

JAMES A. FITZPATRICK
NUCLEAR POWER PLANT

INSERVICE TESTING PROGRAM FOR
PUMPS AND VALVES

Revision 3
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INSERVICE TESTING PROGRAM FOR
PUMPS AND VALVES
FOR THE
JAMES A. FITZPATRICK NUCLEAR POWER PLANT

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INSERVICE TESTING PROGRAM FOR
PUMPS AND VALVES
FOR THE
JAMES A. FITZPATRICK NUCLEAR POWER PLANT

1.0 Introduction

Under the provisions of 10 CFR 50.55a, inservice testing of safety related pumps and valves will be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda. As specified in 10 CFR 50.55a(b), the effective edition of Section XI with regard to this program is the 1974 Edition through the Summer 1975 Addenda. This program identifies the pump and valve inservice testing that will be performed at the James A. FitzPatrick Nuclear Power Plant to comply with the requirements of 10 CFR 50.55a. Based on the date of commencement of commercial operation this program is effective on November 28, 1978.

To identify the pumps and valves having a safety function the plant system drawings listed in Appendix E have been reviewed for Quality Group A, B and C (ASME Code Class 1, 2 and 3, respectively) boundary classifications, under the criteria of 10 CFR 50.2(v) and USNRC Regulatory Guide 1.26, Revision 2. The rationale for classification of the reactor core isolation cooling (RCIC) system is presented in Appendix F. Those drawings which depict non-nuclear systems are indicated by "NNS". Drawings which include systems or parts of systems which are Quality Group A, B or C but outside the scope of Section XI of the Code are designated "augmented". Applicable portions of these systems will be tested as required by Technical Specifications, Regulatory Guides or other governing documents. All drawings indicated by "XI" depict systems or parts of systems which are Code Class 1, 2 or 3. The pump and valve inservice testing programs have been developed consistent with the 1978 "NRC Staff Guidance for Preparing Pump and Valve Test Program Descriptions and Associated Relief Requests Pursuant to 10 CFR 50.55a(g)", included in Appendix D.

2.0 Pump Inservice Testing Program

The pump test program shall be conducted in accordance with Subsection IWP of Section XI of the 1974 Edition of the ASME Boiler and Pressure Code

through Summer 1975 Addenda, except for relief requested under the provisions of 10 CFR 50.55a (g) (5) (iii). The pump inservice testing program for safety related pumps is included as Appendix A. Table A, Appendix A, lists the pumps which require operational testing under the guidelines of Section XI, Subsection IWP-1100, and gives specific requests for relief. Test parameters which will be measured for each pump are indicated.

3.0 Valve Inservice Testing Program

The valve test program shall be conducted in accordance with Subsection IWV of Section XI of the 1974 Edition of the ASME Boiler and Pressure Vessel Code through the Summer 1975 Addenda, except for relief requested under the provisions of 10 CFR 50.55a (g) (5) (iii). The valve test program is included as Appendix C. The codes and symbols used to abbreviate the tables in Appendix C are explained in Appendix B.

3.1 Category A Valves

Valves for which seat leakage is important may generally be classified as pressure isolation valves, containment isolation valves or both pressure and containment isolation valves. Containment isolation valves (CIV) falling within the scope of ASME Section XI are tested in accordance with the Section XI requirements with the exception of the seat leakage tests (IWV-3420). The seat leakage testing of these valves meets the intent of Section XI, but the actual test procedures shall be in accordance with the 10 CFR 50, Appendix J, Type C, CIV test program. For valves performing a containment isolation function individual valve leak rates are not in themselves significant. The only pertinent leak rate criteria for CIV's is that the total leak rate for all penetrations and valves be less than $0.60 L_a$. The FitzPatrick plant was designed to perform the Appendix J, Type C tests, not the individual Category A leak tests (i.e., some penetration test connections test more than one valve at a time). Accordingly, all CIV seat leak testing shall be performed in accordance with the requirements of 10 CFR 50, Appendix J, Type C, in lieu of the Category A requirements of Section XI.

Those pressure isolation valves within the scope of ASME Section XI shall be tested to meet the requirements of IWV-3420. Those valves within the scope of ASME Section XI classified as pressure isolation and containment isolation valves shall be tested to meet the requirements of IWV-3420 and the 10 CFR 50, Appendix J, Type C, CIV test program. The following designations will be used in the program for valve classification:

- 1) A-1 - Pressure isolation valve only.
- 2) A-2 - Containment isolation valve only.
- 3) A-3 - Pressure isolation and containment isolation valve.

These classifications will appear as a 1, 2 or 3 under Column A of the valve category in Appendix C, Table 1 and 3, as applicable.

The CIV's not within the scope of Section XI are cycled and seat leak tested in accordance with the FitzPatrick 10 CFR 50, Appendix J, Type C test program. These valves are listed in Table 3.1.

3.2 Corrective Action

Relief is requested from the corrective action requirements of Paragraph IWV-3410 (g) of Section XI. The requirement for corrective action of components in safety systems is adequately covered in the limiting conditions for operation contained in the present FitzPatrick Technical Specifications.

TABLE 3.1
CONTAINMENT ISOLATION VALVES NOT INCLUDED
IN SCOPE OF ASME SECTION XI BUT
TESTED PER 10 CFR 50 APPENDIX J, TYPE C PROGRAM

Penetration Number	Number	
X-25 & X-71	27-AOV-111, 112	Drywell Purge Inlet
X-25 & X-71	27-AOV-131A&B, 27 CV-2A&B	
X-26A&B	27-AOV-114	Drywell Main Exhaust
X-26A&B	27-AOV-113	Drywell Main Exhaust
X-26A&B	27-MOV-113	Drywell Exhaust Bypass Valve
X-205	27-MOV-117	Suppression Chamber Exhaust Bypass Valve
X-220	27-AOV-132A&B, CNS-CV-2C&D	
X-205	27-AOV-117	Suppression Chamber Main Exhaust
X-205	27-AOV-118	Suppression Chamber Main Exhaust
X-26A	27-SOV-120A&B 27-SOV-121A&B 27-SOV-122A&B	Containment Atmosphere Sampling Lines
X-59	27-SOV-123A&B	Containment Atmosphere Sampling Lines
X-203A	27-SOV-119A&B	Suppression Chamber Atmosphere Sampling Lines
X-203B	27-SOV-124A&B	Containment/Suppression Chamber Atmosphere Sampling Lines
X-55B	27-SOV-125A&B	Containment Sampling Lines
X-202B	27-AOV-101A&B	Vacuum Breaker Reactor Building to Suppression Chamber
X-202G	27-VB-6 27-VB-7	Vacuum Breaker Reactor Building to Suppression Chamber
X-31Ac	02-RWR-40A 02-RWR-13A	Mini-purge to Recirc Pump Seals
X-31Bc	02-RWR-40B 02-RWR-13B	Mini-purge to Recirc Pump Seals
X-35A-D		Traveling in-core probe explosive shear valve
X-35A-D		Traveling in-core probe ball valve
X-35E	X-35E-TP-1	Traveling in-core probe purge valve
X-21	39-SAS-9&10	Service Air to Drywell
X-22	IAS-22,23&24	Instrument air to Drywell
X-61	BAS-4&5	Breathing air to Drywell

APPENDIX A

J. A. FITZPATRICK PUMP INSERVICE TESTING PROGRAM

Summary of Information Provided

The pump test table (Table A) provides the following information:

- Individual pump identifier
- The Inservice Diagram (ISD) on which the pump is depicted
- ISD Coordinates
- Speed⁽¹⁾
- Inlet Pressure⁽¹⁾
- Differential Pressure⁽¹⁾
- Flow Rate⁽¹⁾
- Vibration Amplitude⁽¹⁾
- Observation of Lube Oil Level⁽¹⁾
- Test Interval
- Bearing Temperature⁽¹⁾

(1) These parameters are each addressed with an entry consisting simply of a "yes" or "no", indicating whether or not the parameter will be monitored during the 40-month program.

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

TABLE A - PUMP TEST PROGRAM

PREPARED BY W. Newell

DATE 4/18/78

REVIEWED BY N. Holland

DATE 5/19/78

Pump	ISD Number	ISD Coordinates	Speed $n(1)$	Inlet Pressure P_i	Differential Pressure Δp	Flow Rate Q	Vibration Amplitude V	Bearing Temperature T_b	Observe Lube Oil Level	Test Interval (2)
RESIDUAL HEAT REMOVAL 10-P-3A	11825-FM-20C, REV 14	G-5	NO	YES	YES	YES	YES	NO ⁽¹⁰⁾	YES	31 DAYS (3)
RESIDUAL HEAT REMOVAL 10-P-3C	11825-FM-20C, REV 14	G-3	NO	YES	YES	YES	YES	NO ⁽¹⁰⁾	YES	31 DAYS (3)
RESIDUAL HEAT REMOVAL 10-P-3B	11825-FM-20D, REV 14	C-5	NO	YES	YES	YES	YES	NO ⁽¹⁰⁾	YES	31 DAYS (3)
RESIDUAL HEAT REMOVAL 10-P-3D	11825-FM-20D, REV 14	C-3	NO	YES	YES	YES	YES	NO ⁽¹⁰⁾	YES	31 DAYS (3)
RESIDUAL HEAT REMOVAL SERVICE WATER 10-P-1A	11825-FM-20C, REV 14	E-8	NO	YES ⁽⁴⁾	YES	YES	YES	NO ⁽⁵⁾	NO ⁽⁵⁾	31 DAYS
RESIDUAL HEAT REMOVAL SERVICE WATER 10-P-1C	11825-FM-20C, REV 14	E-7	NO	YES ⁽⁴⁾	YES	YES	YES	NO ⁽⁵⁾	NO ⁽⁵⁾	31 DAYS

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JAMES A. FITZPATRICK NUCLEAR POWER PLANT

TABLE A - PUMP TEST PROGRAM

PREPARED BY W. Newell DATE 4/18/78 REVIEWED BY N. Holland DATE 5/19/78

Pump	ISD Number	ISD Coordinates	Speed $n^{(1)}$	Inlet Pressure P_i	Differential Pressure Δp	Flow Rate Q	Vibration Amplitude V	Bearing Temperature T_b	Observe Lube Oil Level	Test Interval (2)
RESIDUAL HEAT REMOVAL SERVICE WATER 10-P-1B	11825-FM-20D, REV 14	E-8	NO	YES ⁽⁴⁾	YES	YES	YES	NO ⁽⁵⁾	NO ⁽⁵⁾	31 DAYS
RESIDUAL HEAT REMOVAL SERVICE WATER 10-P-1D	11825-FM-20D, REV 14	E-8	NO	YES ⁽⁴⁾	YES	YES	YES	NO ⁽⁵⁾	NO ⁽⁵⁾	31 DAYS
HIGH PRESSURE COOLANT INJECTION MAIN 23-P-1M	11825-FM-25B, REV 11	D-3	YES ⁽⁶⁾	YES ⁽⁶⁾	YES ⁽⁶⁾	YES ⁽⁶⁾	YES	NO ⁽¹¹⁾	YES	COLD SHUT-DOWN (7)
HIGH PRESSURE COOLANT INJECTION BOOSTER 23-P-1B	11825-FM-25B, REV 11	B-3	YES ⁽⁶⁾	YES ⁽⁶⁾	YES ⁽⁶⁾	YES ⁽⁶⁾	YES	NO ⁽¹¹⁾	YES	COLD SHUT-DOWN (7)
*REACTOR CORE ISOLATION COOLING 13-P-1	11825-FM-22B REV 10	C-4	YES	YES	YES	YES	YES	NO ⁽¹⁰⁾	YES	COLD SHUT-DOWN (7)

*For the purposes of the Section XI Pump and Valve program, the Reactor Core Isolation Cooling Pump is not safety related and is only included in this program for plant and Technical Specification convenience. The code requirements are used only as a guide for establishing pump test requirements.

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JAMES A. FITZPATRICK NUCLEAR POWER PLANT

TABLE A - PUMP TEST PROGRAM

PREPARED BY W. Newell

DATE 4/18/78

REVIEWED BY N. Holland

DATE 5/19/78

Pump	ISD Number	ISD Coordinates	Speed $n(1)$	Inlet Pressure P_i	Differential Pressure Δp	Flow Rate Q	Vibration Amplitude V	Bearing Temperature T_b	Observe Lube Oil Level	Test Interval (2)
CORE SPRAY 14-P-1A	11825-FM-23A, REV 13	G-6	NO	YES	YES	YES	YES	NO ⁽¹⁰⁾	YES	31 DAYS (3)
CORE SPRAY 14-P-1B	11825-FM-23A, REV 13	J-6	NO	YES	YES	YES	YES	NO ⁽¹⁰⁾	YES	31 DAYS (3)
EMERGENCY SERVICE WATER 46-P-2A	11825-FM-46A, REV 12	A-6	NO	YES ⁽⁴⁾	YES	NO ⁽⁸⁾	YES	NO ⁽⁵⁾	NO ⁽⁵⁾	31 DAYS
EMERGENCY SERVICE WATER 46-P-2B	11825-FM-46A, REV 12	A-7	NO	YES ⁽⁴⁾	YES	NO ⁽⁸⁾	YES	NO ⁽⁵⁾	NO ⁽⁵⁾	31 DAYS
STANDBY LIQUID CONTROL 11-P-2A	11825-FM-21A, REV 10	G-5	NO	YES	YES	YES	YES	YES	YES	COLD SHUT- DOWN (9)
STANDBY LIQUID CONTROL 11-P-2B	11825-FM-21A, REV 10	G-7	NO	YES,	YES	YES	YES	YES	YES	COLD SHUT- DOWN (9)

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NOTES

1. Synchronous or induction motor driven pumps do not require a speed check per IWP-4400.
2. Test interval for measurement of test parameters, except for bearing temperatures which is performed annually.
3. Pump start-up and flow through the pump minimum flow circuit shall be demonstrated every 31 days. A pump full flow test measuring the required test parameters shall be performed every 92 days. This program minimizes the radiation exposure to test personnel without a decrease in pump operability assurance.
4. The forebay water level is a measure of the pump inlet pressure.
5. The pump bearings are water lubricated bearings and, therefore, the bearing temperature measurement and lube oil observation cannot be performed.
6. The HPCI main and booster pumps are driven by a common power shaft and work in tandem. Accordingly, the pumps will be tested together.
7. Testing of the HPCI/RCIC pumps requires a valve lineup to divert flow back to the Condensate Storage Tank. If a HPCI/RCIC initiation signal were given during this valve lineup and the full flow bypass valve, 23-MOV-21/13-MOV-30, failed to close, the HPCI/RCIC flow would still be diverted. Since this test condition could result in a loss of the HPCI/RCIC system, the HPCI/RCIC pump tests should not be performed during plant operation. The HPCI/RCIC pumps are steam turbine driven taking their motive steam from the Main Steam System. During cold shutdown conditions the Main Steam System is out of service and the plant auxiliary boiler has insufficient steam capacity to drive the HPCI/RCIC pumps at design head and flow conditions. The HPCI/RCIC drive turbine is designed for steam conditions from normal operating pressure down to 150 psig. Accordingly, the HPCI/RCIC pumps will be tested on the approach to cold shutdown or after startup when the Main Steam System pressure is less than 150 psig and HPCI is not needed for safety injection, but no more frequently than every 92 days.
8. The Emergency Service Water System is a fixed resistance system. Therefore, pump differential pressure will be measured and flow rate will not as permitted by Table IWP-3100-1.
9. Testing of Standby Liquid Control (SLC) pumps requires a valve lineup to circulate demineralized water to and from a test tank. During this lineup the isolation valve in the suction line from the SLC Tank is closed. If a SLC initiation signal were given during this valve lineup, all SLC flow to the reactor vessel would be lost. Since this test condition could result in a loss of the SLC system, the SLC pump tests should not be performed during plant operation. Accordingly, the SLC pumps will be tested at cold shutdown, but no more frequently than every 92 days.
10. There are no specific pump bearings only motor bearings which are located in an oil reservoir (oil bath) with no provisions for monitoring oil reservoir temperature.
11. There are no provisions for measuring bearing temperatures. The HPCI main injection pump has journal sleeve bearings which are supplied with oil from the turbine oil system. The HPCI booster injection pump and RCIC pump have radial and thrust roller located in an oil reservoir. The bearing lube oil levels can be measured in the turbine sump and oil reservoirs respectfully.

APPENDIX B

EXPLANATION OF CODES AND SYMBOLS USED

IN THE J. A. FITZPATRICK VALVE INSERVICE TESTING PROGRAM

This Appendix identifies the meaning of all codes and symbols used in the valve test program presented in Appendix C.

Table B-1
VALVE TEST PROGRAM MATRIX

SYSTEMS	ISD NUMBER	REV. NO.	NUMBER OF PAGES		
			T-1	T-2	T-3
Reactor Bldg. Cooling Water	11825-FM-15A	16	1	1	2
Radwaste Flow	11825-FM-17A	14	1	1	
RHR	11825-FM-20A	14	1	1	1
RHR	11825-FM-20B	14	2	1	1
RHR	11825-FM-20C	14	2		
RHR	11825-FM-20D	14	2		
SLC	11825-FM-21A	10	2	1	1
RCIC	11825-FM-22A	13	1	1	2
RCIC	11825-FM-22B	10	1		1
Core Spray	11825-FM-23A	13	2	1	1
RWCU	11825-FM-24A	12	1	1	1
HPCI	11825-FM-25A	13	1	1	2
HPCI	11825-FM-25B	11	1		1
Reactor Water Recirc.	11825-FM-26B	9	1	1	
CRD	11825-FM-27A	8	1	1	
CRD	11825-FM-27B	5	1		1
Main Steam	11825-FM-29A	13	1	1	2
Condensate	11825-FM-33A	18	1		
Feedwater	11825-FM-34A	15		1	1
Service Water	11825-FM-46A	14	1		
Reactor Bldg. Service Water Cooling	11825-FB-10H	11	1		1
Jacket Water System With Heat Exchanger (Lubrication Oil and Cooling, EDA)	Schoonmaker Drawing #40096	5	1		

Table B-2

SYMBOLS USED TO DESIGNATE VALVE TYPE

VALVE TYPES	
Symbol	Meaning
AN	Angle Valve
BF	Butterfly
BL	Ball
CK	Check
DA	Diaphragm
DM	Damper
GA	Gate
GL	Globe
ND	Needle
PG	Plug
RD	Rupture Disk
RG	Regulating
RL	Relief
SC	Stop Check
SK	Spring Check
XP	Explosive
3W	Three Way

Table B-3

SYMBOLS USED TO DESIGNATE VALVE ACTUATOR TYPE

VALVE ACTUATOR TYPES	
Symbol	Meaning
A	Air Operator
M	Manual Operator
MO	Motor Operator
SA	Self Actuated
S	Solenoid Operator
H	Hydraulic Operator
RD	Rupture Disc
XP	Explosive Operator

Table B-4

SYMBOLS USED TO DESIGNATE VALVE POSITION

VALVE POSITIONS	
Symbol	Meaning
O	Open
C	Closed
LO	Locked Open
LC	Locked Closed
TH	Throttled
-	Valve position determined by other system parameters as in the case of any check valve.

Table B-5

SYMBOLS USED IN THE TEST DURING COLUMN

The Codes used in this column indicate the plant operational status that must be achieved before a particular valve can be safely tested. For simplicity only the three following codes are used:

Test During	Plant Operational Status
3	Normal Operation. Valves in this category may be tested during normal operation without any adverse effects on operations or safety.
2	(1) Cold Shutdown. Testing of valves in this category must be deferred until cold shutdown in order to avoid possible adverse operational or safety situations.
1	Refueling. Testing of valves in this category must be deferred until the plant is in a refueling mode in order to avoid possible adverse operational or safety situations. For Category E valves and passive valves, this symbol indicates that log entries and/or operational checks are made as required during all plant conditions.

(1) Valve testing at cold shutdown should commence not later than 48 hours after shutdown and continue until complete or until the plant is ready to return to power. Completion of all valve testing is not a prerequisite to return to power. Any testing not completed at one cold shutdown should be performed during subsequent cold shutdowns. Valves need not be tested more frequently than once every three months if frequent cold shutdowns occur.

Table B-6
SYMBOLS FOR VALVE TEST METHOD

CATEGORY A OR B VALVES	
EF-1	Exercise valve (full stroke) for operability every 3 months in accordance with Section XI, Article IWV-3410.
EF-2	Exercise valve (full stroke) for operability during cold shutdown mode only.
EF-3	Exercise valve (full stroke) for operability during refueling mode only.
EF-4	Exercise valve (with remote position indicator and inaccessible for direct observation) for verification of valve position during refueling, but less than every 2 years in accordance with Section XI, Article IWV-3300.
EF-5	Exercise valve (with fail-safe actuators) to observe proper operation of fail-safe mechanisms every 3 months in accordance with Section XI, Article IWV-3410.
EF-6	Exercise valve (with fail-safe actuators) to observe proper operation of fail-safe mechanisms during refueling.
ET-1	Exercise valve to measure the full stroke time of a power operated valve. The valve stroke time will conform to the requirements specified in Technical Specifications and the test shall be performed in accordance with IWV-3410.
ET-2	Exercise valve to measure the full stroke time of a power operated valve. The valve stroke test will be performed in accordance with IWV-3410. The valve stroke time shall be specified by the licensee.
SLT-1	Seat Leak Test Valve during refueling, but less than every 2 years. Leak rate limits will be established after initial baseline testing in a manner to be specified by the licensee.
PV-1	Operational checks with appropriate record entries shall record the position of these passive valves before operations are performed and after operations are completed.
NOTE:	Passive valves are valves that are not required to change position to accomplish an essential function.

Table B-6

SYMBOLS FOR VALVE TEST METHOD (Cont'd)

CATEGORY C VALVES	
EF-1	Exercise valve (full stroke) for operability every 3 months in accordance with Section XI, Article IWV-3500.
EF-2	Exercise valve (full stroke) for operability during cold shutdown mode only.
EF-3	Exercise valve (full stroke) for operability during refueling mode only.
TF-1	Testing of safety and relief valve set points in accordance with IWV-3510.
NOTE:	On Category C check valves, whose function is to prevent reverse flow, the test will be performed to prove that the disk travels to the seat promptly on cessation or reversal of flow.
CATEGORY D VALVES	
RD-1	Operational checks of rupture discs shall be performed in accordance with the manufacturers recommendations. The frequency of those tests shall be specified by the Owner in accordance with IWV-3620.
XP-1	Operational checks of explosive charges will be performed during each refueling outages or at a frequency not to exceed 2 years in accordance with IWV-3610.
CATEGORY E VALVES	
OC-1	Operational check of valve to verify that the valve is either locked open or locked closed before and after operation in accordance with Section XI, Article IWV-3700.

Table B-7

SYMBOLS FOR VALVE STROKE TIME TESTING

N/A	Not Applicable. Stroke time testing is not applicable for Category C, D and E valves nor for passive Category A and B valves.
TBD	To Be Determined. The limiting value of valve stroke time is to be determined based upon Technical Specification Requirements or based upon baseline measurements taken the first time the valve is tested.

APPENDIX C

J. A. FITZPATRICK VALVE PROGRAM

Summary of Information Provided

In order to present the information in a meaningful manner, three different types of tables are used in this Appendix.

Table 1, "Valves Tested in Accordance with Code Requirements," identifies all of those valves which will be tested in accordance with the provisions of Section XI of the ASME Boiler and Pressure Vessel Code. The following information is provided on Table 1:

- System Name
- Inservice Diagram (ISD) Number
- Valve Number
- Quality Group Classification
- Coordinate Location of Valve on ISD
- Valve Category per Section XI, IWV-2110
- Valve Size
- Valve Type
- Actuator Type
- Normal Position
- Test During Column. This column identifies the plant operating status required in order to test the valve without compromising safety.
- Test Method Column. This column identifies the Section XI Code inspections that will be performed on each valve.
- Stroke Time. This column identifies the limiting value of full stroke time.

Codes and symbols used on this table are identified in Appendix B.

Table 2, "Valves for Which Seat Leakage is Important," identifies Category A (1,2,3) valves that are required for containment isolation, pressure isolation, or other function where valve seat leakage is important. The following information is provided on Table 2.

- System Name
- ISD Number
- Valve Number
- Quality Group Classification
- Coordinate Location of Valve on ISD
- Valve Size
- Valve Type
- Actuator Type
- Normal Position
- Leak Rate Value. Specific leak rates are identified only for those valves whose individual leak rates are significant. Valves that are seat leak tested as a part of the 10CFR50, Appendix J, Type C test program do not have individual seat leak rates specified.

- Stroke Time

Codes and symbols used on this table are identified in Appendix B.

Table 3, "Valves for Which Relief is Being Requested," identifies those valves for which the Code requirements for inspection are impractical and a request for relief is being made, as provided in 10CFR50.55a(g)(5)(iii). The following information is being provided on Table 3:

- System Name
- ISD Number
- Valve Number
- Quality Group Classification
- Coordinate Location of Valve on ISD
- Valve Category per Section XI, IWV-2110
- Valve Size
- Valve Type
- Actuator Type
- Normal Position
- Test During Column. This column identifies the plant operating status required in order to meet Section XI requirements.
- Test Method Column. This column identifies the Section XI Code inspections that have been determined to be impractical for the valve.
- Reason for Requesting Exemption. This column identifies the note which provides the technical justification for the exemption request.
- Testing To Be Performed. This column is used to specify the in lieu of testing which will be performed as a substitute for the testing specified in Section XI of the Code.

TABLE 1: VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

REV. 3, 10/01/79

* SYSTEM: REACTOR BUILDING COOLING WATER-SYSTEM NO 15				ISD NO. : 11825-FM-15A, REV 16				FITZPATRICK VALVE PROGRAM *								
* PREPARED BY: M. PARTRIDGE DATE: 4/3/78				REVIEWED BY: N. HOLLAND				DATE: 5/30/78 *								

* VALVE NUMBER	* CLASS	COORD	VALVE CATEGORY					SIZE	VALVE	CT	NORM.	TEST	TEST	STROKE*	REMARKS	
*	*	INATE	A	B	C	D	E	(IN)	TYPE	TYPE	POS.	DURING	METHOD	(SEC)	*	*

15-MOV-101	3	I-8		X				8	GA	MO	C	3	EF-1	TBD		
												3	ET-2			
15-MOV-102	2	B-7		X				4	GA	MO	C	3	EF-1	TBD		
												3	ET-2			
15-MOV-103	2	F-6		X				4	GA	MO	C	3	EF-1	TBD		
												3	ET-1			
ESW-16A	2	B-7	2	X				4	CK	SA	C	1	PV-1	N/A	CONTAINMENT ISO VALVE. SEAT LEAK	
												1	SLT-1		TEST PER 10CFR50 APP J, TYPE C.	
ESW-16B	2	F-6	2	X				4	CK	SA	C	1	PV-1	N/A	CONTAINMENT ISO VALVE. SEAT LEAK	
												1	SLT-1		TEST PER 10CFR50 APP J, TYPE C.	
ESW-15A	2	G-6	2	X				4	CK	SA	C	1	PV-1	N/A	CONTAINMENT ISO VALVE. SEAT LEAK	
												1	SLT-1		TEST PER 10CFR50 APP J, TYPE C.	
ESW-15B	2	B-6	2	X				4	CK	SA	C	1	PV-1	N/A	CONTAINMENT ISO VALVE. SEAT LEAK	
												1	SLT-1		TEST PER 10CFR50 APP J, TYPE C.	
15-MOV-175A	3	I-5		X				6	GA	MO	C	3	EF-1	TBD		
												3	ET-2			
15-MOV-175B	3	I-5		X				6	GA	MO	C	3	EF-1	TBD		
												3	ET-2			

TABLE 2: VALVES FOR WHICH SEAT LEAKAGE IS IMPORTANT

REV. 3, 10/01/79

* SYSTEM: REACTOR BUILDING COOLING WATER-SYSTEM NO. 15				* ISD NO.: 11625-FM-15A, REV 16			* FITZPATRICK VALVE PROGRAM			
* PREPARED BY: M. PARTRIDGE DATE: 4/3/78							* REVIEWED BY: N. HOLLAND		* DATE: 5/30/78	

* VALVE NUMBER	* CLASS	* COORD INATE	* SIZE (IN)	* VALVE TYPE	* ACT. TYPE	* NORM. POS.	* LEAK RATE VALUE	* STROKE TIME (SEC)	* R E M A R K S	*

ESW-16A	2	B-7	4	CK	SA	C		N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
ESW-16B	2	F-6	4	CK	SA	C		N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
RBC-24A	2	B-7	6	CK	SA	D		N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
RBC-24B	2	F-6	6	CK	SA	D		N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
ESW-15A	2	G-6	4	CK	SA	C		N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
ESW-15B	2	B-6	4	CK	SA	C		N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
RBC-21A	2	B-6	4	CK	SA	D		N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
RBC-21B	2	F-6	4	CK	SA	D		N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
RBC-22A	2	B-5	4	GL	M	D		N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
RBC-22B	2	G-6	4	GL	M	D		N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
RBC-26A	2	B-6	4	GL	M	D		N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
RBC-26B	2	G-5	4	GL	M	D		N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
RBC-33	2	E-7	1.5	GL	M	D		N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	

TABLE 3: VALVES FOR WHICH RELIEF IS BEING REQUESTED

REV. 3, 10/01/79

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*****
*
* SYSTEM: REACTOR BUILDING COOLING WATER-SYSTEM NO. 15          ISD NO.: 11825-FM-15A, REV 16          FITZPATRICK VALVE PROGRAM *
*
* PREPARED BY: M. PARTRIDGE      DATE: 4/3/78                  REVIEWED BY: N. HOLLAND      DATE: 5/30/78          *
*
*****
* VALVE NUMBER      * CLASS  COORD      VALVE      SIZE  VALVE  ACT.  NORM.  TEST  TEST  STROKE REASON FOR TESTING *
*                   *                   INATE     CATEGORY  (IN)  TYPE  TYPE  PDS   DURING METHOD  TIME REQUESTING TO BE *
*                   *                   *         A B C D E  *      *      *      *      *      *      *      *      *      *      *      *
*****
ESW-9A              3      I-8      X          8      CK      SA      C      3      EF-1  N/A     NOTE 1  EF-3
ESW-9B              3      I-8      X          8      CK      SA      C      3      EF-1  N/A     NOTE 1  EF-3
ESW-13A             3      G-7      X          3      CK      SA      C      3      EF-1  N/A     NOTE 1  EF-3
ESW-13B             3      B-7      X          3      CK      SA      C      3      EF-1  N/A     NOTE 1  EF-3
ESW-18A             3      G-6      X          1.5    CK      SA      C      3      EF-1  N/A     NOTE 1  EF-3
ESW-18B             3      A-6      X          1.5    CK      SA      C      3      EF-1  N/A     NOTE 1  EF-3
ESW-18C             3      H-6      Y          1.5    CK      SA      C      3      EF-1  N/A     NOTE 1  EF-3
ESW-18D             3      A-6      X          1.5    CK      SA      C      3      EF-1  N/A     NOTE 1  EF-3
RBC-35A             3      G-6      X          1.5    CK      SA      0      3      EF-1  N/A     NOTE 2  EF-3
RBC-35B             3      A-6      X          1.5    CK      SA      0      3      EF-1  N/A     NOTE 2  EF-3
RBC-35C             3      H-6      X          1.5    CK      SA      0      3      EF-1  N/A     NOTE 2  EF-3
RBC-35D             3      A-6      X          1.5    CK      SA      0      3      EF-1  N/A     NOTE 2  EF-3
RBC-24A             2      B-7      2 X        6      CK      SA      0      3      EF-1  N/A     NOTE 3  EF-3
                  1      SLT-1
RBC-24B             2      F-6      2 X        6      CK      SA      0      3      EF-1  N/A     NOTE 3  EF-3
                  1      SLT-1
    
```


TABLE 1: VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

REV. 3, 10/01/79

* SYSTEM: RADWASTE--SYSTEM NO. 20				ISD. NO. : 11825-FM-17A REV 14				FITZPATRICK VALVE PROGRAM				
* PREPARED BY: M. PARTRIDGE DATE: 4/4/78				REVIEWED BY: N. HOLLAND				DATE: 5/30/78				

* VALVE NUMBER	* CLASS	COORD	VALVE CATEGORY	SIZE	VALVE	ACT.	NORM.	TEST	TEST	STROKE*	REMARKS	
		INATE	A B C D E	(IN)	TYPE	TYPE	POS.	DURING	METHOD	TIME *		

20-MOV-94	2	C-5	2	3	GA	MD	0	3	EF-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK	
								3	ET-1		TEST PER 10CFR50 APP J, TYPE C.	
								1	EF-4			
								1	SLT-1			
20-ADV-95	2	D-5	2	3	GA	A	C	3	EF-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK	
								3	ET-1		TEST PER 10CFR50 APP J, TYPE C.	
								3	EF-5			
								1	SLT-1			
20-MOV-32	2	C-1	2	3	GA	MD	0	3	EF-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK	
								1	EF-4		TEST PER 10CFR50 APP J, TYPE C.	
								3	ET-1			
								1	SLT-1			
20-ADV-83	2	D-1	2	3	GA	A	0	3	EF-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK	
								3	ET-1		TEST PER 10CFR50 APP J, TYPE C.	
								3	EF-5			
								1	SLT-1			

TABLE 2: VALVES FOR WHICH SEAT LEAKAGE IS IMPORTANT

REV. 3, 10/01/79

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*****
*
* SYSTEM: RADWASTE-SYSTEM NO. 20                ISD. NO.: 11B25-FM-17A REV 14      FITZPATRICK VALVE PROGRAM
*
* PREPARED BY: M. PARTRIDGE      DATE: 4/4/78          REVIEWED BY: N. HOLLAND      DATE: 5/30/78
*
*****
    
```

* VALVE NUMBER	* CLASS	* COORD INATE	* SIZE (IN)	* VALVE TYPE	* ACT. TYPE	* NORM. POS	* LEAK RATE VALUE	* STROKE* TIME * (SEC) *	* R E M A R K S
20-MOV-94	2	C-5	3	GA	MD	D		TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
20-ADV-95	2	D-5	3	GA	A	C		TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
20-MOV-82	2	C-1	3	GA	MD	D		TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
20-ADV-83	2	D-1	3	GA	A	D		TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.

TABLE 1: VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

REV. 3, 10/01/79

* SYSTEM: RESIDUAL HEAT REMOVAL-SYS. NO. 10															
* ISD. NO : 11B25-FM-20A, REV 14															
* FITZPATRICK VALVE PROGRAM*															
* PREPARED BY: W. NEWELL															
* DATE: 4/12/78															
* REVIEWED BY: N. HOLLAND															
* DATE: 5/30/78															

* VALVE NUMBER	* CLASS	COORD	VALVE CATEGORY					SIZE	VALVE TYPE	ACT. TYPE	NORM. POS.	TEST DURING	TEST METHOD	STROKE* TIME * (SEC) *	REMARKS
		INATE	A	B	C	D	E	(IN)							

RHR-81A	1	I-4			X			24	GA	M	LD	1	OC-1	N/A	
10-MOV-27A	1	F-4	2					18	AN	MO	D	3 3 1	EF-1 ET-1 SLT-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
10-MOV-31A	2	H-3	2					10	GA	MO	C	3 3 1	EF-1 ET-1 SLT-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
10-MOV-26A	2	G-3	2					10	GA	MO	C	3 3 1	EF-1 ET-1 SLT-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
10-MOV-38A	2	E-5	2					6	GL	MO	C	3 3 1	EF-1 ET-1 SLT-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
10-MOV-39A	2	E-4	2					16	GA	MO	C	3 3 1	EF-1 ET-1 SLT-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
10-MOV-34A	2	D-6		X				16	GL	MO	C	3 3	EF-1 ET-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C NOT REQUIRED DUE TO WATER SEAL
10-MOV-151A	2	H-8			X			24	GA	M	LD	1	OC-1	N/A	MOTOR OPERATOR PERMANENTLY DISCONNECTED
10-SV-35A	2	B-3		X				1	RL	SA	C	1	TF-1	N/A	
10-SV-40	2	I-7		X				1	RL	SA	C	1	TF-1	N/A	
RHR-52A	2	H-3	2					2	GA	M	C	1 1	PV-1 SLT-1	N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.

TABLE 2 VALVES FOR WHICH SEAT LEAKAGE IS IMPORTANT

REV. 3. 10/01/79

* SYSTEM RESIDUAL HEAT REMOVAL-SYS NO 10

ISD NO 11825-RM-20A REV 14

FITZPATRICK VALVE PROGRAM

* PREPARED BY: W. NEWELL DATE: 4/12/78

REVIEWED BY: N. HOLLAND

DATE: 5/30/78

* VALVE NUMBER	* CLASS	COORD INATE	SIZE (IN)	VALVE TYPE	ACT TYPE	NORM POS	LEAK RATE VALUE	STROKE* TIME * (SEC) *	R E M A R K S
10-ADV-68A	1	H-4	24	CK	SA	-	11 CFM DR 10 GPM	N/A	TESTED PNEUMATICALLY AT 45 PSIG OR HYDROSTATICALLY AT 1000 PSIG
10-MOV-25A	1	G-4	24	GA	MO	C	TBD	TBD	CONTAINMENT ISO VALVE SEAT LEAK TEST PER 10CFR50 APP J. TYPE C
10-MOV-27A	1	F-4	18	AN	MO	C		TBD	CONTAINMENT ISO VALVE SEAT LEAK TEST PER 10CFR50 APP J. TYPE C
10-MOV-31A	2	H-3	10	GA	MO	C		TBD	CONTAINMENT ISO VALVE SEAT LEAK TEST PER 10CFR50 APP J. TYPE C
10-MOV-26A	2	G-3	10	GA	MO	C		TBD	CONTAINMENT ISO VALVE SEAT LEAK TEST PER 10CFR50 APP J. TYPE C
10-MOV-38A	2	E-5	6	GL	MO	C		TBD	CONTAINMENT ISO VALVE SEAT LEAK TEST PER 10CFR50 APP J. TYPE C
10-MOV-39A	2	E-4	16	GA	MO	C		TBD	CONTAINMENT ISO VALVE SEAT LEAK TEST PER 10CFR50 APP J. TYPE C
RHR-52A	2	H-3	2	GA	M	C		N/A	CONTAINMENT ISI VALVE SEAT LEAK TEST PER 10CFR50 APP J. TYPE C

TABLE 3: VALVES FOR WHICH RELIEF IS BEING REQUESTED

REV. 3, 10/01/79

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*****
*
* SYSTEM: RESIDUAL HEAT REMOVAL-SYS. NO. 10                      ISD NO : 11B25-FM-20A, REV 14          FITZPATRICK VALVE PROGRAM*
*
* PREPARED BY: W. NEWELL          DATE: 4/12/78                REVIEWED BY: N. HOLLAND          DATE: 5/30/78          *
*
*****
* VALVE NUMBER      * CLASS  COORD      VALVE          SIZE  VALVE  ACT.  NORM.  TEST  TEST  STROKE REASON FOR TESTING *
*                   *        INATE    CATEGORY     (IN)  TYPE  TYPE  POS.  DURING METHOD  TIME REQUESTING TO BE  *
*                   *                   A B C D E  (IN)  TYPE  POS.  DURING METHOD  (SEC) EXEMPTION PERFORMED *
*****
10-ADV-68A          1      H-4      1  X          24     CK     SA    -     3     EF-1  N/A    NOTE 5  EF-2
                   *                   *                   *                   *                   *                   *                   *
                   1      SLT-1
10-MOV-25A          1      G-4      3             24     GA     MO    C     3     EF-1  TBD    NOTE 6  EF-2
                   *                   *                   *                   *                   *                   *                   *
                   3     ET-1
                   1     SLT-1

```

TABLE 1: VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

REV. 3. 10/01/79

* SYSTEM: RESIDUAL HEAT REMOVAL-SYS. NO. 10						ISD. NO. : 11825-FM-20B, REV 14			FITZPATRICK VALVE PROGRAM *		
* PREPARED BY: W. NEWELL				DATE: 4/12/78		REVIEWED BY: N. HOLLAND			DATE: 6/1/78		

VALVE NUMBER	CLASS	COORD INATE	VALVE CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	TEST DURING	TEST METHOD	STROKE# TIME * (SEC) *	REMARKS

RHR-81B	1	C-4	X	24	GA	M	LD	1	OC-1	N/A	
10-MOV-27B	1	E-3	2	18	AN	MD	D	3 3 1	EF-1 ET-1 SLT-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
10-MOV-31B	2	C-2	2	10	GA	MD	C	3 3 1	EF-1 ET-1 SLT-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
10-MOV-26B	2	D-2	2	10	GA	MD	C	3 3 1	EF-1 ET-1 SLT-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
10-MOV-33	2	C-1	3	4	GA	MD	C	1 1	PV-1 SLT-1	N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
10-MOV-32	1	B-2	3	4	GA	MD	C	1 1	PV-1 SLT-1	N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
10-MOV-38B	2	G-5	2	6	GL	MD	C	3 3 1	EF-1 ET-1 SLT-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
10-MOV-39B	2	G-3	2	16	GA	MD	C	3 3 1	EF-1 ET-1 SLT-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
10-MOV-34B	2	G-5	X	16	GL	MD	C	3 3	EF-1 ET-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C NOT REQUIRED DUE TO WATER SEAL MOTOR OPERATOR PERMANENTLY DISCONNECTED
10-MOV-151B	2	D-8	X	24	GA	M	LD	1	OC-1	N/A	
10-MOV-18	1	A-5	3	6	GA	MD	C	1 1	PV-1 SLT-1	N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
10-MOV-17	1	A-7	3	6	GA	MD	C	1 1	PV-1 SLT-1	N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.

TABLE 2: VALVES FOR WHICH SEAT LEAKAGE IS IMPORTANT

REV. 3, 10/01/79

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*****
* SYSTEM: RESIDUAL HEAT REMOVAL-SYS. NO. 10                ISD. NO. : 11825-FM-20B, REV 14          FITZPATRICK VALVE PROGRAM *
* PREPARED BY: W. NEWELL          DATE: 4/12/78              REVIEWED BY: N. HOLLAND          DATE: 6/1/78          *
*****
* VALVE NUMBER      * CLASS  COORD   SIZE  VALVE  ACT.  NORM.  LEAK RATE  STROKE*  R E M A R K S
*                   *                   INATE  (IN)  TYPE   TYPE  POS.   VALUE      TIME *
*                   *                   *      *      *      *      *      *      (SEC) *
*****
10-AOV-68B          1      D-4    24    CK     SA    -      11 CFM OR  N/A      TESTED PNEUMATICALLY AT 45 PSIG OR
                    *                   *      *      *      *      *      *      *      *      HYDROSTATICALLY AT 1000 PSIG
10-MOV-25B          1      E-4    24    GA     MO    C      TBD        TBD      CONTAINMENT ISO VALVE. SEAT LEAK
                    *                   *      *      *      *      *      *      *      *      TEST PER 10CFR50 APP J, TYPE C.
10-MOV-27B          1      E-3    18    AN     MO    D      TBD        TBD      CONTAINMENT ISO VALVE. SEAT LEAK
                    *                   *      *      *      *      *      *      *      *      TEST PER 10CFR50 APP J, TYPE C.
10-MOV-31B          2      C-2    10    GA     MO    C      TBD        TBD      CONTAINMENT ISO VALVE. SEAT LEAK
                    *                   *      *      *      *      *      *      *      *      TEST PER 10CFR50 APP J, TYPE C.
10-MOV-26B          2      D-2    10    GA     MO    C      TBD        TBD      CONTAINMENT ISO VALVE. SEAT LEAK
                    *                   *      *      *      *      *      *      *      *      TEST PER 10CFR50 APP J, TYPE C.
10-MOV-33           2      C-1    4     GA     MO    C      TBD        N/A      CONTAINMENT ISO VALVE. SEAT LEAK
                    *                   *      *      *      *      *      *      *      *      TEST PER 10CFR50 APP J, TYPE C.
10-MOV-32           1      B-2    4     GA     MO    C      TBD        N/A      CONTAINMENT ISO VALVE. SEAT LEAK
                    *                   *      *      *      *      *      *      *      *      TEST PER 10CFR50 APP J, TYPE C.
10-MOV-38B          2      G-5    6     GL     MO    C      TBD        TBD      CONTAINMENT ISO VALVE. SEAT LEAK
                    *                   *      *      *      *      *      *      *      *      TEST PER 10CFR50 APP J, TYPE C.
10-MOV-39B          2      G-3    16    GA     MO    C      TBD        TBD      CONTAINMENT ISO VALVE. SEAT LEAK
                    *                   *      *      *      *      *      *      *      *      TEST PER 10CFR50 APP J, TYPE C.
10-MOV-18           1      A-5    6     GA     MO    C      TBD        N/A      CONTAINMENT ISO VALVE. SEAT LEAK
                    *                   *      *      *      *      *      *      *      *      TEST PER 10CFR50 APP J, TYPE C.
10-MOV-17           1      A-7    6     GA     MO    C      TBD        N/A      CONTAINMENT ISO VALVE. SEAT LEAK
                    *                   *      *      *      *      *      *      *      *      TEST PER 10CFR50 APP J, TYPE C.
*****

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TABLE 1: VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

F U 3, 10/01/79

* SYSTEM: RESIDUAL HEAT REMOVAL-SYS. NO. 10					ISD. NO. : 11825-FM-20C, REV 14				FITZPATRICK VALVE PROGRAM						
* PREPARED BY: W. NEWELL					DATE: 4/13/78				REVIEWED BY: N. HOLLAND		DATE: 4/13/78				

VALVE NUMBER	CLASS	COORD INATE	VALVE CATEGORY					SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	TEST DURING	TEST METHOD	STROKE* TIME * (SEC) *	REMARKS

RHR-14A	3	E-8		X			12	CK	SA	-	3	EF-1	N/A	CHECK VALVE OPENS WITH PUMP TEST. CHECK SHUT WITH OTHER PUMP TEST.	
RHR-14C	3	E-7		X			12	CK	SA	-	3	EF-1	N/A	CHECK VALVE OPENS WITH PUMP TEST. CHECK SHUT WITH OTHER PUMP TEST.	
RHR-11A	3	D-5			X		16	GA	M	LO	1	OC-1	N/A		
RHR-24A	3	D-5			X		16	GA	M	LO	1	OC-1	N/A		
10-MOV-89A	3	A-6	X				16	GA	MO	C	3	EF-1 ET-2	TBD	FULL STROKE VALVE TO THE POSITION TO FULFILL ITS SYSTEM FUNCTION	
10-MOV-13A	2	I-5			X		20	GA	MO	LO	1	OC-1	N/A	VALVE KEY-LOCKED + CHAINED OPEN DURING NORMAL OPERATION.	
10-MOV-13C	2	I-3			X		20	GA	MO	LO	1	OC-1	N/A	VALVE KEY-LOCKED + CHAINED OPEN DURING NORMAL OPERATION.	
RHR-64A	2	G-4		X			3	CK	SA	-	3	EF-1	N/A	CHECK VALVE OPENS WITH PUMP TEST. CHECK SHUT WITH OTHER PUMP TEST.	
RHR-64C	2	F-3		X			3	CK	SA	-	3	EF-1	N/A	CHECK VALVE OPENS WITH PUMP TEST. CHECK SHUT WITH OTHER PUMP TEST.	
10-MOV-16A	2	F-2	X				4	GA	MO	O	3	EF-1 ET-2	TBD	PUMP MINIMUM FLOW BYPASS VALVE. VALVE OPERATES DURING PUMP TEST.	
RHR-42A	2	E-5		X			16	CK	SA	-	3	EF-1	N/A	CHECK VALVE OPENS WITH PUMP TEST. CHECK SHUT WITH OTHER PUMP TEST.	
RHR-42C	2	E-3		X			16	CK	SA	-	3	EF-1	N/A	CHECK VALVE OPENS WITH PUMP TEST. CHECK SHUT WITH OTHER PUMP TEST.	
RHR-45A	2	E-5			X		16	GA	M	LO	1	OC-1	N/A		
RHR-45C	2	E-4			X		16	GA	M	LO	1	OC-1	N/A		

TABLE 1: VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

REV. 3, 10/01/79

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*****
* SYSTEM: RESIDUAL HEAT REMOVAL-SYS. NO. 10          ISD. NO. : 11825-FM-20C.REV 14          FITZPATRICK VALVE PROGRAM *
* PREPARED BY: W. NEWELL          DATE: 4/13/78          REVIEWED BY: N. HOLLAND          DATE: 6/1/78          *
*****
```

* VALVE NUMBER	* CLASS	COORD INATE	VALVE CATEGORY					SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	TEST DURING	TEST METHOD	STROKE*	REMARKS
			A	B	C	D	E							TIME *	
10-MOV-65A	2	D-5		X			16	GA	MO	LO	1	OC-1	N/A	VALVE KEY-LOCKED + CHAINED OPEN DURING NORMAL OPERATION.	
10-MOV-12A	2	D-4		X			16	GA	MO	LO	1	OC-1	N/A	VALVE KEY-LOCKED + CHAINED OPEN DURING NORMAL OPERATION.	
10-MOV-66A	2	E-4	X				20	GL	MO	O	3 3	EF-1 ET-2	TBD		
10-MOV-148A	3	A-1	X				16	GA	MO	LC	3 3	EF-1 ET-2	TBD	VALVE KEY-LOCKED CLOSED DURING NORMAL OPERATION.	
10-MOV-149A	3	A-1	X				16	GA	MO	LC	3 3	EF-1 ET-2	TBD	VALVE KEY-LOCKED CLOSED DURING NORMAL OPERATION.	
10-MOV-20	2	D-2		X			20	GA	MO	LC	1	OC-1	N/A	POWER SOURCE IS DISABLED. ALARM ON OPENING VALVE	

TABLE 1: VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

REV. 3. 10/01/79

* SYSTEM: STANDBY LIQUID CONTROL-SYSTEM NO. 11

ISD. NO. : 11825-FM-21A, REV 10

FITZPATRICK VALVE PROGRAM

* PREPARED BY: M. PARTRIDGE DATE: 4/4/78

REVIEWED BY: N. HOLLAND DATE: 5/30/78

* VALVE NUMBER	* CLASS	COORD INATE	VALVE CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	TEST DURING	TEST METHOD	STROKE* TIME * (SEC) *	REMARKS
SLC-11	2	I-3		X 3	GA	M	LD	1	OC-1	N/A	
SLC-41	2	H-4		X 2.5	GA	M	LC	1	OC-1	N/A	
SLC-12A	2	H-5		X 2.5	GA	M	LD	1	OC-1	N/A	
SLC-12B	2	H-7		X 2.5	GA	M	LD	1	OC-1	N/A	
SLC-39A	2	F-5	X	2	RL	SA	C	1	TF-1	N/A	
SLC-39B	2	F-7	X	2	RL	SA	C	1	TF-1	N/A	
SLC-13A	2	F-5		X 1.5	GL	M	LD	1	OC-1	N/A	
SLC-13B	2	F-7		X 1.5	GL	M	LD	1	OC-1	N/A	
SLC-26	2	E-5		X 1.5	GL	M	LC	1	OC-1	N/A	
SLC-34	2	E-6		X 1.5	GL	M	LC	1	OC-1	N/A	
11-EV-14A	2	C-5	X	1.5	XP	XP	C	1	XP-1	N/A	
11-EV-14B	2	C-7	X	1.5	XP	XP	C	1	XP-1	N/A	
SLC-15	2	B-6		X 1.5	GL	M	LD	1	OC-1	N/A	
SLC-18	1	A-6		X 1.5	GL	M	LD	1	OC-1	N/A	

TABLE 2: VALVES FOR WHICH SEAT LEAKAGE IS IMPORTANT

REV. 3, 10/01/79

```

*****
* SYSTEM: REACTOR CORE ISOLATION COOLING-SYSTEM NO. 13          ISD. NO. : 11825-FM-22A, REV 13          FITZPATRICK VALVE PROGRAM *
* PREPARED BY: M. PARTRIDGE      DATE: 4/4/78                    REVIEWED BY: N. HOLLAND      DATE: 5/30/78          *
*****
* VALVE NUMBER      * CLASS  COORD   SIZE  VALVE  ACT   NORM.  LEAK RATE  STROKE*  R E M A R K S
*                   *        INATE  (IN)  TYPE  TYPE  POS.   VALUE     TIME *
*                   *                   *      *      *      *      *      *      *      *
*****
13-MOV-15           1      C-4     3      GA     MO     O      TBD     CONTAINMENT ISO VALVE. SEAT LEAK
                                     TEST PER 10CFR50 APP J, TYPE C.

13-MOV-16           1      D-4     3      GA     MO     O      TBD     CONTAINMENT ISO VALVE. SEAT LEAK
                                     TEST PER 10CFR50 APP J, TYPE C.

RCIC-5              2      H-6     8      CK     SA     -      N/A     CONTAINMENT ISO VALVE. SEAT LEAK
                                     TEST PER 10CFR50 APP J, TYPE C.

RCIC-4              2      F-6     8      CK     SA     -      N/A     CONTAINMENT ISO VALVE. SEAT LEAK
                                     TEST PER 10CFR50 APP J, TYPE C.

13-MOV-21           1      F-5     4      GA     MO     C      TBD     CONTAINMENT ISO VALVE. SEAT LEAK
                                     TEST PER 10CFR50 APP J, TYPE C.
    
```


TABLE 3: VALVES FOR WHICH EF IS BEING REQUESTED

VALVE NUMBER	CLASS	COORD INATE	VALVE CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	TEST DURING METHOD	TEST METHOD	STROKE REASON FOR TESTING	
* 13-MOV-131	3	G-3	X	3	GA	MD	C	3	EF-1 ET-2	TBD NOTE 31	EF-2 ET-2
* 13-MOV-1	3	F-3	X	2	GA	H	D	3	EF-1 ET-2	TBD NOTE 31	EF-2 ET-2
* 13-MOV-2	3	E-3	X	2	RG	H	TH	3	EF-1	N/A NOTE 31	EF-2
* 13-PCV-23	3	D-6	X	1	RG	SA	TH	3	EF-1	N/A NOTE 32	EF-2

SYSTEM: REACTOR CORE ISOLATION COOLING-SYSTEM NO. 13
 PREPARED BY: M. PARTRIDGE DATE: 4/5/78
 ISD NO. 11825-FM-22B, REV 10
 REVIEWED BY: N HOLLAND DATE: 5/30/78

* SEE PAGE 22

TABLE 1: VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

VALVE NUMBER	CLASS	COORD INATE	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	TEST DURING	TEST METHOD	STROKE*	TIME	REMARKS
			A B C D E								(SEC)	
14-MOV-7A	2	B-7	X	16	GA	MD	LO	1	OC-1	N/A		VALVE KEY-LOCKED + CHAINED OPEN DURING NORMAL OPERATION
14-MOV-7B	2	B-7	X	16	GA	MD	LO	1	OC-1	N/A		VALVE KEY-LOCKED + CHAINED OPEN DURING NORMAL OPERATION
CSP-8A	2	H-7	X	12	GA	M	LC	1	OC-1	N/A		
CSP-8B	2	J-8	X	12	GA	M	LC	1	OC-1	N/A		
CSP-10A	2	H-6	X	12	CK	SA	-	3	EF-1	N/A		VERIFY VALVE OPENS DURING PUMP TEST
CSP-10B	2	I-6	X	12	CK	SA	-	3	EF-1	N/A		VERIFY VALVE OPENS DURING PUMP TEST
CSP-33A	2	G-6	X	2	GL	M	LC	1	OC-1	N/A		
CSP-33B	2	J-6	X	2	OL	M	LC	1	OC-1	N/A		
14-MOV-11A	1	E-5	2	12	GA	MD	D	3	EF-1 ET-2 SLT-1	TBD		CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
14-MOV-11B	1	D-2	2	12	GA	MD	D	3	EF-1 ET-2 SLT-1	TBD		CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
14-MOV-12A	1	C-5	3	10	GA	MD	C	3	EF-1 ET-1 SLT-1	TBD		CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
14-MOV-12B	1	C-2	3	10	GA	MD	C	3	EF-1 ET-1 SLT-1	TBD		CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.

ISD. NO. : 11825-FM-23A, REV 13

DATE: 4/5/78

REVIEWED BY: N. HOLLAND

DATE: 5/30/78

FITZPATRICK VALVE PROGRAM

TABLE 2: VALVES FOR WHICH SEAT LEAKAGE IS IMPORTANT

REV. 3, 10/01/79

* SYSTEM: CORE SPRAY--SYSTEM NO. 14

ISD. NO.: 11825-FM-23A, REV 13

FITZPATRICK VALVE PROGRAM

* PREPARED BY: M. PARTRIDGE DATE: 4/5/78

REVIEWED BY: N. HOLLAND DATE: 5/30/78

* VALVE NUMBER	* CLASS	COORD INATE	SIZE (IN)	VALVE TYPE	ACT. TYPE	NGRM. POS.	LEAK RATE VALUE	STROKE* TIME * (SEC) *	R E M A R K S
14-MOV-11A	1	E-5	12	GA	MO	0		TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
14-MOV-11B	1	D-2	12	GA	MO	0		TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
14-MOV-12A	1	C-5	10	GA	MO	C	TBD	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
14-MOV-12B	1	C-2	10	GA	MO	C	TBD	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
14-ADV-13A	1	C-4	10	CK	SA	-	11 CFM OR 10 GPM	N/A	TESTED PNEUMATICALLY AT 45 PSIG OR HYDROSTATICALLY AT 1000 PSIG
14-ADV-13B	1	C-3	10	CK	SA	-	11 CFM OR 10 GPM	N/A	TESTED PNEUMATICALLY AT 45 PSIG OR HYDROSTATICALLY AT 1000 PSIG

TABLE 3. VALVES FOR WHICH RELIEF IS BEING REQUESTED

REV. 3, 10/01/79

```

*****
* SYSTEM: CORE SPRAY-SYSTEM NO 14                      ISD. NO. : 11B25-FM-23A, REV 13          FITZPATRICK VALVE PROGRAM *
* PREPARED BY: A. PARTRIDGE      DATE: 4/5/78          REVIEWED BY: N HOLLAND      DATE: 5/30/78
*
*****
* VALVE NUMBER      * CLASS  * COORD  * VALVE  * SIZE  * VALVE  * ACT.  * NORM.  * TEST  * TEST  * STROKE REASON FOR TESTING *
*                   *         * INATE  * CATEGORY  * (IN)  * TYPE  * TYPE  * PCS   * DURING METHOD  * TIME REQUESTING TO BE *
*                   *         *        * A B C D E  *        *        *        *        * (SEC) EXEMPTION PERFORMED *
*****
14-ADV-13A          1       C-4    1 X      10     CK     SA    -      3     EF-1   N/A    NOTE 13  EF-2
                  1       SLT-1
14-ADV-13B          1       C-3    1 X      10     CK     SA    -      3     EF-1   N/A    NOTE 13  EF-2
                  1       SLT-1
    
```


TABLE 3: VALVES FOR WHICH RELIEF IS BEING REQUESTED

REV. 3, 10/01/79

```

*****
* SYSTEM: REACTOR WATER CLEANUP--SYSTEM NO. 12          ISD. NO. 11825-FM-24A, REV 12          FITZPATRICK VALVE PROGRAM *
* PREPARED BY M. PARTRIDGE          DATE: 4/6/78          REVIEWED BY: N. HOLLAND          DATE: 5/30/78          *
*****
* VALVE NUMBER      * CLASS  COORD  VALVE  CATEGORY  SIZE  VALVE  ACT  NORM  TEST  TEST  STROKE  REASON FOR  TESTING *
*                   *                   INATE  CATEGORY  A B C D E  (IN)  TYPE  TYPE  POS.  DURING METHOD  (SEC)  EXEMPTION  PERFORMED *
*****
RWC-62              1      A-2      2  X      4      CK      SA      0      3      EF-1  N/A      NOTE 33  EF-2
                   *                   *                   *                   *                   *                   *                   *                   *                   *                   *                   *
                   1      SLT-1
12-MOV-18           1      B-4      2          6      GA      MD      0      3      EF-1  TBD      NOTE 33  EF-2
                   *                   *                   *                   *                   *                   *                   *                   *                   *                   *                   *
                   1      EF-4
                   3      ET-1
                   1      SLT-1
12-MOV-15           1      A-4      2          6      GA      MD      0      3      EF-1  TBD      NOTE 33  EF-2
                   *                   *                   *                   *                   *                   *                   *                   *                   *                   *                   *
                   1      EF-4
                   3      ET-1
                   1      SLT-1
    
```


TABLE 1: VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

REV. 3, 10/01/79

* SYSTEM: HIGH PRESSURE COOLANT INJECTION-SYSTEM NO. 23

ISD NO. :11825-FM-25A-REV 12

FITZPATRICK VALVE PROGRAM

* PREPARED BY: M. PARTRIDGE DATE: 4/6/78

REVIEWED BY: N. HOLLAND

DATE: 5/30/78

* VALVE NUMBER	* CLASS	COORD INATE	VALVE CATEGORY					SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	TEST DURING	TEST METHOD	STROKE* TIME (SEC)	REMARKS
			A	B	C	D	E								
23-MOV-16	1	D-3		2			10	GA	MO	C	3 3 1	EF-1 ET-1 SLT-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J. TYPE C.	
23-MOV-58	2	D-8		X			16	GA	MO	C	3 3	EF-1 ET-2	TBD	ENSURE VALVE 23-MOV-57 IS SHUT BEFORE OPENING VALVE.	
23-MOV-57	2	I-4		X			16	GA	MO	C	3 3	EF-1 ET-2	TBD	ENSURE VALVE 23-MOV-58 IS SHUT BEFORE OPENING VALVE.	

TABLE 3: VALVES FOR WHICH RELIEF IS BEING REQUESTED

REV. 3, 10/01/79

```

*****
* SYSTEM: HIGH PRESSURE COOLANT INJECTION-SYSTEM NO. 23          ISD NO. 11825-FM-25A-REV 12          FITZPATRICK VALVE PROGRAM *
* PREPARED BY: M. PARTRIDGE          DATE: 4/6/78          REVIEWED BY: N. HOLLAND          DATE: 5/30/78          *
*****
* VALVE NUMBER          * CLASS          COORD          VALVE          SIZE          VALVE          ACT.          NORM.          TEST          TEST          STROKE          REASON FOR          TESTING          *
*          *          INATE          CATEGORY          (IN)          TYPE          TYPE          POS.          DURING          METHOD          TIME          REQUESTING          TO BE          *
*          *          *          A B C D E          *          *          *          *          *          (SEC)          EXEMPTION          PERFORMED          *
*****
23-MOV-15          1          C-3          2          10          GA          MD          0          3          EF-1          TBD          NOTE 14          EF-2
          1          EF-4          EF-4
          3          ET-1          ET-1
          1          SLT-1          SLT-1
23-MOV-60          1          D-3          2          1          GA          MD          0          3          EF-1          TBD          NOTE 15          EF-2
          3          ET-1          ET-1
          1          SLT-1          SLT-1
HPI-65          2          C-5          2 X          20          CK          SA          -          3          EF-1          N/A          NOTE 16          EF-2
          1          SLT-1          SLT-1
HPI-12          2          C-5          2 X          20          CK          SA          -          3          EF-1          N/A          NOTE 16          EF-2
          1          SLT-1          SLT-1
HPI-403          2          B-6          X          2          CK          SA          -          3          EF-1          N/A          NOTE 17          EF-2
HPI-402          2          B-6          X          2          CK          SA          -          3          EF-1          N/A          NOTE 17          EF-2
23-MOV-17          2          I-2          X          16          GA          MD          0          3          EF-1          TBD          NOTE 18          EF-2
          3          EF-2          EF-2
23-MOV-20          2          F-5          X          14          GA          MD          0          3          EF-1          TBD          NOTE 14          EF-2
          3          ET-2          ET-2
23-MOV-19          1          E-5          2          14          GA          MD          C          3          EF-1          TBD          NOTE 19          EF-2
          3          ET-1          ET-1
          1          SLT-1          SLT-1
23-ADV-18          1          E-5          X          14          CK          A          -          3          EF-1          N/A          NOTE 20          EF-2
23-MOV-21          2          F-4          X          8          GL          MD          C          3          EF-1          TBD          NOTE 16          EF-2
          3          ET-2          ET-2
HPI-62          2          I-5          X          4          CK          SA          -          3          EF-1          N/A          NOTE 16          EF-2

```


TABLE 1: VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

REV. 3. 10/01/79

* SYSTEM: REACTOR WATER RECIRCULATION-SYSTEM NO. 2				ISD NO. : 11825-FM-26B, REV 9				FITZPATRICK VALVE PROGRAM *			
* PREPARED BY: M. PARTRIDGE				DATE: 4/6/78				REVIEWED BY: N. HOLLAND			
								DATE: 5/31/78			

VALVE NUMBER	CLASS	COORD INATE	VALVE CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	TEST DURING	TEST METHOD	STROKE* TIME * (SEC) *	REMARKS

2-AOV-39	1	I-4	2	1	GA	A	C	3	EF-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
								1	EF-4		
								3	ET-1		
								3	ET-5		
								1	SLT-1		
2-AOV-40	1	J-4	2	1	GA	A	C	3	EF-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
								3	ET-1		
								3	ET-5		
								1	SLT-1		

TABLE 1: VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

REV. 3, 10/01/79

```

*****
* SYSTEM: CONTROL ROD DRIVE-SYS. NO. 3                ISD. NO. 11825-FM-27B REV 5          FITZPATRICK VALVE PROGRAM *
* PREPARED BY: W. NEWELL          DATE: 4/17/78        REVIEWED BY: N. HOLLAND          DATE: 5/31/78          *
*****
* VALVE NUMBER      * CLASS  COORD  CATEGORY  SIZE  VALVE  ACT.  NORM.  TEST  TEST  STROKE*  REMARKS *
*                   * INATE  A B C D E  (IN)  TYPE  TYPE  POS.  DURING METHOD (SEC) *
*****
26-27-3-Z-132      2      B-B          X      1      RD      RD      C      1      RD-1      N/A      TYPICAL OF 137 UNITS
    
```


TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

REV. 3, 10/01/79

* SYSTEM: MAIN STEAM-SYSTEM NO. 29					ISD NO.: 11825-FM-29A, REV 13				FITZPATRICK VALVE PROGRAM *						
* PREPARED BY: M. PARTRIDGE					DATE: 4/6/78				REVIEWED BY: N. HOLLAND		DATE: 5/31/78				

VALVE NUMBER	CLASS	COORD INATE	VALVE CATEGORY					SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	TEST DURING	TEST METHOD	STROKE* TIME (SEC)	REMARKS

02-RV-71A	1	F-3	X				6	RL	SA	C	1	TF-1	N/A	VLV PERFORMS ADS FUNCTION. TEST BY TECH SPEC PARA 4.5.D + 4.6.E.1	
02-RV-71B	1	G-3	X				6	RL	SA	C	1	TF-1	N/A	VLV PERFORMS ADS FUNCTION. TEST BY TECH SPEC PARA 4.5.D + 4.6.E.1	
02-RV-71C	1	F-3	X				6	RL	SA	C	1	TF-1	N/A	VLV PERFORMS ADS FUNCTION. TEST BY TECH SPEC PARA 4.5.D + 4.6.E.1	
02-RV-71D	1	F-4	X				6	RL	SA	C	1	TF-1	N/A	VLV PERFORMS ADS FUNCTION. TEST BY TECH SPEC PARA 4.5.D + 4.6.E.1	
02-RV-71E	1	D-3	X				6	RL	SA	C	1	TF-1	N/A	VLV PERFORMS ADS FUNCTION. TEST BY TECH SPEC PARA 4.5.D + 4.6.E.1	
02-RV-71F	1	E-4	X				6	RL	SA	C	1	TF-1	N/A	VLV PERFORMS ADS FUNCTION. TEST BY TECH SPEC PARA 4.5.D + 4.6.E.1	
02-RV-71G	1	E-3	X				6	RL	SA	C	1	TF-1	N/A	VLV PERFORMS ADS FUNCTION. TEST BY TECH SPEC PARA 4.5.D + 4.6.E.1	
02-RV-71H	1	D-3	X				6	RL	SA	C	1	TF-1	N/A	VLV PERFORMS ADS FUNCTION. TEST BY TECH SPEC PARA 4.5.D + 4.6.E.1	
02-RV-71J	1	D-3	X				6	RL	SA	C	1	TF-1	N/A	VLV PERFORMS ADS FUNCTION. TEST BY TECH SPEC PARA 4.5.D + 4.6.E.1	
02-RV-71K	1	F-3	X				6	RL	SA	C	1	TF-1	N/A	VLV PERFORMS ADS FUNCTION. TEST BY TECH SPEC PARA 4.5.D + 4.6.E.1	
02-RV-71L	1	C-3	X				6	RL	SA	C	1	TF-1	N/A	VLV PERFORMS ADS FUNCTION. TEST BY TECH SPEC PARA 4.5.D + 4.6.E.1	
29-MOV-74	1	G-8		2			3	GA	MD	C	1	PV-1 SLT-1	N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
29-MOV-77	1	H-8		2			3	GA	MD	C	1	PV-1 SLT-1	N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	

TABLE 2: VALVES FOR WHICH SEAT LEAKAGE IS IMPORTANT

REV. 3, 10/01/79

* SYSTEM: MAIN STEAM-SYSTEM NO. 29			ISD NO. : 11825-FM-29A, REV 13				FITZPATRICK VALVE PROGRAM			*
* PREPARED BY: M. PARTRIDGE			DATE: 4/6/78		REVIEWED BY: N. HOLLAND			DATE: 5/31/78		*

VALVE NUMBER	CLASS	COORD INATE	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	LEAK RATE VALUE	STROKE# TIME (SEC) *	REMARKS	*

29-ADV-80A	1	H-6	24	GL	A	0	TBD		CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
29-ADV-80B	1	H-6	24	GL	A	0	TBD		CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
29-ADV-80C	1	H-7	24	GL	A	0	TBD		CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
29-ADV-80D	1	H-7	24	GL	A	0	TBD		CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
29-ADV-86A	1	H-4	24	GL	A	0	TBD		CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
29-ADV-86B	1	H-5	24	GL	A	0	TBD		CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
29-ADV-86C	1	H-6	24	GL	A	0	TBD		CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
29-ADV-86D	1	H-7	24	GL	A	0	TBD		CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
29-MOV-74	1	G-8	3	GA	MO	C	N/A		CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
29-MOV-77	1	H-8	3	GA	MO	C	N/A		CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	

TABLE 1: VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

REV. 3, 10/01/79

```

*****
* SYSTEM: CONDENSATE-SYSTEM NO 33                      ISD NO. : 11825-FM-33A, REV 18          FITZPATRICK VALVE PROGRAM *
* PREPARED BY: M. PARTRIDGE      DATE: 4/7/78          REVIEWED BY: N. HOLLAND      DATE: 5/31/78
*
*****
* VALVE NUMBER      * CLASS  COORD  VALVE  CATEGORY  SIZE  VALVE  ACT  NORM.  TEST  TEST  STROKE*  REMARKS
*                   * INATE  A B C D E  (IN)  TYPE  TYPE  POS.  DURING METHOD (SEC) *
*****

```

```

CND-102             2   D-4           X  10    GA    M    LC    1    DC-1    N/A

```

TABLE 2: VALVES FOR WHICH SEAT LEAKAGE IS IMPORTANT

REV. 3, 10/01/79

```

*****
* SYSTEM: FEEDWATER-SYSTEM NO. 34                      ISD NO. 11825-FM-34A, REV 15          FITZPATRICK VALVE PROGRAM *
* PREPARED BY: M. PARTRIDGE      DATE: 4/7/78              REVIEWED BY: N. HOLLAND      DATE: 5/31/78
*
*****
* VALVE NUMBER      * CLASS  COORD   SIZE  VALVE  ACT.  NORM.  LEAK RATE  STROKE#  REMARKS
*                   *                   INATE  (IN)  TYPE   TYPE  POS.   VALUE      TIME *   (SEC) *
*                   *                   *      *      *      *      *      *      *      *
*****
FWS-28A              1      A-6    18     CK     SA    -      -          N/A      CONTAINMENT ISO VALVE. SEAT LEAK
                                     TEST PER 10CFR50 APP J, TYPE C.
FWS-28B              1      B-4    18     CK     SA    -      -          N/A      CONTAINMENT ISO VALVE. SEAT LEAK
                                     TEST PER 10CFR50 APP J, TYPE C.
34-NRV-111A          1      C-6    18     CK     SA    -      -          N/A      CONTAINMENT ISO VALVE. SEAT LEAK
                                     TEST PER 10CFR50 APP J, TYPE C.
34-NRV-111B          1      C-4    18     CK     SA    -      -          N/A      CONTAINMENT ISO VALVE. SEAT LEAK
                                     TEST PER 10CFR50 APP J, TYPE C.
*****

```

TABLE 3: VALVES FOR WHICH RELIEF IS BEING REQUESTED

REV. 3, 10/01/79

* SYSTEM: FEEDWATER-SYSTEM NO. 34

ISD. NO. : 11825-FM-34A, REV 15

FITZPATRICK VALVE PROGRAM *

* PREPARED BY: M. PARTRIDGE

DATE: 4/7/78

REVIEWED BY: N. HOLLAND

DATE: 5/31/78

* VALVE NUMBER	* CLASS	COORD INATE	VALVE CATEGORY					SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	TEST DURING	TEST METHOD	STROKE TIME (SEC)	REASON FOR REQUESTING EXEMPTION	TESTING TO BE PERFORMED
			A	B	C	D	E									
FWS-28A	1	A-6	2	X			18	CK	SA	-	3 1	EF-1 SLT-1	N/A	NOTE 26	EF-3	
FWS-28B	1	B-4	2	X			18	CK	SA	-	3 1	EF-1 SLT-1	N/A	NOTE 26	EF-3	
34-NRV-111A	1	C-6	2	X			18	CK	SA	-	3 1	EF-1 SLT-1	N/A	NOTE 27	EF-2	
34-NRV-111B	1	C-4	2	X			18	CK	SA	-	3 1	EF-1 SLT-1	N/A	NOTE 27	EF-2	

TABLE 1: VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM: REACTOR BUILDING WATER COOLING-SYS. NO 66
 ISD NO. 11825-FB-10H, REV 10
 FITZPATRICK VALVE PROGRAM

PREPARED BY: M. NEWELL
 DATE: 4/20/78
 REVIEWED BY: N. HOLLAND
 DATE: 5/31/78

VALVE NUMBER	CLASS	COORD INATE	VALVE CATEGORY	SIZE (IN)	VALVE TYPE	ACT TYPE	NORM. POS.	TEST DURING	TEST METHOD	STROKE*	REMARKS
66-TCV-107B	3	A-7	X	2.5	GA	A	0	3	EF-1 EF-5	N/A	FUNCTIONALLY CHECK EACH QUARTER PER TECH SPEC PARA 4.11.B.
66-TCV-107D	3	B-7	X	2.5	GA	A	0	3	EF-1 EF-5	N/A	FUNCTIONALLY CHECK EACH QUARTER PER TECH SPEC PARA 4.11.B.
66-TCV-107F	3	C-7	X	2.5	GA	A	0	3	EF-1 EF-5	N/A	FUNCTIONALLY CHECK EACH QUARTER PER TECH SPEC PARA 4.11.B.
66-TCV-107H	3	C-7	X	2.5	GA	A	0	3	EF-1 EF-5	N/A	FUNCTIONALLY CHECK EACH QUARTER PER TECH SPEC PARA 4.11.B.
66-TCV-107K	3	D-7	X	2.5	GA	A	0	3	EF-1 EF-5	N/A	FUNCTIONALLY CHECK EACH QUARTER PER TECH SPEC PARA 4.11.B.
66-TCV-107A	3	F-7	X	2.5	GA	A	0	3	EF-1 EF-5	N/A	FUNCTIONALLY CHECK EACH QUARTER PER TECH SPEC PARA 4.11.B.
66-TCV-107C	3	G-7	X	2.5	GA	A	0	3	EF-1 EF-5	N/A	FUNCTIONALLY CHECK EACH QUARTER PER TECH SPEC PARA 4.11.B.
66-TCV-107E	3	H-7	X	2.5	GA	A	0	3	EF-1 EF-5	N/A	FUNCTIONALLY CHECK EACH QUARTER PER TECH SPEC PARA 4.11.B.
66-TCV-107G	3	I-7	X	2.5	GA	A	0	3	EF-1 EF-5	N/A	FUNCTIONALLY CHECK EACH QUARTER PER TECH SPEC PARA 4.11.B.
66-TCV-107J	3	J-7	X	2.5	GA	A	0	3	EF-1 EF-5	N/A	FUNCTIONALLY CHECK EACH QUARTER PER TECH SPEC PARA 4.11.B.

TABLE 3: VALVES FOR WHICH RELIEF IS BEING REQUESTED

SYSTEM: REACTOR BUILDING WATER COOLING-SYS. NO. 66 ISD. NO. : 11825-FB-10H, REV 10 FITZPATRICK VALVE PROGRAM
 PREPARED BY: W NEWELL DATE: 4/20/78 REVIEWED BY: N. HOLLAND DATE: 5/31/78

VALVE NUMBER	CLASS	COORD INATE	CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS	TEST DURING METHOD	TEST METHOD	STROKE REASON FOR TESTING	TIME REQUESTING TO BE EXEMPTION PERFORMED
SWS-60A	3	E-7	X	4	CK	SA	-	3	EF-1	N/A	NOTE 28 EF-3
SWS-60B	3	E-7	X	4	CK	SA	-	3	EF-1	N/A	NOTE 28 EF-3

TABLE 1 VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM: LUBRICATION OIL AND COOLING, EM. DIESEL GEN. -SYS. NO. 93 ISD. NO. 40096 (SCHODDNER DRAWING) FITZPATRICK VALVE PROGRAM
 PREPARED BY: W NEWELL DATE: 4/21/78 REVIEWED BY: N HOLLAND DATE: 5/31/78

VALVE NUMBER	CLASS	COORD INATE	CATEGORY	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	TEST DURING	TEST METHOD	STROKE*	TIME*	REMARKS
EDG-55A	3	E-4	X	6	3W	SA	0	3	EF-1	N/A		FUNCTIONALLY CHECK DURING DIESEL TEST.
EDG-55B	3	E-4	X	6	3W	SA	0	3	EF-1	N/A		FUNCTIONALLY CHECK DURING DIESEL TEST.
EDG-55C	3	E-4	X	6	3W	SA	0	3	EF-1	N/A		FUNCTIONALLY CHECK DURING DIESEL TEST.
EDG-55D	3	E-4	X	6	3W	SA	0	3	EF-1	N/A		FUNCTIONALLY CHECK DURING DIESEL TEST.

NOTE 1

SYSTEM: Reactor Building Cooling Water

VALVES: ESW-9A & B ESW-25
ESW-13A & B ESW-27
ESW-18A, B, C & D

CATEGORY: C

CLASS: 3

FUNCTION: To prevent backflow from the Reactor Building Cooling Water System into the Emergency Service Water System. Valves are closed during normal operation and must open to provide Emergency Service Water to essential components.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: Initiating the Emergency Service Water System to prove operability of the subject valves would introduce lake water into the Reactor Building Cooling Water System whose water is maintained at a high purity level due to the large number of heat exchangers in the system. This loss of chemistry control would require extensive "bleed-and-feed" operations to correct and could possibly result in long term metallurgical problems.

ALTERNATE TESTING: Each operating cycle (normally refueling outage) a sample of 25 percent of the subject valves will be selected and tested to verify proper operation. This test will involve valve disassembly to assure that the check valve flapper is free to operate. This test method shall be used until such time that other test methods become available or are devised. If any of the tested valves are found inoperable the remaining valves of that model will be tested. The sample lot selected each operating cycle will be rotated so that all valves are tested.

NOTE 2

SYSTEM: Reactor Building Cooling Water

VALVES: RBC-35A, B, C & D
RBC-59
RBC-61

CATEGORY: C

CLASS: 3

FUNCTION: To prevent backflow from the seismically qualified Emergency Service Water System into the non-seismic Reactor Building Cooling Water System during conditions when the Emergency Service Water System must operate. Valves are open during normal operation and must close when the Emergency Service Water System is in operation.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: Initiating the Emergency Service Water System to prove operability of the subject valves would introduce lake water into the Reactor Building Cooling Water System whose water is maintained at a high purity level due to the large number of heat exchangers in the system. This loss of chemistry control would require extensive "bleed-and-feed" operations to correct and could possibly result in long term metallurgical problems.

ALTERNATE TESTING: The subject valves shall be included in the alternate testing program described in Note 1.

NOTE 3

SYSTEM: Reactor Building Cooling Water

VALVES: RBC-21A & B
RBC-24A & B

CATEGORY: A-2, C

CLASS: 2

FUNCTION: To function as containment isolation valves in the Reactor Building Cooling Water System lines entering containment. Valves must close when downstream pressure exceeds upstream pressure to isolate containment.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: To perform the operability test the subject Reactor Building Cooling Water System lines must be isolated and thereby stopping flow of cooling water to the components inside containment (i.e., reactor recirculation pumps, drywell coolers, and equipment sump cooler). Loss of cooling water to these components can be damaging, even for short periods, during normal operation and some periods during cold shutdown.

ALTERNATE TESTING: Exercise valves during refueling. This is consistent with the seat leakage testing that is performed on these valves during refueling as a part of the 10CFR50, Appendix J, Type C program. To perform these tests the subject valves must be in the closed position which is their essential position.

NOTE 4

SYSTEM: Reactor Building Cooling Water

VALVES: RBC-22A & B
RBC-26A & B
RBC-33

CATEGORY: A-2

CLASS: 2

FUNCTION: To function as containment isolation valves in the Reactor Building Cooling Water System lines leaving containment. Valves must close to isolate containment.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: To perform the operability test the subject Reactor Building Cooling Water System lines must be isolated and thereby stopping flow of cooling water to the components inside containment (i.e., reactor recirculation pumps, drywell coolers, and equipment sump cooler). Loss of cooling water to these components can be damaging, even for short periods, during normal operation and some periods during cold shutdown.

ALTERNATE TESTING: Exercise valves for operability during refueling. This is consistent with the seat leakage testing that is performed on these valves during refueling as a part of the 10CFR50, Appendix J, Type C program.

NOTE 5

SYSTEM: Residual Heat Removal

VALVES: 10-AOV-68A & B

CATEGORY: A-1, C

CLASS: .

FUNCTION: Valves must open to permit flow of low pressure safety injection water from the Residual Heat Removal System to the Reactor Recirculation System. Valves prohibit gross backflow from Reactor Recirculation System.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: During normal operation the differential pressure across the valve disc exceeds 1,000 psi. The Residual Heat Removal System pumps are not designed to operate against that high of a head, and the valve test operator requires zero pressure differential across the valve disc in order to cycle the valve.

ALTERNATE TESTING: Exercise the valves for operability every cold shutdown (but not more frequently than every three months) using the test operator.

N TE 6

SYSTEM: Residual Heat Removal

VALVES: 10-MOV-25A & B

CATEGORY: A-3

CLASS: 1

FUNCTION: Residual Heat Removal System isolation valves and containment isolation valves. Valves must open to permit low pressure safety injection from the Residual Heat Removal System to the Reactor Recirculation System.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: 10-MOV-25A & B is interlocked such that they will open only if 10-MOV-27A & B is shut or reactor pressure is less than 450 psig. With 10-MOV-27 shut and the upstream check valve 10-AOV-68A & B leaking, there is no way to determine whether an overpressure condition exists before reopening 10-MOV-27 - there is no pressure switch/indicator between the valves. Additionally, 10-MOV-25 is not designed to open with maximum d/p across the disk, consequently to cycle the valve in the past has required shutting 10-MOV-27 and pressurizing between 10-MOV-25 and 27 to lower the d/p that 10-MOV-25 sees. This requires putting men into a radiation field of up to 20 Rem/hr with historical exposures of about 0.6 - 0.8 man-Rem.

ALTERNATE TESTING: Exercise the valves for operability every cold shutdown (but not more frequently than every three months).

NOTE 7

SYSTEM: Standby Liquid Control

VALVES: SLC-43A & B

CATEGORY: C

CLASS: 2

FUNCTION: Check valves on the discharge of the standby Liquid Control pumps. Valves must open to permit flow and must close to prohibit backflow.

TEST PEQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: To exercise these valves flow must be established either to the test tank or to the Reactor Recirculation System (which is obviously not desirable during normal operation). In establishing a flow path to the test tank the Standby Liquid Control System is effectively taken out of service. This action would place the plant in an unsafe mode of operation.

ALTERNATE TESTING: Exercise the valves for operability every cold shutdown (but not more frequently than every three months) in connection with the pump operability tests.

NOTE 8

SYSTEM: Standby Liquid Control

VALVES: SLC-16, SLC-17

CATEGORY: A-2, C

CLASS: 1

FUNCTION: Prohibit backflow from the reactor to the Standby Liquid Control System. Valves must open to permit Standby Liquid Control System flow and close for containment isolation.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: Flow must be established through the subject check valves to open them. Without actuating the Standby Liquid Control System there is no practical method to exercise the subject valves during normal operation or cold shutdown.

ALTERNATE TESTING: Once during each operating cycle (normally at refueling) the following test shall be performed. The valves shall be cycled open by injecting reactor coolant grade water into the reactor by use of the Standby Liquid Control pumps. The valves are cycled closed during the Appendix J, Type C seat leakage test each refueling.

NOTE 9

SYSTEM: Reactor Core Isolation Cooling (RCIC)

VALVES: 13-MOV-15, 13-MOV-16, 13-MOV-20

CATEGORY: A-2, (13-MOV-15 and 16)
B (13-MOV-20)

CLASS: 1 (13-MOV-15 and 16)
3 (13-MOV-20)

FUNCTION: 13-MOV-15 and 16 are containment isolation valves on the steam line to the Reactor Core Isolation Cooling pump drive turbine. Valves are normally open and must close to fulfill their safety function (no automatic isolation signal).

13-MOV-20 is a normally open line valve in the RCIC injection line.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: If any of these normally open valves were to fail in the closed position during the operability test, the RCIC System would be lost.

ALTERNATE TESTING: Exercise the valves for operability every cold shutdown (but not more frequently than every three months).

NOTE 10

SYSTEM: Reactor Core Isolation Cooling (RCIC)

VALVES:

RCIC-5	RCIC-4	13-MOV-30	RCIC-29	13-MOV-27	RCIC-8	RCIC-7
--------	--------	-----------	---------	-----------	--------	--------

CATEGORY:

A-2, C	A-2, C	B	C	B	C	C
--------	--------	---	---	---	---	---

CLASS:

2	2	3	3	2	2	2
---	---	---	---	---	---	---

FUNCTION:

RCIC-5 and RCIC-4 are containment isolation valves in the RCIC turbine exhaust line. These valves must also open during RCIC operation to permit turbine exhaust steam flow to the suppression chamber.

13-MOV-30 is the RCIC full flow test line isolation valve. This valve is closed during normal operation.

RCIC-29 is a check valve in the RCIC minimum flow line to the suppression chamber. This valve must open on RCIC pump startup.

13-MOV-27 is a line valve in the RCIC minimum flow line to the suppression chamber. This valve must open on RCIC pump startup and then close when flow is established in the injection line.

RCIC-8 and RCIC-7 are isolation valves in the line from the vacuum pump to the suppression chamber.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: In order to operability test any of the subject valves, the RCIC pump must be started and full flow must be established through the test line. In order to test the RCIC pump, flow must be established through the full flow test line by opening valve 13-MOV-30. If this test were performed during power operation, there is a risk that valve 13-MOV-30 would not close upon RCIC initiation signal with the consequence of diverting RCIC flow to the Condensate Storage Tanks instead of injecting into the reactor vessel.

ALTERNATE TESTING: Exercise the subject valves for operability every time the RCIC pump is tested.

NOTE 11

SYSTEM: Reactor Core Isolation Cooling (RCIC)

VALVE: 13-MOV-21

CATEGORY: A-2

CLASS: 1

FUNCTION: Containment isolation valve on the RCIC injection line.
Valve must be open on RCIC initiation.

TEST REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR RELIEF: Valve 13-MOV-21 must go open upon RCIC initiation to provide a flow path for the RCIC pump discharge. However, RCIC is not technically a required safety system. Since the valve is closed during normal plant operation, opening the valve for testing would diminish containment integrity. Containment isolation is the true safety related function of the subject valve.

ALTERNATE TESTING: Exercise the valve for operability at cold shutdown (but not more frequently than every three months).

NOTE 12

SYSTEM: Reactor Core Isolation Cooling (RCIC)

VALVE: 12-AOV-22

CATEGORY: C

CLASS: 1

FUNCTION: Check valve in RCIC injection line prohibits gross backflow into RCIC system. Valve must open on initiation of RCIC injection flow.

TEST REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR RELIEF: Valve can only be operated by initiation of RCIC or by using valve test operator. The valve test operator will cycle the valve only when there is a zero pressure differential across the valve disc. During normal operation, the differential pressure across valve disc is greater than 1,000 psi.

ALTERNATE TESTING: Exercise the valve for operability at cold shutdown (but not more frequently than every three months).

NOTE 13

SYSTEM: Core Spray

VALVES: 14-AOV-13A & B

CATEGORY: A-1, C

CLASS: 1

FUNCTION: Valves must open to permit flow of Core Spray water to the reactor vessel. Valves prohibit gross backflow from the reactor vessel.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: During normal operation the differential pressure across the valve disc exceeds 1,000 psi. The Core Spray System pumps are not designed to operate against that high of a head, and the valve test operator requires zero pressure differential across the valve disc in order to cycle the valve.

ALTERNATE TESTING: Exercise the valves for operability every cold shutdown (but not more frequently than every three months) using the test operator.

NOTE 14

SYSTEM: High Pressure Coolant Injection (HPCI)

VALVES: 23-MOV-15, 23-MOV-20

CATEGORY: A-2 (23-MOV-15)
B (23-MOV-20)

CLASS: 1 (23-MOV-15)
2 (23-MOV-20)

FUNCTION: 23-MOV-15 is a normally open containment isolation valve
in the steam line to the HPCI turbine.

23-MOV-20 is a normally open line valve in the HPCI injection
line.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: If either of these normally open valves were to fail in the
closed position during the operability test, the HPCI
System would be lost.

ALTERNATE TESTING: Exercise the valves for operability every cold shutdown
(but not more frequently than every three months).

NOTE 15

SYSTEM: High Pressure Coolant Injection (HPCI)

VALVE: 23-MOV-60

CATEGORY: A-2

CLASS: 1

FUNCTION: Normally open containment isolation valve in the pressure equalization bypass line around 23-MOV-16. Valve is opened during normal operation to permit opening of valve 23-MOV-16.

TEST REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR RELIEF: If this normally open valve were to fail in the closed position during the operability test valve 23-MOV-16 would not be able to open upon a HPCI initiation signal and HPCI would be lost.

ALTERNATE TESTING: Exercise the valve for operability every cold shutdown (but not more frequently than every three months).

NOTE 16

SYSTEM: High Pressure Coolant Injection (HPCI)

VALVES:

HPI-65	HPI-12	23-MOV-21	HPI-62	23-MOV-25	HPI-56	HPI-13
A-2, C	A-2, C	B	C	B	C	C
2	2	2	2	2	2	2

CATEGORY:

CLASS:

FUNCTION:

HPI-65 and HPI-12 are containment isolation valves in the HPCI turbine exhaust line. These valves must also open during HPCI operation to permit turbine exhaust steam flow to the suppression chamber.

23-MOV-21 is the HPCI full flow test line isolation valve. This valve is closed during normal operation.

HPI-62 is a check valve in the HPCI minimum flow line to the suppression chamber. This valve must open on HPCI pump startup.

23-MOV-25 is a line valve in the HPCI minimum flow line to the suppression chamber. This valve must open on HPCI pump startup and then close when flow is established in the injection line.

HPI-56 and HPI-13 are isolation check valves in the line from the drain pot to the suppression chamber.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: In order to operability test any of the subject valves the HPCI pump must be started and full flow must be established through the test line. In order to test the HPCI pump, flow must be established through the full flow test line by opening valve 23-MOV-21. If this test were performed during power operation there is a risk that valve 23-MOV-21 would not close upon HPCI initiation signal with the consequence of diverting HPCI flow to the Condensate Storage Tanks instead of injecting into the reactor vessel.

ALTERNATE TESTING: Exercise the subject valves for operability every time the HPCI pump is tested.

NOTE 17

SYSTEM: High Pressure Coolant Injection (HPCI)

VALVES: HPI-402, HPI-403

CATEGORY: C

CLAS: 2

FUNCTION: Vacuum breaker valves in the HPCI turbine exhaust line to the suppression chamber. These valves must open following shutdown of the HPCI pump drive turbine to prevent formation of a water leg in the steam exhaust piping due to condensation of the steam in the section of pipe submersed in the suppression chamber pool.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: Valve operability is demonstrated after shutdown of the HPCI pump drive turbine. As explained in Pump note 7 the HPCI pump will only be tested when below 150 psig.

ALTERNATE TESTING: Exercise the valves for operability concurrent with the HPCI pump test (but not more frequently than every three months).

NOTE 18

SYSTEM: High Pressure Coolant Injection (HPCI)

VALVE: 23-MOV-17

CATEGORY: B

CLASS: 2

FUNCTION: Isolation valve on the HPCI pump suction line from the Condensate Storage Tanks. Valve is normally open. Upon low level in the Condensate Storage Tanks valves 23-MOV-57 and 23-MOV-58 open automatically and valve 23-MOV-17 closes automatically.

TEST REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR RELIEF: The Condensate Storage Tanks are the normal convenient water supply to the HPCI pumps because the water has controlled purity. The Suppression Chamber is the essential HPCI water source, but the water purity is not tightly controlled and is not reactor coolant grade. In order to close 23-MOV-17 valve 23-MOV-57 and 23-MOV-58 must be open. If the operability test of valve 23-MOV-17 is performed during power operation and HPCI was initiated, non-reactor grade water from the Suppression Chamber would be injected into the reactor. While this is a safe operation with regard to overall plant safety, it is an undesirable operation that should be avoided.

ALTERNATE TESTING: Exercise the valve for operability at cold shutdown (but not more frequently than every three months).

NOTE 19

SYSTEM: High Pressure Coolant Injection (HPCI)

VALVE: 23-MOV-19

CATEGORY: A-2

CLASS: 1

FUNCTION: Containment isolation valve on the HPCI injection line. Valve must open on HPCI initiation.

TEST REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR RELIEF: Valve 23-MOV-19 is interlocked with valve 23-MOV-20 to require 23-MOV-20 to be closed if 23-MOV-19 is open (without the HPCI initiation signal present). Valve 23-MOV-20 cannot be closed during normal operation (See Note 14).

ALTERNATE TESTING: Exercise the valve for operability at cold shutdown (but not more frequently than every three months).

NOTE 20

SYSTEM: High Pressure Coolant Injection (HPCI)

VALVE: 23-AOV-18

CATEGORY: C

CLASS: 1

FUNCTION: Check valve in HPCI injection line prohibits gross backflow into HPCI system. Valve must open on initiation of HPCI injection flow.

TEST REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR RELIEF: Valve can only be operated by initiation of HPCI or by using valve test operator. The valve test operator will cycle the valve only when there is a zero pressure differential across the valve disc. During normal operation the differential pressure across valve disc is greater than 1,000 psi.

ALTERNATE TESTING: Exercise the valve for operability at cold shutdown (but not more frequently than every three months).

NOTE 21

SYSTEM: High Pressure Coolant Injection (HPCI)

VALVE: HPI-61

CATEGORY: C

CLASS: 2

FUNCTION: Check valve in HPCI pump suction line from the Suppression Chamber. Valve prohibits gross backflow to the Suppression Chamber and must open to permit pump suction from the chamber.

TEST REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR RELIEF: There is no practical method to demonstrate valve operability during normal operation.

ALTERNATE TESTING: The valve will be disassembled at each refueling outage to demonstrate that the valve flapper moves freely.

NOTE 22

SYSTEM: High Pressure Coolant Injection (HPCI)

VALVES: 23-HOV-1, 23-HOV-2

CATEGORY: B

CLASS: 2

FUNCTION: 23-HOV-1 is the HPCI turbine stop valve. 23-HOV-2 is the HPCI turbine throttle valve.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: Meaningful valve operability test cannot be performed until the HPCI turbine is operating. As identified in Note 16 the HPCI pumps and turbine will be tested only on the approach to cold shutdown.

ALTERNATE TESTING: Exercise valves for operability concurrent with the HPCI pump and turbine test on the approach to cold shutdown (but not more frequently than every three months).

NOTE 23

SYSTEM: High Pressure Coolant Injection (HPCI)

VALVE: 23-PCV-50

CATEGORY: B

CLASS: 2

FUNCTION: Pressure control valve that controls the cooling water pressure to the HPCI pump lube oil cooler.

TEST REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR RELIEF: The subject pressure control valve cannot function without the HPCI pumps in operation. The subject valve cannot be cycled open/closed and timed like a typical power operated valve since its valve disc position is purely a function of downstream and upstream pressures.

ALTERNATE TESTING: Monitor proper operation of this pressure control valve during HPCI pump operation (but not more frequently than every three months).

NOTE 24

SYSTEM: Control Rod Drive (CRD)

VALVES:

26-27-HCU-115 (137 units)	26-27-3-AOV-126 (137 units)	26-27-HCU-138 (137 units)	26-27-3-AOV-127 (137 units)
C	B	C	B
2	2	2	2

CATEGORY:

CLASS:

FUNCTION:

26-27-HCU-115 are check valves on the lines from the charging water header. These check valves should be closed except when charging the accumulators.

26-27-3-AOV-126 are solenoid operated control valves on the lines from the accumulators to the CRD mechanisms. These valves should open on a SCRAM signal.

26-27-HCU-138 are check valves on lines from the cooling water header. These check valves should close on a SCRAM signal and subsequent pressurization of the line downstream of the valves.

26-27-3-AOV-127 are solenoid operated control valves on the lines from the CRD mechanisms to the SCRAM discharge header. These valves should open on a SCRAM signal.

TEST REQUIREMENT: Exercise the valves for operability every three months.

BASIS FOR RELIEF: The James A. FitzPatrick Technical Specifications specifically cover operability testing of valves related to CRD SCRAM.

ALTERNATE TESTING: Approximately ten to fifteen percent of all operable control rods will be SCRAM tested every eight weeks (see Technical Specification Paragraph 4.3.C.2). All control rods are SCRAM tested following refueling (See Technical Specification Paragraph 4.3.C.1).

NOTE 25

SYSTEM: Main Steam (MS)

VALVES: 29-AOV-80A, B, C & D
29-AOV-86A, B, C & D

CATEGORY: A-2

CLASS: 1

FUNCTION: Containment isolation valves on the four Main Steam lines penetrating containment.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: Full stroke exercising of the subject valves during power operations would result in a plant SCRAM and unnecessary transients on the primary and secondary plants. Valves are designed to be part stroked during power operation to demonstrate freedom of stem/disc motion.

ALTERNATE TESTING: The subject valves shall be full or part stroke exercised every three months. Whenever possible the valves shall be full stroke exercised at cold shutdown (but not more frequently than every three months). When full stroke exercising cannot be performed the subject valves shall be part stroke exercised.

NOTE 26

SYSTEM: Feedwater

VALVES: FSW-28A & B

CATEGORY: A-2, C

CLASS: 1

FUNCTION: Containment isolation valves in the feedwater lines. These valves are open during power operation.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: Exercising the subject valves would require shutdown of the plant and a test method identical to the 10CFR50 Appendix J, Type C test. These valves do not have a mechanical operator that permits exercising the valve at cold shutdown.

ALTERNATE TESTING: Demonstrate closure of the subject valves during the Appendix J, Type C test performed on each valve at refueling.

NOTE 27

SYSTEM: Feedwater

VALVES: 34-NRV-111A & B

CATEGORY: A-2, C

CLASS: 1

FUNCTION: Containment isolation valves in the feedwater lines. These valves are open during power operation.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: Exercising the subject valves would require shutdown of the plant and a test method identical to the 10CFR50 Appendix J, Type C test. The air assisted actuator on these valves is not designed to permit exercising the valves open and closed.

ALTERNATE TESTING: Demonstrate closure of the subject valves during the Appendix J, Type C test performed on each valve at refueling.

NOTE 28

SYSTEM: Reactor Building Cooling Water (PBCW)

VALVES: SWS-60A & B

CATEGORY: C

CLASS: 3

FUNCTION: Check valves that prevent backflow of Emergency Service Water into the Reactor Building Service Water Cooling System. Valves must close on initiation of the Emergency Service Water System.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: Initiating the Emergency Service Water System to prove operability of the subject valves would introduce lake water into the Reactor Building Cooling Water System whose water is maintained at a high purity level due to the large number of heat exchangers in the system. This loss of chemistry control would require extensive "bleed-and-feed" operations to correct and could possibly result in long term metallurgical problems.

ALTERNATE TESTING: Every other operating cycle (normally refueling outage) one of the two valves will be disassembled to assure that the check valve flapper is free to operate. This test method shall be used until such time that other test methods become available or are devised. If the tested valve is found inoperable the other valve will be disassembled and tested. Selection of the test valve will be alternated so that both valves are tested.

NOTE 29

SYSTEM: Reactor Core Isolation Cooling (RCIC)

VALVE: RCIC-40

CATEGORY: C

CLASS: 3

FUNCTION: Check valve in RCIC pump suction line from the Suppression Chamber. Valve prohibits gross backflow to the Suppression Chamber and must open to permit pump suction from the chamber.

TEST REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR RELIEF: There is no practical method to demonstrate valve operability during normal operation.

ALTERNATE TESTING: The valve will either be disassembled at each refueling outage to demonstrate that the valve flapper moves freely or flapper operability will be verified by passing water or air through valve by means of 3/4 inch vent and drain fittings on either side of RCIC-40.

NOTE 30

SYSTEM: Reactor Core Isolation Cooling (RCIC)

VALVES: RCIC-12, RCIC-13

CATEGORY: C

CLASS: 2

FUNCTION: Vacuum breaker valves in the RCIC turbine exhaust line to the suppression chamber. These valves must open following shutdown of the RCIC pump drive turbine to prevent formation of a water leg in the steam exhaust piping due to condensation of the steam in the section of pipe submersed in the suppression chamber pool.

TEST REQUIREMENT: Exercise valve for operability every three months.

BASIS FOR RELIEF: Valve operability is demonstrated after shutdown of the RCIC pump drive turbine. As explained in Pump note 7, the RCIC pump will only be tested when below 150 psig.

ALTERNATE TESTING: Exercise the valves for operability concurrent with the RCIC pump test on the approach to cold shutdown (but not more frequently than every three months).

NOTE 31

SYSTEM: Reactor Core Isolation Cooling (RCIC)

VALVES: 13-HOV-1, 13-HOV-2, 13-MOV-131

CATEGORY: B

CLASS: 3

FUNCTION: 13-HOV-1 is the RCIC turbine stop valve. 13-HOV-2 is the RCIC turbine governor valve. 13-MOV-131 is the RCIC turbine steam inlet valve.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: 13-HOV-1 and 2 are normally open valves and cannot be meaningfully tested until the RCIC turbine is operating. 13-HOV-1 and 2 are normally open valves; if they were cycled and failed during normal plant operations, the RCIC system would be made inoperable. 13-MOV-131 is the only closed valve in the RCIC steam supply preventing RCIC turbine operation. As identified in Purap note , the RCIC pump and turbine will be tested when below 150 psig.

ALTERNATE TESTING: Exercise valves for operability concurrent with the RCIC pump and turbine test.

NOTE 32

SYSTEM: Reactor Core Isolation Cooling (RCIC)

VALVE: 13-PCV-23

CATEGORY: B

CLASS: 3

FUNCTION: Pressure control valve that controls the cooling water pressure to the RCIC pumps in operation. The subject valve cannot be cycled open/closed and timed like a typical power operated valve since its valve disc position is purely a function of downstream and upstream pressures.

ALTERNATE TESTING: Monitor proper operation of this pressure control valve during RCIC pump operation (but not more frequently than every three months).

NOTE 33

SYSTEM: Reactor Water Cleanup (RWCU)

VALVES: RWC-62, 12-MOV-18, 12-MOV-15

CATEGORY: 1

FUNCTION: RWC-62 is a containment isolation valve in the Reactor Water Cleanup return line. The check valve is open during system operation.

12-MOV-18 and 15 are containment isolation valves in the Reactor Water Cleanup supply line from the reactor.

TEST REQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: To cycle 12-MOV-15, 18 and RWC-62 would require securing the Reactor Water Cleanup System. Failure of these valves would make the RWCU System inoperative which would effect reactor water chemistry and shortly force a shutdown. Additionally, the cycling of Reactor Water Cleanup Pumps, to allow valve testing, would greatly increase the probability of mechanical seal and bearing failure which has been a well-recognized generic problem for BWR's for some time. The repair of these pumps must be undertaken in general radiation areas of 150-200 mrem/hour and specific areas of 800-2000 mrem/hour. To verify that valve RWC-62 is shut during operation requires blowing (draining) RWCU to the main condenser which creates high radiation levels in easily accessible areas of the Reactor Building.

ALTERNATE TESTING: Exercise the valves for operability at cold shutdown (but not more frequently than every three months).

APPENDIX D

NRC STAFF GUIDANCE FOR PREPARING PUMP AND VALVE
TESTING PROGRAM DESCRIPTIONS AND ASSOCIATED
RELIEF REQUESTS PURSUANT TO 10 CFR 50.55a(g)

The guidance provided in this enclosure is intended to illustrate the type and extent of information that should be provided in proposed pump and valve testing program descriptions and to support associated requests for relief from ASME Code requirements. By utilizing these guidelines, licensees can significantly reduce the need for having to respond to additional information requests from the NRC staff.

I. Pump and Valve Testing Program Description

A. Scope of the Program:

1. The pump testing program should include all safety related* Class 1, 2 and 3 pumps that are provided with an emergency power source.
2. The valve testing program should be limited to the safety related* valves. All such valves must be addressed in the program and should include, as a minimum, those in the following systems. Valves in these systems which are used for operating convenience only - such as manual vent, drain, instrument and test valves, and valves used for maintenance only should be excluded.

For PWR's:

- a. High Pressure Injection System
- b. Low Pressure Injection System
- c. Accumulator Systems
- d. Containment Spray System
- e. Primary and Secondary System Safety and Relief Valves
- f. Auxiliary Feedwater Systems

*Safety related are those pumps and valves necessary to safely shut down the plant or mitigate the consequences of an accident.

- g. Reactor Building Cooling System
 - h. Active Components in Service Water and Instrument Air Systems which are required to support safety system functions
 - i. Containment Isolation Valves that are required to change position on a containment isolation signal
 - j. Chemical and Volume Control System
 - k. Other key valves in Auxiliary Systems which are required to operate to directly support plant shutdown or safety system function; such as, emergency diesel starting air valves, component cooling water supplies, etc.
 - l. Residual Heat Removal System
 - m. Reactor Coolant System
- For BWR's:
- a. High Pressure Coolant Injection System
 - b. Low Pressure Coolant Injection System
 - c. Residual Heat Removal System (Shutdown Cooling System)
 - d. Emergency Condenser System (Isolation Condenser System)
 - e. Low Pressure Core Spray System
 - f. Containment Spray System
 - g. Safety, Relief, and Safety/Relief Valves
 - h. RCIC (Reactor Core Isolation Cooling) System
 - i. Containment Cooling System
 - j. Containment isolation valves that are required to change position on a containment isolation signal

- k. Standby liquid control system (Boron System)
 - l. Automatic Depressurization System (any pilot or control valves, associated hydraulic or pneumatic systems, etc.)
 - m. Control Rod Drive Hydraulic System ("Scram" function)
 - n. Other key valves in Auxiliary Systems which are required to operate to directly support plant shutdown or safety system function; such as, emergency diesel starting air valves, component cooling water supplies, etc.
 - o. Reactor Coolant System
- B. The following information should be provided for NRC staff review of the Pump and Valve Testing Programs:
- 1. Three sets of P&ID's, that are large and clear enough to be read easily, and which include all of the systems listed above, with the ASME code class and system boundaries clearly marked. The drawings should include all of the components present at the time of submittal and a legend of the P&ID symbols.
 - 2. Identification of the applicable ASME Code Section XI Edition and Addenda.
 - 3. The period for which the program is applicable.
 - 4. Identification of the component ASME Section III Code Class.
 - 5. For Pump testing, identification of:
 - a. Each pump required to be tested (name and number)
 - b. The test parameters to be measured
 - c. The test frequency

6. For valve testing, identification of:

- a. Each valve in ASME Section XI Categories A and B that will be exercised every three months during normal plant operation (indicate whether partial or full stroke exercise, and for power operated valves list the limiting value for stroke time).
- b. Each valve in ASME Section XI Category A that will be leak tested during refueling outages (indicate the leak test procedure you intend to use).
- c. Each valve in ASME Section XI Categories C and D that will be tested, the type of test and the test frequency. For check valves, identify those that will be exercised every 3 months and those that will only be exercised during cold shutdown or refueling outages.
- d. Each valve in ASME Section XI Category E that will be operationally checked.
- e. The following additional information, if practical:
 - i. The valve location coordinates or other appropriate location information which will expedite locating the valves on the P&IDs.
 - ii. Identification of all valves that are provided with an interlock to other component: and a brief description of that function.

II. Requests for Relief from Certain Pump or Valve Testing Requirements

It has been the staff's experience that many requests for relief from testing requirements, submitted by licensees, have not been supported by adequate descriptive and detailed technical information. This detailed information is necessary to document why the burden imposed on the licensee in complying with the code requirements is not justified by the increased level of safety obtained from the testing.

Relief requests which are submitted with a justification such as "impractical", "inaccessible", or any other categorical basis, require additional information to allow the staff to make an evaluation of that relief request. The intention of the guidance

set forth below is to illustrate the extent of the information that is required by the NRC staff to make a proper evaluation and to adequately document the basis for granting the relief in the safety evaluation report. The NRC staff believes that if this information is provided in the licensee's submittal, subsequent requests for additional information and delays in completing the review, and granting the relief, can be considerably reduced.

- A. Specific information required for NRC review of requests for relief from testing requirements:
1. Identification of the component for which relief is requested:
 - a. Name and number as given in FSAR
 - b. Function
 - c. ASME Section III Code Class
 - d. For valve testing, also specify the ASME Section XI valve category as defined in IWV-2000
 2. Specific identification of the ASME Code requirement that has been determined to be impractical for each component.
 3. Information to support the determination that the requirement in (2) is impractical; i.e., state and explain the basis for requesting relief.
 4. Specification of the inservice testing that will be performed in lieu of the ASME Code Section XI requirements, if any.
 5. The schedule for implementation of the procedure(s) in (4).
- B. Examples to illustrate several possible areas where relief may be granted and the type and extent of information necessary to support the granting of relief:
1. "Accessibility":

The regulation allows relief to be granted from code requirements because of insufficient access provisions. However, a detailed discussion of actual physical arrangement of the component in question to illustrate the insufficiency of space for conducting the required test is necessary.

In addition, discussion of the alternative surveillance techniques that have been considered should be provided. If these alternative techniques have been determined to be impractical, the basis for this determination should be provided.

2. "Environmental Conditions Prohibitive" (e.g., high radiation level, high temperature, high humidity, etc.):

Although it is prudent to maintain occupation radiation exposure for inspection personnel as low as practicable, the request for relief from code requirements cannot be granted solely on the basis of high radiation levels.

A balanced judgment between the hardships and compensating increase in the level of safety must be explicitly justified. Therefore, detailed information regarding the radiation levels at the required test location, along with estimated yearly man-rem exposures associated with the testing, should be provided. Alternative testing techniques that have been considered should be discussed. If these alternative techniques have been determined to be impractical, the basis for this determination should be provided.

3. "Instrumentation Not Originally Provided":

Information to justify that installation of the needed instrumentation to comply with the code requirements would result in undue burden or hardships without a compensating increase in the level of plant safety should be provided. Alternative testing techniques that have been considered should be discussed. If these alternative techniques have been determined to be impractical, the basis for this determination should be provided.

4. "Valve Cycling During Plant Operation Could Put the Plant in an Unsafe Condition":

A detailed explanation as to why exercising tests during plant operation could jeopardize the plant safety. Examples of the type of valve that the staff considers to be in this category are: valves whose failure in a non-conservative position during the cycling test would cause a loss of total system function; valves whose failure to close during the

cycling test would cause a loss of containment integrity; and valves, which when cycled, could subject a system to pressures in excess of their design pressures. A plant specific explanation must be provided.

5. "Valve Testing at Cold Shutdown or Refueling Intervals in lieu of the 3 Month Required Interval":

The licensee should explain in detail why each valve cannot be exercised during normal operation. Also, for the valves where a refueling interval is indicated, the licensee should explain in detail why each valve cannot be exercised during each cold shutdown.

- C. The following acceptance criteria for granting relief are utilized by the staff:

The licensee must successfully demonstrate with documented information that:

1. Compliance with the code requirements would result in hardships or unusual difficulties without a compensating increase in the level of safety, and noncompliance will provide an acceptable level of quality and safety, or
2. Proposed alternatives to the code requirements or portions thereof will provide an acceptable level of quality and safety.

III. Standard Format for Valve Testing Submittals

A recommended standard format, for the valve portion of the pump and valve testing program and relief requests, is included as an attachment to this Guidance. The NRC staff believes that the use of this standard format would reduce the time spent by both the staff in its review, and by the licensee in their preparation, of the pump and valve testing program submittals. The standard format includes examples of relief requests which are intended to illustrate the application of the standard format only and are not necessarily applicable to any specific plant.

ATTACHMENT

RECOMMENDED STANDARD FORMAT FOR
VALVE INSERVICE TESTING PROGRAM SUBMITTALS

Valve Number	Class	Coordinates	Valve Category					Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS (Not to be used for relief basis)
			A	B	C	D	E								
710	3	D-14					X	GA	M	LO	ET				
700	3	D-15				X		DE	NA	C	DT				
717	3	C-15			X			CK	SA	-	CV	X	CS		
702C	3	C-15			X			CK	SA	-	CV				
707	3	E-14			X			REL	SA	-	CV				
834	3	D-11		X				GL	M	C	Q	X	ET	60 sec. stroke time	
722B	3	B-11			X			REL	SA	-	SRV				
722C	3	B-11			X			REL	SA	-	SRV				
715	2	A-10			X			REL	SA	-	SRV				
729	2	B-10			X			REL	SA	-	SRV				
744B	2	D-14	X					GA	MO	C	Q			30 sec. stroke time	

LEGEND FOR VALVE TESTING EXAMPLE FORMAT

- Q - Exercise valve (full stroke) for operability every (3) months
- LT - Valves are leak tested per Section XI Article IWV-3420
- MT - Stroke time measurements are taken and compared to the stroke time limiting value per Section XI Article IWV 3410
- CV - Exercise check valves to the position required to fulfill their function every (3) months
- SRV - Safety and relief valves are tested per Section XI Article IWV-3510
- DT - Test category D valves per Section XI Article IWV-3600
- ET - Verify and record valve position before operations are performed and after operations are completed, and verify that valve is locked or sealed.
- CS - Exercise valve for operability every cold shutdown
- RR - Exercise valve for operability every reactor refueling

RELIEF REQUEST BASIS

System: Auxiliary Coolant System, Component Cooling

1. Valve: 717
Category: C
Class: 3

Function: Prevent backflow from the reactor coolant pump cooling coils

Test Requirement: Exercise valve for operability every three months

Basis for relief: To test this valve would require interruption of cooling water to the reactor coolant pumps motor cooling coils. This action could result in damage to the reactor coolant pumps and thus place the plant in an unsafe mode of operation.

Alternate Testing: This valve will be exercised for operability during cold shutdowns

2. Valve: 834
Category: B-E
Class: 3

Function: Isolate the primary water from the component cooling surge tank during plant operation. It is normally in the closed position, but routine operation of this valve will occur during refueling and cold shutdowns.

Test Requirement: Exercise valve (full stroke) for operability every three (3) months.

Basis for Relief: This valve is not required to change position during plant operation to accomplish its safety function. Exercising this valve will increase the possibility of surge tank line contamination.

Alternate Testing: Verify and record valve position before and after each valve operation.

3. Valve: 744B
Category: A
Class: 2
- Function: Isolate the residual heat exchangers from the cold leg R.C.S. backflow and accumulator backflow.
- Test Requirements: Seat leakage test
- Bases for relief: This valve is located in a high radiation field of _____ mr/hr which would make the required seat leakage test hazardous to test personnel. The estimated yearly man-rem exposure associated with performing the required seat leakage test is _____. We intend to seat leak test two other valves (875B and 866B) which are in series with this valve and which also prevent backflow. We feel that by complying the seat leakage requirements for 744B we will not achieve a compensatory increase in the level of safety.
- Alternate Testing: No alternative seat leak testing is proposed for 744B.

APPENDIX E

SYSTEM DRAWING LIST

<u>DRAWING #</u>	<u>REV #</u>	<u>STATUS</u>	<u>SYSTEM</u>
11825-FM-15A	16	XI	Reactor Bldg Cooling Water
11825-FM-16A	14	NNS	Off Gas Flow
11825-FM-16B	10	NNS	Off Gas Flow
11825-FM-17A	14	XI	Radwaste Flow
11825-FM-17B	16	NNS	Radwaste Flow
11825-FM-17C	15	NNS	Radwaste Flow
11825-FM-17D	13	NNS	Radwaste Flow
11825-FM-17E	17	NNS	Radwaste Flow
11825-FM-17F	15	NNS	Radwaste Flow
11825-FM-17G	15	NNS	Radwaste Flow
11825-FM-17H	8	NNS	Radwaste Flow
11825-FM-17J	5	NNS	Radwaste Flow
11825-FM-18A	18	(A)	DW Inerting, C.A.D., & Purge Flow
11825-FM-18B	1	(A)	Differential Pressurization
11825-FM-19A	13	XI	Fuel Pool Cooling & Cleanup
11825-FM-19B	9	NNS	Fuel Pool Cooling & Cleanup
11825-FM-20A	14	XI	RHR
11825-FM-20B	14	XI	RHR
11825-FM-20C	14	XI	RHR
11825-FM-20D	14	XI	RHR
11825-FM-21A	10	XI	SLC
11825-FM-22A	13	XI	RCIC
11825-FM-22B	10	XI	RCIC
11825-FM-23A	13	XI	Core Spray
11825-FM-24A	12	XI	RWCU
11825-FM-25A	13	XI	HPCI
11825-FM-25B	11	XI	HPCI
11825-FM-26A*	11	--	Reactor Water Recirc
11825-FM-26B	9	XI	Reactor Water Recirc
11825-FM-27A	8	XI	CRD
11825-FM-27B	5	XI	CRD
11825-FM-29A	13	XI	Main Steam
11825-FM-29B	13	NNS	Main Steam
11825-FM-30A	14	NNS	Clean-up Filter Demineralizer
11825-FM-31A	9	NNS	Extraction Steam
11825-FM-31B	10	NNS	Moisture Separator
11825-FM-33A	18	XI	Condensate
11825-FM-33B	16	NNS	Condensate
11825-FM-33C	9	NNS	Condensate
11825-FM-33D	3	NNS	Condensate
11825-FM-33E	2	NNS	Condensate
11825-FM-34A	15	XI	Feedwater
11825-FM-35A	10	NNS	Feedwater Heater Drains
11825-FM-35B	5	NNS	Feedwater Heater Drains & Relief
11825-FM-36A	9	NNS	Circ Water
11825-FM-37A	14	NNS	TBCLC
11825-FM-38A	11	NNS	Vacuum Priming & Air Removal

* Drawing does not represent JAF System

NNS - Non-nuclear System

(A) - Augmented System

<u>DRAWING #</u>	<u>REV #</u>	<u>STATUS</u>	<u>SYSTEM</u>
11825-FM-39A	17	(A)	Breathing Instr & Service Air
11825-FM-39B	7	(A)	Breathing Instr & Service Air
11825-FM-40A	14	NNS	Turbine Lube Oil
11825-FM-41A	9	NNS	Turbine Bldg Misc Drains
11825-FM-41B	3	NNS	Turbine Bldg Misc Drains
11825-FM-42A	14	NNS	Water Treating
11825-FM-42B	18	NNS	Water Treating
11825-FM-44A	10	NNS	Nuclear Equip. Drains
11825-FM-44B	8	NNS	Nuclear Equip. Drains
11825-FM-44C	8	NNS	Nuclear Equip. Drains
11825-FM-45A	9	NNS	Nuclear Equip. Vents
11825-FM-46A	14	XI	Service Water
11825-FM-46B	5	XI	Service Water
11825-FM-47A	10	XI	Nuclear Boiler Vessel Instr.
11825-FM-48A	15	(A)	SBGT
11825-FM-49A	4	(A)	DW/Torus Leak Rate Analyzer
11825-FM-87A	14	NNS	Aux Boiler Steam & Condensate
11825-FM-87B	8	NNS	Aux Boiler Hot Water & Glycol
11825-FM-87C	8	NNS	Aux Boiler F.O., Stm, Cond, & DOM Hot Water
11825-FM-89A	8	NNS	Hydrogen & CO2 Supply
11825-FM-93A	9	(A)	EDG FO Line
11825-FM-93B	4	(A)	EDG FO Line
11825-FM-94A	4	(A)	EDG Air Start Lines
11825-FM-94B	1	(A)	EDG Air Start Lines
11825-FM-94C	1	(A)	EDG Air Start Lines
11825-FM-94D	1	(A)	EDG Air Start Lines
11825-FM-95A	10	NNS	Sample Station No. 1
11825-FM-95B	9	NNS	Sample Station No. 1
11825-FM-98A	2	NNS	Flushing Loop, Condensate, Feedwater, and Steam Lines
11825-FM-119A	3	NNS	Neutron TIP Mon
11825-FM-119B	2	NNS	Neutron TIP Mon
11825-FM-115A		NNS	Reactor Feed Pump Turbine Exhaust Ducts
11825-FM-10A		NNS	Aux Boiler Room Boiler Breeching at Dust Collectors Sh. 1
11825-FM-10B		NNS	Aux. Boiler Room Boiler Breeching at Dust Collectors Sh. 2
11825-FB-35E	6	NNS	Control Room Area Service & Chilled Water
11825-FB010H	11	XI	Reactor Building Service Water Cooling
Schoonmaker Drawing #40096	5	XI	Jacket Water System with Heat Exchanger (Lubrication Oil and Cooling, EDA)

APPENDIX F

RATIONALE FOR CLASSIFICATION OF REACTOR CORE ISOLATION COOLING SYSTEM

The design and operation of the RCIC System was evaluated using the guidance found in the USNRC Standard Review Plan (NUREG 75/087), Sections 5.4.6, 10.4.9 and 15.2.7. In addition, USNRC Regulatory Guide 1.26, Rev. 2, dated February 1976, was carefully reviewed to determine the appropriate Quality Group Classification of the RCIC system. This evaluation and review process resulted in assigning the majority of the RCIC system to Quality Group C based on the following:

- a. In the event of low reactor water level, the RCIC turbine pump starts automatically or may be started by the operator from the control room. The preferred source of water for the RCIC system is the condensate storage tank, with the suppression pool providing a secondary or long term source.
- b. The cooling makeup function of the RCIC system is redundant to the High Pressure Coolant Injection (HPCI) system. There is no credit taken for the RCIC system in the safety analysis as contributing to safe shutdown of the reactor in any of the design basis accidents.
- c. A Pressurized Water Reactor (PWR) has two backup feedwater systems (auxiliary and emergency) while a Boiling Water Reactor (BWR) relies on the Emergency Core Cooling Systems (ECCS) as the guaranteed source of cooling water in the postulated accident condition. The RCIC system provides cooling and makeup when the feedwater system is not available.
- d. The auxiliary feedwater system of a PWR functions as an emergency heat removal system to transfer heat from the primary system when the main feedwater system is not available (e.g., steam generators isolated from their normal feedwater supply). The RCIC serves an analogous function in a BWR.
- e. Cooling water and auxiliary feedwater systems such as RCIC on a BWR, and auxiliary feedwater on a PWR are assigned to Quality Group C.

Historically, the design and construction Quality Group Classification assigned to the RCIC system on BWR's, has been Group B (ASME Class 2). This is acceptable in those cases where the RCIC system is required to contribute to a safe reactor shutdown or mitigate the consequences of a postulated accident. For the J. A. FitzPatrick plant, credit is neither required nor taken for the operation of the RCIC system in an accident, thus the design and construction classification assigned by the vendor (as shown on the ISD's) represents an optional upgrade from ASME Class 3 to Class 2. The RCIC system for the J. A. FitzPatrick plant will be tested in accordance with the requirements governing ASME Class 3 or Quality Group C classification.