flow for one pump is 5,456 gpm. Technical Specification 4.5.A.1.b requires flow rate testing of the Core Spray pumps at least 4,265 gpm against a system head corresponding to a reactor vessel pressure > 113 psi above primary containment pressure. The TS test is performed quarterly through the Core Spray system test loop to the Torus. The test loop is currently evaluated at 4,700 gpm, therefore, testing at higher flows is not practicable.

JUSTIFICATION: Full stroke exercising these valves during power operation would require injecting 5,456 gpm into the reactor. During plant operation, the core spray pumps cannot produce sufficient discharge pressure to overcome reactor vessel pressure and provide flow into the vessel.

During cold shutdown, injecting into the reactor vessel requires a major effort to establish the requisite conditions to align the Core Spray system to allow supplying water from the Condensate Storage Tank. Torus water cannot be used since it does not meet the chemistry requirements for reactor grade makeup. It is estimated that such a test would take about 24 hours to perform and would result in a significant burden on the plant operating staff. In addition, reverse flow testing of these valves requires installation of non-intrusive test equipment.

ALTERNATE TEST: In accordance with guidance provide in NUREG-1482 section 3.1.1 and 4.1.6, these valves will be partially stroke exercised on a quarterly basis by passing the Tech Spec flow of 4,265 gpm, and full flow exercised on a refueling basis by passing > 5,456 gpm. Additionally, these valves will be reverse flow tested on a refueling outage frequency. This meets the requirements of ISTC-3522(c) and (f).

ROJ-23

SYSTEM: **HIGH PRESSURE COOLANT INJECTION (HPCI)**

COMPONENTS: 23HPI-402 and 23HPI-403 CATEGORY: C

SAFETY FUNCTION: These valves open to eliminate any differential pressure that could force water from the suppression chamber into the HPCI exhaust piping when the suppression chamber pressure is greater than atmospheric. They close to prevent HPCI exhaust steam from entering the suppression chamber air space, thus bypassing the quenching action of the torus.

JUSTIFICATION: Operation of the HPCI pump turbine does not prove operability of these valves and special testing is required. This testing necessitates isolation of the vacuum breaker piping, which results in the inoperability of the HPCI system for the duration of the test. Due to the importance of the HPCI system function and the lack of a redundant HPCI train, to perform this testing during plant operation at power, is considered to be impractical without a compensating level of quality and safety

ALTERNATE TEST: These valves will be forward and reverse flow tested each refueling outage in accordance with ISTC-3522(c) and (f).

ROJ-24

SYSTEM: **REACTOR CORE ISOLATION COOLING (RCIC)**

COMPONENTS: 13RCIC-37 & 13RCIC-38 CATEGORY: C

SAFETY FUNCTION: These valves open to eliminate any differential pressure that could force water from the suppression chamber into the RCIC steam exhaust piping when the suppression chamber pressure is greater than atmospheric.

JUSTIFICATION: Verifying proper operation of these valves involves a test that requires isolation of the vacuum breakers for an extended period of time. During this test, the RCIC system is considered to be inoperable. Due to operational concerns associated with the plant's response to possible transients without an operable RCIC system, it is considered to be impractical without a compensating level of quality and safety.

ALTERNATE TEST: These valves will be forward and reverse flow tested each refueling outage in accordance with ISTC-3522(c) and (f).

ROJ-25

SYSTEM: **REACTOR CORE ISOLATION COOLING (RCIC)**

COMPONENTS: 13RCIC-7 CATEGORY: C

SAFETY FUNCTION: This valve opens to allow condensate drainage from the steam exhaust piping to the suppression chamber. It closes for containment isolation.

JUSTIFICATION: Closure verification for this valve is accomplished by performing a back flow test where the drain line is isolated from the steam exhaust line. Placing the RCIC system in this configuration during plant operation is undesirable and could adversely affect the plant's response in the event of a transient. Open exercise includes similar configuration.

ALTERNATE TEST: This valve will be reverse flow tested during refuel outages in accordance with ISTC-3522(c) and (f).

ROJ-26

SYSTEM: **HIGH PRESSURE COOLANT INJECTION (HPCI)**

COMPONENTS: 23HPI-13 CATEGORY: C

SAFETY FUNCTION: This valve opens to allow condensate drainage from the steam exhaust piping to the suppression chamber. It closes for containment isolation.

JUSTIFICATION: Closure verification for this valve is accomplished by performing a back flow test where the drain line is isolated from the steam exhaust line and the torus is vented to atmosphere. Placing the HPCI system and containment in this configuration during plant operation could adversely affect the plant's response in the event of an accident and is considered to be impractical without a compensating level of quality and safety.

ALTERNATE TEST: This valve will be reverse flow tested during refuel outages in accordance with ISTC-3522(c) and (f).

ROJ-27

SYSTEM:	**CONTROL ROD DRIVE HYDRAULICS (CRD)**
COMPONENTS:	03HCU-115 (Typical for 137 HCUs) CATEGORY: C
SAFETY FUNCTION:	These valves close on initiation of a scram to prevent diversion of scram drive water into a depressurized charging header.
JUSTIFICATION:	Exercising these valves during operation would require depressurization of the charging header with the potential for a loss of scram function.
ALTERNATE TEST:	These valves will be reverse flow tested during refuel outages in accordance with ISTC-3522(c) and (f).

ROJ-28

SYSTEM:	**RESIDUAL HEAT REMOVAL (RHR)**
COMPONENTS:	10MOV-17 & 10MOV-18 CATEGORY: A
SAFETY FUNCTION:	These valves remain closed to protect the RHR System piping and components from overpressurization during plant operation and inadvertent drain down events while in cold shutdown. 10MOV-17 also performs a containment isolation function.
JUSTIFICATION:	With the reactor pressure greater than 75 psig, these valves are prevented from opening by an electrical interlock.
ALTERNATE TEST:	These valves will be stroke time tested during refuel outages in accordance with ISTC-3521(e) and (h).

ROJ-29

SYSTEM: **RESIDUAL HEAT REMOVAL (RHR)**

COMPONENTS: 10AOV-68A, B CATEGORY: A/C

SAFETY FUNCTION: These valves open to provide flow paths for LPCI injection to the reactor vessel. They close for pressure isolation from the reactor vessel.

JUSTIFICATION: With the reactor at operating pressure, the RHR pumps cannot develop sufficient discharge pressure to open these valves. The installed air operators are designed to open these valves at zero differential pressure, which is not practical with the reactor at operating pressure. Therefore, these valves cannot be full or part stroke exercised during normal plant operation.

Since there is no position indication for these valves, closure verification must be done by backflow testing. Such testing during plant operation is impractical due to personnel safety concerns related to the potential release of radioactive steam at high pressure.

ALTERNATE TEST: In accordance with recommendations of NUREG-1482 section 4.1.6, these valves will be forward and reverse flow tested during refueling outages in accordance with ISTC-3522(c) and (f).

ROJ-30

SYSTEM: **FEEDWATER (FWS)**

COMPONENTS: 34NRV-111A, B CATEGORY: A/C

SAFETY FUNCTION: These valves close to provide containment isolation and to prevent diversion of HPCI flow into the feedwater system.

JUSTIFICATION: Exercising these valves during operation would require isolation of feedwater flow to the reactor vessel. Such an evolution would create an adverse operating condition and potential automatic plant shutdown. To perform this testing during plant operation is considered to be impractical without a compensating level of quality and safety.

ALTERNATE TEST: In accordance with recommendations of NUREG-1482 section 4.1.6, these valves will be forward and reverse flow tested during refueling outages in accordance with ISTC-3522(c) and (f).

Valve Relief Requests

VRR-01

Withdrawn

VRR-02

System:
TRAVERSING IN-CORE PROBE (TIP)

ASME Code Components Affected:
07SOV-104A, B, C

Component/System Function:
These valves close to provide containment isolation.

Applicable Code Edition and Addenda:
ASME OM Code-2001 including 2003 Addenda

OM Code Category:
A

Applicable Code Requirement:
ISTC-5151, "Valve Stroke Testing"

ISTC-5151(a), Active valves shall have their stroke times measured when exercised in accordance with ISTC-3500.

ISTC-5151(c), The stroke time of all valves shall be measured to at least the nearest second.

Reason for Request:
The computer control system for the TIP system includes a provision for measuring valve cycle time (opened and closed) and not closure time alone. The sequence opens the subject valve (stroke < 2 seconds), maintains it energized for 10 seconds (including the opening stroke), and de-energizes the valve solenoid allowing the valve to stroke closed (< 2 seconds). The total elapsed time is specified to be </= 12 seconds.

Proposed Alternative and Basis for Use:
The overall cycle time (opened and closed) for these valves will be measured and evaluated in accordance with ISTC-5152.

Duration of Proposed Alternative:
The proposed alternative identified in this 10CFR50.55a Request shall be utilized during the Fourth Ten Year IST Interval.

Precedents:

This 10CFR50.55a Request was previously approved for the Interval 3 IST Program in NRC SER dated November 17, 1998 (TAC No. MA0096). The circumstances and basis for the previous NRC approval have not changed.

References:

None

VRR-03

System:
Various Excess Flow Check Valves (Listed Below)

ASME Code Components Affected:

02-2EFV-PS-128A,B
02-2EFV-PT-24A,B
02-2EFV-PT-25A,B
02-2EFV1-DPT-111A,B
02-2EFV12-FT-110A,C,E,G
02-2EFV2-DPT-111A,B
02-2EFV2-FT-110A,C,E,G
02-3EFV-11
02-3EFV-13A,B
02-3EFV-15A,B,N
02-3EFV-17A,B
02-3EFV-19A,B
02-3EFV-21A,B,C,D
02-3EFV-23A,B,C,D
02-3EFV-23
02-3EFV-25
02-3EFV-31A,B,C,D
02-3EFV-31E,F,G,H
02-3EFV-31J,K,L,M
02-3EFV-31N,P,R,S
02-3EFV-33
13EFV-01A,B
13EFV-02A,B
14EFV-31A,B
23EFV-01A,B
23EFV-02A,B
29EFV-30A,B,C,D
29EFV-34A,B,C,D
29EFV-53A,B,C,D
29EFV-54A,B,C,D

Component/System Function:
The reactor instrumentation lines excess flow check valves close to limit the flow in the respective instrument lines in the event of an instrument line break downstream of the EFCVs outside containment.

Applicable Code Edition and Addenda:
ASME OM Code-2001 including 2003 Addenda

OM Code Category:
A/C

Applicable Code Requirement:
Subsection ISTC, Inservice Testing of Valves in Light Water Reactor Power Plants, ISTC-3510, "Exercising Test Frequency", requires these valves to be tested nominally every 3 months, except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and ISTC-5222.

Reason for Request:
Relax the number of EFCVs tested every refuel outage from "each" to a "representative sample" every refuel outage (nominally once every 24 months). The representative sample is based on approximately 20 percent of the valves each cycle such that each valve is tested every 10 years (nominal).

The BWROG Topical Report, B21-00658-01, dated November 1998, and associated NRC safety evaluation, dated March 14, 2000, provides the basis for this relief. The report provides justification for relaxation of the testing frequency described above. The BWROG report provides justification for relocation of the TS SR from the TS and relaxation of the testing intervals for the EFCVs. This specific request is solely for the relaxation in the testing frequency as described above.

The report demonstrates, through operating experience, a high degree of reliability with EFCVs and the low consequences of an EFCV failure. Reliability data in the report (Table 4-1) documents zero EFCV failures (failure to close) for the FitzPatrick plant. The instrument lines at FitzPatrick have a flow restricting orifice upstream of the EFCVs to limit reactor water leakage in the event of rupture. Previous evaluations contained in the James A. FitzPatrick Final Safety Analysis Report (FSAR) of such an instrument line rupture do not credit the EFCVs for isolating the rupture. Thus a failure of an EFCV, though not expected as a result of this request, is bounded by the analysis. Based on the BWROG report and the analysis contained in the FSAR, the proposed alternative to the required exercise testing frequency for EFCVs prescribed by the OM Code provides an acceptable level of quality and safety.

Proposed Alternative and Basis for Use:
Exercise test, by full-stroke to the position required to fulfill its function, a representative sample of EFCVs every refuel outage. The representative sample is based on approximately 20 percent of the valves each cycle such that each valve is tested every 10 years (nominal). EFCV failures will be documented in the FitzPatrick's Corrective Action Program as a surveillance test failure. The failure will be evaluated and corrected. An Equipment Failure Evaluation (EFE) will be required per the Corrective Action Program. The EFE will encompass common failure mode identification, industry experience evaluation, and review of similar component failure history.

Proposed Alternative Testing:
To ensure EFCV performance remains consistent with the extended test interval a minimum acceptance criteria of less than or equal to 1 failure per year on a 3 year rolling average will be required. Upon exceeding the criteria a root-cause evaluation is required to determine cause, extent of conditions, an evaluation of the testing interval to ensure reliability of the EFCVs, and a risk analysis of the effects of the failures on cumulative and instantaneous plant safety. Corrective actions and performance goals will

be established based on the results of the root-cause analysis.

Duration of Proposed Alternative:

The proposed alternative identified in this 10CFR50.55a Request shall be utilized during the Fourth Ten Year IST Interval.

Precedents:

This 10CFR50.55a Request was previously approved for the Interval 3 IST Program in NRC SER dated October 10, 2000 (TAC No. MA8767). The circumstances and basis for the previous NRC approval have not changed.

(Refer to similar relief approved for Columbia Generating Station, SER Dated March 23, 2007, TAC Nos. MD3537, MD3538, MD3539, MD3541, MD3542, MD3550 MD3551 and MD3552), RV05.)

References:

BWROG Report B21-00658-01, "Excess Flow Check Valve Testing Relaxation," dated November 1998.

Columbia Generating Station, SER Dated March 23, 2007, TAC Nos. MD3537, MD3538, MD3539, MD3541, MD3542, MD3550 MD3551 and MD3552

VRR-04

System:
HIGH PRESSURE COOLANT INJECTION (HPCI)

ASME Code Components Affected:

23HPI-130	HPCI Gland Seal Cooling Return Check Valve
23HPI-131	HPCI Condensate Pump P-141 Disch Check Valve
23HPI-32	HPCI Booster Pump P-1B Suct From CST 33TK-12A and B Check Valve
23HPI-61	HPCI Booster Pump P-1B Suct From Suppression Pool Check Valve
23HPI-62	HPCI Min Flow Line To RHR Check Valve

Component/System Function:
Various

Applicable Code Edition and Addenda:
ASME OM Code-2001 including 2003 Addenda

OM Code Category:
C

Applicable Code Requirement:
Subsection ISTC, Inservice Testing of Valves in Light Water Reactor Power Plants, ISTC-3510, "Exercising Test Frequency", requires these valves to be tested nominally every 3 months, except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3570, ISTC-5221 and ISTC-5222.

For the listed valves, the FitzPatrick IST program exercises the provisions of ISTC-3522(c) and ISTC-5221(c)(3) which together establish that: "As an alternative to the testing above, sample disassembly every refueling outage to verify operability of check valves may be used." Thus, a sample of these valves would be disassembled and inspected during each refueling outage.

Reason for Request:
Relaxation of the "refueling outage" restriction of ISTC-3522(c) and ISTC-5221(c)(3) for testing of the listed valves to a test frequency of "a sample at least once per operating cycle."

Performance of these IST activities on a refueling outage frequency is currently acceptable in accordance with ISTC. By specifying testing activities on a frequency commensurate with each refueling outage, ISTC 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 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 the operating cycle is consistent with the intent of ISTC. Over time, approximately the same number of tests would be performed using the proposed operating cycle test frequency as would be performed using the current refueling outage frequency. Thus, IST activities performed during the proposed operating cycle test frequency provide an equivalent level of quality and safety as IST performed at a refueling outage frequency.

Proposed Alternative and Basis for Use:
Any on-line IST activities associated with this relief will be performed subject to the FitzPatrick program for compliance with the requirements of 10 CFR 50.65(a)(4), "Requirements for monitoring the effectiveness of maintenance at nuclear power plants."

Proposed Alternative Testing:
ISTC-5221(c)(3) allows sample disassembly each refueling outage to verify operability as an alternative to quarterly testing. This activity will be performed, with the exception that it will be done at a frequency of at least once per operating cycle in lieu of during each refueling outage.

Duration of Proposed Alternative:
The proposed alternative identified in this 10CFR50.55a Request shall be utilized during the Fourth Ten Year IST Interval.

Precedents:
This 10CFR50.55a Request was previously approved for the Interval 3 IST Program in NRC SER dated October 10, 2000 (TAC No. MA8767). The circumstances and basis for the previous NRC approval have not changed.

References:
None

VRR-05

System:
ELECTRIC BAY AND TUNNEL VENTILLATION (SYSTEM 67)
CONTROL ROOM COOLING AND VENTILLATION (SYSTEM 70)

ASME Code Components Affected:

67PCV-101
70TCV-120A, B
70TCV-121A, B

Power-Operated Valves that are used for System Control and have a Safety Function currently included in the FitzPatrick Inservice Testing Program

Component/System Function:

System control with an associated failsafe position feature.

Applicable Code Edition and Addenda:
ASME OM Code-2001 including 2003 Addenda

OM Code Category:
B

Applicable Code Requirement:
ISTA-3130, "Application of Codes Cases", ISTA-3130(b) states, Code Cases shall be applicable to the edition and addenda specified in the test plan.

1. OM Subsection ISTC, Paragraph ISTC-5131, Pneumatically Operated Valves Stroke Testing

2. OM Subsection ISTC, Paragraph ISTC-5132, Stroke Test Acceptance Criteria

3. OM Subsection ISTC, Paragraph ISTC-5133(b), Stroke Test Corrective Action

Reason for Request:
ISTA-3130, "Application of Codes Cases", ISTA-3130(b) states, Code Cases shall be applicable to the edition and addenda specified in the test plan. ISTA-3130(c) states, Code Cases shall be in effect at the time the test plan is filed, except as provided in ISTA-3130(d). ISTA-3130(d) states, Code Cases issued subsequent to filing the test plan may be proposed for use in amendments to the test plan. Licensees with a Code of record that is not applicable to the acceptance of this Code Case may submit a request for

relief to apply the Code Case consistent with the indicated conditions to provide an acceptable level of quality and safety.

NUREG-1482, Revision 1, Section 4.2.9 states in part; Control valves that perform a safety or fail-safe function must be tested in accordance with the Code provisions for IST to monitor the valves for degrading conditions.

The NRC staff recommends that licensees should apply ASME Code Case OMN-8, as accepted in RG 1.192, if concerns exist regarding IST of control valves with fail-safe functions.

Code Case OMN-8 states that stroke-time testing need not be performed for POVs when the only safety-related function of those valves is to fail safe. Any abnormality or erratic action experienced during valve exercising should be recorded in the test record and an evaluation should be performed.

RG 1.192 allows licensees with an applicable Code of record to implement ASME Code Case OMN-8 in lieu of the Code provisions for Valve Stroke Testing, Stroke Time Acceptance Criteria and Stroke Test Corrective Action, without the need to submit a relief request.

The Code of record for FitzPatrick Fourth 10-Year IST Interval is OM Code-2001 Edition through 2003 Addenda. The applicable Code for OMN-8, as stated in RG 1.192, is OM Code-1998 through the 2000 Addenda.

Proposed Alternative and Basis for Use:

Pursuant to the guidelines provided in NUREG-1482, Revision 1, Section 4.2.9, FitzPatrick proposes to implement Code Case OMN-8 in lieu of the Code provisions for Valve Stroke Testing, Stroke Time Acceptance Criteria and Stroke Test Corrective Action specified in ISTC-5130. Code Case OMN-8 has been determined by the NRC to provide an acceptable level of quality and safety as documented in RG 1.192.

ASME Code Case OMN-8 states that stroke-time testing need not be performed for these valves when the only safety-related function of the valves is to fail safe. OM Code Committee is in the process of revising the applicability of this Code Case to the later approved OM Code editions and addenda.

Proposed Alternative Testing:

Using the provisions of this 10 CFR 50.55a request as an alternative to the AOV stroke-time testing requirements of ISTC-5130 provides an acceptable level of quality for the determination of valve operational readiness. Code Case OMN-8 should be considered acceptable for use with OM Code-2001 through 2003 Addenda as the Code of record. Therefore, pursuant to 10CFR50.55a(a)(3)(i), FitzPatrick requests relief from the specific ISTC Code requirements identified in this 10CFR 50.55a request.

These valves shall be exercised in accordance with the Subsection ISTC requirements and the failsafe position on a loss of power shall be verified. Any abnormality or erratic action experienced during valve exercising shall be evaluated per the Corrective Action Program.

Duration of Proposed Alternative:

The proposed alternative identified in this 10CFR50.55a Request shall be utilized during the Fourth Ten Year IST Interval.

Precedents:

None for FitzPatrick.

(Refer to similar relief approved for Columbia Generating Station, SER Dated March 23, 2007, TAC Nos. MD3537, MD3538, MD3539, MD3541, MD3542, MD3550 MD3551 and MD3552), RV05.)

(Refer to similar relief approved for Surry Power Station, Units 1 and 2 – SER Dated July 2, 2004, (TAC Nos. MC0120 through MC0146).

References:

Code Case OMN-8, "Alternative Rules for Preservice and Inservice Testing of Power-Operated Valves that are used for System Control and have a Safety Function per OM-10"

Regulatory Guide 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code", Table 1, "Acceptable OM Code Cases"

OM Code-2001 w/2003 Addenda, Paragraph ISTC-5130, "Pneumatically Operated Valves"

OM Code-2001 w/ 2003 Addenda, Paragraph ISTA-3130, "Application of Code Cases"

NUREG-1482, Revision 1, Section 4.2.9, "Control Valves with a Safety Function."

Surry Power Station, Units 1 and 2 – SER Dated July 2, 2004, (TAC Nos. MC0120 through MC0146).

Columbia Generating Station, SER Dated March 23, 2007, TAC Nos. MD3537, MD3538, MD3539, MD3541, MD3542, MD3550 MD3551 and MD3552