JAMES A. FITZPATRICK NUCLEAR POWER PLANT

INSERVICE TESTING PROGRAM FOR PUMPS AND VALVES

> Revision 3 October 1, 1979

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X. V. Sorrentino Power Authority of the State of New York

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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

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 La. 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 - Critainment 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 values 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

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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 F"haust
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
Х-202В	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

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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	t	w.	Newell	DATE	4/18/78	REVIEWED	BY	N.	Holland	DATE	5/19/78
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Pump	ISD Number	ISD Coordinates	Speed	Inlet Pressure P:	Differential Pressure Ap	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	YEŞ	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

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

TABLE A - PUMP TEST PROGRAM

PREPARED BY	W. Newell	DATE	4/18/78	REVIEWED B	Y .	N. Holland	DATE	5/19/78
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Pump	ISD Number	ISD Coordinates	Speed n(1)	Inlet Pressure Pi	Differential Pressure ∆p	Flow Rate Q	Vibration Amplitude V	Bearing Temperature T_b	Observe Lube Oil Level	Test Interval (2)
RESIDUAL HEAT REMOVAL SERVICE WATER 10-P-16	11825-FM-20D, REV 14	E-8	NO	YES ⁽⁴⁾	YES	YES	YES	NO ⁽⁵⁾	NO ⁽⁵⁾	31 DAYS
RE IDUAL HEAT REFOUAL 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 I	BY	N.	Holland		DATE	5/19/78
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Pump	ISD Number	ISD Coordinates	Speed	Inlet Pressure ^P i	Differential Pressure Ap	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

- 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.
- The HPCI main and booster pumps are driven by a common power shaft and work in tandem. Accordingly, the pumps will be tested together.
- Testing of the HPCI/RCIC pumps requires a valve lineup to divert flow back 7. to the Condensate Storage Tank. If a HPCI/PCIC 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. ...coordingly, 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.
- 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.
- 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 reservcirs respectfully.

APPENDIX B

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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.

VALVE TEST PROGRAM MATRIX

			NUMBER OF PAGES				
SYSTEMS	ISD NUMBER	NO.	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	11825-7M-25B	11	1		1		
Reactor Water Recirc.	11825-FM- '6B	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)	Schoommaker Drawing #40096	5	1				

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SYMBOLS USED TO DESIGNATE VALVE TYPE

Symbol	Meaning
oynoor	
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

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SYMBOLS USED TO DESIGNATE VALVE ACTUATOR TYPE

Symbol	Meaning				
A	Air Operator				
м	Manual Operator				
MO	Motor Operator				
SA	Self Actuated				
S	Solenoid Operator				
Н	Hydraulic Operator				
RD	Rupture Disc				
XP	Explosive Operator				

SYMBOLS USED TO DESIGNATE VALVE POSITION

VALVE POSITIONS							
Symbol	Meaning						
0	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.						

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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 pos- sible adverse operational or safety situations.
1	Refueling. Testing of values 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 values and passive values, 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 <u>is not</u> 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.

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 inaccess- ible 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 value to measure the full stroke time of a power operated value. The value 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 value to measure the full stroke time of a power operated value. The value stroke test will be performed in accordance with IWV-3410. The value 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 values 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.

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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 fre- quency 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 ex- ceed 2 years in accordance with IWV-3610.
	CATEGORY E VALVES
0C-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.

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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 deter- mined based upon Technical Specifica- tion Requirements or based upon base line 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 1 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 "alue of full stroke time.

Codes 1 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 values whose individual leak rates are significant. Values 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 stabs 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.

**************	*********	1A8 ******	ILE 1: VALV	/ES BEI	NG TEST	ED IN	ACCORD	ANCE WITH	A CODE RE	GUIREME	
SYSTEM: REACTOR	BUILDING C	DOLING	WATER-SYSTE	EM NO 1	5		ISD I	NO. 11825	5-FM-15A.	REV 16	FITZPATRICK VALVE PROGRAM
PREPARED BY: M.	PARTRIDGE	DATE	4/3/78						REVI	EWED BY	N. HOLLAND DATE: 5/30/78
*************	*****	******	VALVE	******	****	******	****	*****	******	STROKE	没 你没法律师 2 张松亮带有过来来说你的故事你的你 你你 都 <mark>都都都是</mark> 我就算你。
VALVE NUMBER	* CLASS	COORD	CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	TYPE	NORM. POS.	TEST DURING	TES T METHID	TIME (SEC)	S REMARKS
15-MOV-101	з	I-8	x	8	GA	MO	с	3 3	EF-1 ET-2	TBD	
15-MOV-102	2	8-7	x	4	GA	MO	с	3 3	EF-1 ET-2	TBD	
15-MOV-103	2	F-6	x	4	GA	MO	с	3	EF-1 ET-1	TBD	
ESW-16A	2	B-7	2 X	4	СК	SA	с	1 1	PV-1 SLT-1	N/A	CONTAINMENT 150 VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
ESW-168	2	F-6	2 X	4	ск	SA	c	1 1	PV-1 SLT-1	N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
ESW-15A	2	G-6	2 X	4	СК	SA	с	1 1	PV-1 SLT-1	A.M	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
ESW-15B	5	B-6	2 X	4	ск	SA	с	1 1	PV-1 SLT-1	N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
15-MOV-175A	З	I-5	x	6	GA	MO	с	3	EF-1 E7-2	TBD	
15-MOV-1758	З	I-5	x	6	GA	MO	С	3	EF-1 ET-2	TBD	

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******	****	********	********	****	******	********	*****	*******	*********************	
SYSTEM: REACTOR B	BUILDING COO	LING WATE	ER-SYSTEM	NO. 15		ISD NO	.: 11625-FM-15A	, REV 16	FITZPATRICK VAL	VE PROGRA
PREPARED BY: M. PA	ARTRIDGE	DATE: 4/	3/78				REV	IEWED 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)	* * REMARKS	
ESW-16A	2	B-7	4	ск	SA	c		N/A	CONTAINMENT ISD VALVE. TEST PER 10CFR50 APP J,	SEAT LEA
ESW-16B	2	F-6	4	СК	SA	с		N/A	CONTAINMENT ISO VALVE. TEST PER 10CFR50 APP J,	SEAT LEA
RBC-24A	2	B-7	6	ск	SA	0		N/A	CONTAINMENT ISO VALVE. TEST PER 10CFR50 APP J,	SEAT LEATYPE C.
RBC-24B	5	F-6	6	ск	SA	0		N/A	CONTAINMENT ISO VALVE. TEST PER 10CFR50 APP J.	SEAT LEA
ESW-15A	2	6-6	4	ск	SA	с		N/A	CONTAINMENT ISD VALVE. TEST PER 10CFR50 APP J,	SEAT LEA
ES₩-158	5	B-6	4	ск	SA	c		N/A	CONTAINMENT ISO VALVE. TEST PER 10CFR50 APP J,	SEAT LEA
RBC-21A	2	B-6	4	ск	SA	o		N/A	CONTAINMENT ISD VALVE. TEST PER 10CFR50 APP J.	SEAT LEA
RBC-21B	2	F-6	4	ск	SA	0		N/A	CONTAINMENT ISO VALVE. TEST PER 100FR50 APP J.	SEAT LEA
RBC-22A	2	B-5	4	GL	м	0		N/A	CONTAINMENT ISD VALVE. TEST PER 10CFR50 APP J.	SEAT LEAT TYPE C.
RBC-22B	2	G-6	4	GL	M	o		N/A	CONTAINMENT ISO VALVE. TEST PER 100FR50 APP J.	SEAT LEA
RBC-26A	2	B-6	4	GL	м	O		N/A	CONTAINMENT ISO VALVE. TEST PER 10CFR50 APP J,	SEAT LEA
RBC-26B	5	G-5	4	GL	м	0		N/A	CONTAINMENT ISO VALVE. TEST PER 10CFR50 APP J.	SEAT LF
RBC-33	2	E-7	1, 5	GL	м	o		N/A	CONTAINMENT ISO VALVE. TEST PER 10CFR50 APP J.	SEAT LEA

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				TABLE 3 VA	LVES FOR	WHICH REL	LIEF IS	BEING R	EQUESTED			REV.	з,	10/01/79	
* * *	SYSTEM: REACTOR	BUILDING CO	DOLING WATE	ER-SYSTEM NO.	*******	15	******** SD NO. 1	1825-FM	-15A, REV	*******	FITZ	PATRICH	(VAL	VE PROGRAM	* * * *
*	PREPARED BY: M.	PARTRIDGE	DATE: 4	/3/78					REVIEWE	D BY: N.I	HOLLAND	DA	TE	5/30/78	* *
*****	**************************************	* CLASS	COORD INATE	VALVE CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS	TEST DUR I.4G	TEST METHOD	STROKE TIME (SEC)	REASON REQUES EXEMPT	FOR TING	TESTING TO BE PERFORMED	
	ESW-9A	з	I-8	x	8	СК	SA	с	з	EF-1	N/A	NOTE	1	EF-3	
	ESW-9B	з	I-8	x	8	ск	SA	с	з	EF-1	N/A	NOTE	1	EF-3	
	ESW-13A	з	G-7	x	з	СК	SA	с	з	EF-1	N/A	NOTE	1	EF-3	
	ESW-13B	з	B-7	x	з	СК	SA	с	Э	EF-1	N/A	NOTE	1	EF-3	
	ESW-18A	З	Q-6	x	1.5	ск	SA	с	Э	EF-1	N/A	NOTE	1	EF-3	
	ESW-18B	з	A-6	x	1.5	ск	SA	с	з	EF-1	N/A	NOTE	1	EF-3	
	ESW-18C	Э	H-6	v	1.5	СК	SA	с	з	EF-1	N/A	NOTE	1	EF-3	
	ESW-18D	3	A-6	x	1.5	СК	SA	с	ú	EF-1	N/A	NOTE	1	EF-3	
	RBC-35A	з	G-6	x	1.5	СК	SA	o	з	EF-1	N/A	NOTE	2	EF-3	
	RBC-35B	з	A-6	x	1. 5	СК	SA	o	з	EF-1	N/A	NOTE	2	EF-3	
	RBC-35C	з	H-6	x	1.5	СК	SA	o	з	EF-1	N/A	NOTE	2	EF-3	
	RBC-35D	з	A-6	x	1.5	ск	SA	o	з	EF-1	N/A	NOTE	2	EF-3	
	RBC-24A	2	B-7	2 X	6	СК	SA	0	3 1	EF-1 SL 1-1	N/A	NOTE	з	EF-3 SLT-1	
	RBC-248	2	F-6	2 X	6	СК	SA	0	3 1	EF-1 SLT-1	N/A	NOTE	з	EF-3 SLT-1	

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GENERAL PHYSICS CORPORATION COLUMBIA, MARYLAND 21044

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				TABLE 3: V	ALVES FOR	WHICH REL	IEF IS I	BEING RE	EQUESTED			REV.	3,	10/01/79
*	SYSTEM: REACTOR B PREPARED BY: M. PA	************* UILDING COU RTRIDGE	DLING WATE	************** R-SYSTEM NO 3/78	**********	. ******* ***	D NO. 1	1825-FM	-15A, REV REVIEWEI	16 D BY: N.F	FITZ	PATRICK	VAL	VE PROGRAM
*	**************************************	*********** * 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)	REASON REQUES EXEMPT	FOR TING	TESTING TO BE PERFORMED
*	RBC-21A	2	B-6	2 X	4	ск	SA	o	3 1	EF-1 SLT	N/A	NOTE	3	EF-3 SLT-1
	RBC-21B	2	F-6	2 X	4	ск	SA	O	3 1	EF-1 SLT-1	N/A	NOTE	3	EF-3 SLT-1
	RBC-22A	2	B-5	2	4	GL	м	O	3 1	EF-1 SLT-1	N/A	NOTE	4	EF-3 SLT-1
	RBC-22B	2	G-6	2	4	GL	м	0	3 1	EF-1 SLT-1	N/A	NOTE	4	EF-3 SLT-1
	RBC -26A	2	B-6	2	4	GL	м	D	Э 1	EF-1 SLT-1	N/A	NOTE	4	EF-3 SLT-1
	RBC-26B	2	G-5	2	4	GL	м	o	3 1	EF-1 SLT-1	N/A	NOTE	4	EF-3 SLT-1
	RBC-33	2	E-7	2	1.5	GL	м	0	3 1	EF-1 SLT-1	N/A	NOTE	4	EF-3 SLT-1
	ESW-25	з	B-5	x	1	ск	SA	с	З	EF-1	N/A	NOTE	1	EF-3
	ESW-27	з	G-6	x	1	CK	SA	с	з	EF-1	N/A	NOTE	1	EF-3
	RBC-59	3	B-5	x	1	СК	SA	0	З	EF-1	N/A	NOTE	2	EF-3
	RBC-61	з	G-7	x	1	CK	SA	0	з	EF-1	N/A	NOTE	2	EF-3

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			TAB	LE 1: VALV	ES BEI	NG TEST	ED IN	ACCORD	ANCE WITH	CODE RE	QUIREME	NTS REV. 3, 10/01/79
**	SYSTEM: RADWASTE PREPARED BY: M.	-SYSTEM NO	20 DATE	: 4/4/78	*****		*****	ISD. /	NO : 11825	-FM-17A REVI	REV 14 EWED BY	FITZPATRICK VALVE PROGRAM
**	VALVE NUMBER	* CLASS	COORD INATE	VALVE CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	TEST	TEST	STROKE TIME (SEC)	* * * * * * * REMARKS *
	20-MOV-94	2	C-5	2	З	QA	MO	٥	3 3 1 1	EF-1 ET-1 EF-4 SLT-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J. TYPE C.
	20-404-95	2	D-5	2	з	GA	A	c	331	EF-1 ET-1 EF-5 SLT-1	TED	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J. TYPE C.
	20-MDA- 35	5	C-1	2	з	GA	MO	O	3 1 3 1	EF-1 EF-4 ET-1 SLT-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J. TYPE C.
	20-40V-83	2	D-1	2	З	GA	A	D	3 3 3	EF-1 ET-1 EF-5 SLT-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.

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			TABLE 2	VALVES	FOR WHI	CH SEAT LE	AKAGE IS IMPOR	TANT	REV. 3, 10/01/79
* SYSTEM: RADWAS * PRFTARED BY: M	TE-SYSTEM NO	2. 20 DATE: 4	/4/78			ISD. N). : 11825-FM-17A REV:	REV 14 IEWED BY	FITZPATRICK VALVE PROGRAM
* VALVE NUMBER	* * CLASS *	6 COORD INATE	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS	LEAK RATE VALUE	STROKE TIME (SEC)	* * * * * * * REMARKS * *
20-MDV-94	2	C-5	3	GA	MD	D		TBD	CONTAINMENT ISD VALVE. SEAT LEAK TEST PER 10CFR50 APP J. TYPE C.
20-ADV-95	2	D-5	з	GA	A	С		TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
20-M0V-82	2	C-1	з	GA	MO	0		TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
20-A0V-83	2	D-1	з	GA	A	0		TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.

SYSTEM. RESIDUAL	HEAT REMO	IVAL-SYS	. ND. 10				ISD.	ND 11825	-FM-20A,	REV 14	FITZPATRICK VALVE PROGRAM
PREPARED BY: W. N	EWELL	DATE	4/12/78						REV	IEWED B	Y. N. HOLLAND DATE: 5/30/78
******	*********	***		******	****	******	*******	*******	*******	STROKE	- ************************************
VALVE NUMBER	+ CLASS	COORD	CATEGORY	SIZE	VALVE	ACT.	NORM.	TEST	TEST	TIME	*/ REMARKS
*****	*******	******	********	******	******	******	******	********	*******	******	*****************************
RHR-81A	1	I-4	×	24	GA	м	LO	1	OC-1	N/A	
10-MOV-27A	1	F-4	2	18	AN	мо	o	3 3 1	EF-1 ET-1 SLT-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
10-MGV-31A	5	н-з	5	10	GA	мо	с	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	6-3	2	10	GA	MO	с	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	мо	с	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	с	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	мо	с	3	EF-1 ET-1	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J. TYPE C NOT
10-MOV-151A	2	н-в	x	24	GA	м	LO	1	0C-1	N/A	MOTOR OPERATOR PERMANENTLY DISCONECTED
10-SV-35A	2	B-3	x	1	RL	SA	с	1	TF-1	N/A	
10-54-40	2	I-7	x	1	RL	SA	с	1	TF-1	N/A	
RHR-52A	2	н-з	2	2	GA	м	с	1	PV-1 SLT-1	N/A	CONTAINMENT ISI VALVE. SEAT LEAK

				TABLE 2	VALVES	FOR WHIC	H SEAT -	EARAGE IS IMPORT	4117	REV 3.	0/01/79
**	SYSTEM RESIDUAL PREPARED BY: W NE	HEAT REMO	DVAL-SYS ND DATE 4	10 /12/78			ISD N	0 11825-FM-20A REV	REV 14 IEWED BY	FITZPATRICK VAL N HOLLAND DATE :	/E PROGRAM
**	VALVE NUMBER	* CLASS	COORD INATE	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM PCS	LEAK RATE VALUE	STROKE* TIME * (SEC) *	REMARKS	
	10-A0V-68A	1	H-4	24	СК	SA	-	11 CFM DR 10 GPM	N/A	TESTED PNEUMATICALLY AT HYDROSTATICALLY AT 1000	45 P516 OP P516
	10-MOV-254	1	G-4	24	GA	MO	с	TBD	TBD	CONTAINMENT ISO VALVE TEST PER 10CFR50 APP J.	SEAT LEAM
	10-MOV-27A	1	F-4	18	AN	MD	C		TBD	CONTAINMENT ISO VALVE TEST PER 100FR50 APP J.	SEAT LEAK
	10-MDV-314	2	н-з	10	GA	MO	c		TBD	CONTAINMENT ISO VALVE TEST PER 100FR50 APP J.	SEAT LEAK
	10-MOV-26A	2	G-3	10	GA	MO	с		TBD	CONTAINMENT ISO VALVE TEST PER 1005850 APP J.	SEAT LEAK
	10-MOV-38A	2	E-5	6	GL	MO	с		TBD	CONTAINMENT ISO VALVE TEST PER 100FR50 APP J.	SEAT LEAK
	10-MOV-39A	2	E-4	16	GA	MO	с		TBD	CONTAINMENT ISO VALVE TEST PER 100FR50 APP J,	SEAT LEAK
	RHR-52A	2	н-з	2	GA	м	с		N/A	CONTAINMENT ISI VALVE	SEAT LEAK

	TABLE 3: VALVES FOR	WHICH RELIEF IS BEING R	EQUESTED	REV. 3, 10/01/79
* SYSTEM: RESIDUAL HEAT REMOVAL-SYS. NO * PREPARED BY: W. NEWELL DATE: 4). 10 4/12/78	ISD NO :11825-FM	-20A.REV 14 FIT REVIEWED BY: N.HOLLAND	* ZPATRICK VALVE PROGRAM* DATE: 5/30/78 *
* VALVE NUMBER * CLASS COORD * INATE	VALVE CATEGORY SIZE A B C D E (IN)	VALVE ACT. NORM. TYPE TYPE POS.	STROK TEST TEST TIME DURING METHOD (SEC)	E REASON FOR TESTING * REQUESTING TO BE * EXEMPTION PERFORMED *
10-ADV-68A 1 H-4	1 X 24	CK SA -	3 EF-1 N/A 1 SLT-1	NOTE 5 EF-2 SLT-1
10-MOV-25A 1 G-4	3 24	GA MO C	3 EF-1 TBD 3 ET-1 1 SLT-1	NOTE 6 EF-2 ET-1 SLT-1

OVOTE	. DECTRUM	HEAT DEM	OUN - EVE	NO 1/					ISD N	0 11825	-FM-20B.	REV 14	FITZPATRICK VALV	E PRO	OGRA
31312	A. REDIDUAL	HEAT HEN	OVAL-DID												
PREPA	RED BY: W. NE	WELL	DATE	: 4/12	/78						REV	IEWED BY	C N. HOLLAND DATE: 6	/1/78	8
										*******	*******	*******	****	****	****
*****		*	*******	VAL	VE							STROKE #			
VAL VE	NUMBER	* CLASS	COORD	CATEG	DRY	SIZE	VALVE	ACT.	NORM.	TEST	TEST	TIME #	REMARKS		
			INATE	ABC	DE	(IN)	TYPE	TYPE	POS	DURING	METHOD	(SEC) *			
*****	****	****	*******	******	*****	*****	*****	*****	******	*******	********	*******			
RHR-8	18	1	C-4		х	24	GA	м	LO	1	OC-1	N/A			
				1.1						-	FF-1	790	CONTAINMENT ISO VALVE	SFAT	LEA
10-MO	V-27B	1	E-3	2		18	AN	MD	0	3	EF-1	150	TEST PER 10CERSO APP J.	TYPE	C.
										1	SLT-1				
10-MD	V-318	2	C-5	2		10	GA	MO	С	з	EF-1	TBD	CONTAINMENT ISD VALVE	SEAT	LE
										з	ET-1		TEST PER 10CFR50 APP J.	TYPE	G.
										1	SLT-1				
						10	~	MO	6	2	EE-1	TRD	CONTAINMENT ISO VALVE	SEAT	LE
10-MO	V268	2	0-2	æ		10	Gree	HU	c	3	ET-1	100	TEST PER 10CFR50 APP J.	TYPE C	C.
										1	SLT-1				
							1.1.1					NZA	CONTAINMENT ICO UNUE	GEAT	1.5
10-MO	V-33	2	C-1	3		4	GA	MU	C	1	SI T-1	N/M	TEST PER 10CFR50 APP J.	TYPE	C.
										•					
10-MO	V-32	1	B-2	з		4	GA	MO	с	1	PV-1	N/A	CONTAINMENT ISO VALVE.	SEAT	LE
										1	SLT-1		TEST PER 10CFR50 APP J.	TYPE	C.
			0.5	-		4	01	MO	c	3	FF-1	TRD	CONTAINMENT ISO VALVE	SEAT	LE
10-MU	V-388	~	6-3	~		0	GL	no		3	ET-1		TEST PER 10CFR50 APP J.	TYPE	C.
										ĩ	SLT-1				
10-MO	V-398	2	G-3	2		16	GA	MO	C	3	EF-1	TBD	CONTAINMENT ISO VALVE.	SEAT	LE
										3	ET-1		TEST PER 10CFR50 APP J.	TYPE	C.
										1	SLT-1				
10-10	U-348	2	0-5	×		16	GL	MO	с	3	EF-1	TBD	CONTAINMENT ISO VALVE.	SEAT	LE
10-110	V-340			<u>^</u>						3	ET-1		TEST PER 10CFR50 APP J.	TYPE	С
													REQUIRED DUE TO WATER SE	AL	
10-MO	V-151B	5	D-8		x	24	GA	M	LO	1	OC-1	N/A	MOTOR OPERATOR PERMANENT DISCONECTED	LY	
				-			~	-	~		PU-1	N/A	CONTAINMENT ISO VALUE	SEAT	1.5
10-MO	V-18	1	A-5	3		0	GA	Mu	C	1	SI T-1	N/M	TEST PER 10CERSO APP	TYPE	C
										*	JE 1-1		TEOT FER TOURNOU AFF OF		· ·
10-MO	V-17	1	A-7	3		6	GA	MO	С	1	PV-1	N/A	CONTAINMENT ISO VALVE.	SEAT	LE
- W 110													TECT DED LOCEDSO ADD I	TYPE	10

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		TAB	LE 1: VALV	ES BEI	NG TEST	ED IN	ACCORD	ANCE WITH	CODE RE	QUIREMENTS	5	REV	. 3.	10/01//9	
* SYSTEM: RESIDUAL	HEAT REMO	VAL-5.3	ND. 10		******		ISD.	NO.: 11825	-FM-20B.	REV 14	FIT	ZPATR	ICK VA	LVE PROGRA	.M *
* PREPARED BY W. NE	EWELL	DATE	4/12/78						REV	IENED 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) *	R	E M /	R K 1	S	
10-SV-358	2	1-3	x	1	RL	SA	с	1	TF-1	N/A					
10-SV-44	2	9-2	x	1	RL	SA	с	1	TF-1	N/A					

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SYSTEM RESIDUAL	HEAT REMOVA	AL-SYS. NO.	10			ISD NO	11825-FM-208	REV 14	FITZPATRICK VA	LVE PROGRAM
PREPARED BY: W. NE	EWELL	DATE: 4/	12/78				RE	VIEWED B	Y: N HOLLAND DATE:	6/1/78
VALVE NUMBER	* * CLASS	COORD INATE	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	LEAK RATE VALUE	STROKE TIME (SEC)	**************************************	**************************************
10-ADV-688	1	D-4	24	ск	SA	-	11 CFM DR 10 GPM	N/A	TESTED PNEUMATICALLY A HYDROSTASICALLY AT 100	T 45 PS1G 0 0 PS1G
10-MOV-258	1	E-4	24	GA	мо	с	TBD	TBD	CONTAINMENT ISD VALVE. TEST PER 10CFR50 APP J	SEAT LEAK
10-MOV-278	1	E-3	19	AN	MO	0		TBD	CONTAINMENT ISO VALVE. TEST PER 10CFR50 APP J	SEAT LEAK
10-MOV-31B	2	C-2	10	GA	MO	с		TBD	CONTAINMENT ISO VALVE. FEST PER 10CFR50 APP J	SEAT LEAK
10-MOV-268	2	D-5	10	GA	мо	с		TBD	CONTAINMENT ISO VALVE. TEST PER 10CFR30 APP J	SEAT LEAK
10-MOV-33	2	C-1	4	GA	:10	с	TBD	N/A	CONTAINMENT ISD VALVE. TEST PER 10CFR50 APP J	SEAT LEAK
10-MOV-32	1	B-2	4	GA	MO	с	TBD	N/A	CONTAINMENT ISD VALVE. TEST PER 10CFR50 APP J	SEAT LEAK
10-MOV-388	2	G-5	6	GL	MO	с		TBD	CONTAINMENT ISO VALVE. TEST PER 10CFR50 APP J	SEAT LEAK
10-MOV-398	2	G-3	16	GA	MO	с		rbd	CONTAINMENT ISO VALVE. TEST PER 10CFR50 APP J	SEAT LEAK
10-MOV-18	1	A5	6	GA	MO	с	TBD	N/A	CONTAINMENT ISO VALVE. TEST PER 10CFR50 APP J	SEAT LEAK
10-MOV-17	1	A-7	6	GA	MO	с	TBD	N/A	CONTAINMENT ISO VALVE	SEAT LEAK

			TABLE 3: VAL	VES FOR	WHICH REL	IEF IS	BEING RE	QUESTED			REV. 3.	10/01/79
SYSTEM: RESIDUAL PREPARED BY: W. NE	************** HEAT REMOVA EWELL	L-SYS ND. DATE: 4/	10 12/78	*******	********** IS	5D. NO. : 1	******** 1825-FM-	-20B REV	14 ED BY: N.	FITZ	PATRICK VAL	VE PROGRAM
VALVE NUMBER	* * CLASS	COORD INATE	VALVE CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS	TEST	TEST METHOD	STROKE TIME (SEC)	REASON FOR REQUESTING EXEMPTION	TESTING TO BE PERFORMED
10-ADV-688	1	D-4	1 X	24	ск	SA	-	3 1	EF-1 SLT-1	N/A	NOTE 5	EF-2 SLT-1
10-MOV-258	1	E-4	з	24	GA	MO	с	3 3 1	EF-1 ET-1 SLT-1	TBD	NOTE 6	EF-2 ET-1 SLT-1

TABLE 1: VALVES BEING TESTED IN ACCORDANCE WITH CODE REGUIREMENTS F V 3. 10/01/79 ISD. NO. 11825-FM-20C. REV 14 FITZPATY & VALVE PROGRAM * SYSTEM: RESIDUAL HEAT REMOVAL-SYS NO. 10 REVIEWED BY N. HOLLAND DATE: 4 78 PREPARED BY: W. NEWELL DATE: 4/13/78 STROKE* VALVE REMARKS TIME # * CLASS COORD CATEGORY SIZE VALVE ACT. NORM. TEST TEST VALVE NUMBER DURING METHOD (SEC) * INATE A B C D E (IN) TYPE TYPE POS -**** ********************* **** N/A CHECK VALVE OPENS WITH PUMP TEST. SA 3 E6-1 X 12 CK -3 E-8 RHR-14A CHECK SHUT WITH OTHER PUMP TEST. CHECK VALVE OPENS WITH PUMP TEST. EF-1 N/A SA -3 3 E-7 x 12 CK RHR-14C CHECK SHUT WITH OTHER PUMP TEST. N/A D-5 X 16 GA M LO 1 DC-1 3 RHR-11A OC - 1N/A LO 1 GA M 3 D-5 X 16 RHR-24A FULL STROKE VALVE TO THE POSITION TBD 3 EF-1 GA MO C 3 X 16 10-MOV-89A A-6 TO FULFILL ITS SYSTEM FUNCTION 3 ET-2 VALVE KEY-LOCKED + CHAINED OPEN MO LO 1 OC-1 N/A GA 10-MOV-13A 2 1-5 X 20 DURING NORMAL OPERATION. VALVE KEY-LOCKED + CHAINED OPEN OC-1 N/A GA MO LO 1 X 20 10-MOV-13C 2 I-3 DURING NORMAL OPERATION. CHECK VALVE OPENS WITH PUMP TEST. з EF-1 N/A 2 G-4 х 3 CK SA -RHR-64A CHECK SHUT WITH OTHER PUMP TEST. 3 EF-1 N/A CHECK VALVE OPENS WITH PUMP TEST. X 3 CK SA -F-3 RHR-64C 2 CHECK SHUT WITH OTHER PUMP TEST. PUMP MINIMUM FLOW BYPASS VALVE. 0 з FF-1 TBD GA MO 10-MOV-16A 2 F-2 X 4 VALVE OPERATES DURING PUMP TEST. 3 ET-2 EF-1 CHECK VALVE OPENS WITH PUMP TEST. 16 CK SA -3 N/A E-5 X RHR-42A 2 CHECK SHUT WITH OTHER PUMP TEST. CHECK VALVE OPENS . "TH PUMP TEST. 3 EF-1 N/A E-3 X 16 CK SA -RHR-42C 2 CHECK SHUT WITH OTHER PUMP TEST. GA M LO 1 OC-1 N/A RHR-45A 2 E-5 X 16

X 16

E-4

2

GA

M

LO

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RHR-45C

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OC-1

N/A
			TAB	LE 1 VAL	VES I	BEING TES	TED IN	ACCORD	ANCE WITH	CODE RE	QUIREMEN	NTS REV. 3, 10/01/79
**	SYSTEM: RESIDUAL PREPARED BY: W. NE	HEAT REMO	******* VAL-SYS DATE	ND. 10	*****			ISD. P	NO. : 11825	-FM-20C. REV	REV 14	FITZPATRICK VALVE PROGRAM * Y: N. HOLLAND DATE: 6/1/78 *
**	VALVE NUMBER	* CLASS	COORD	VALVE CATEGORY A B C D I	SI E (I)	ZE VALVE N) TYPE	ACT. TYPE	NORM. POS	TEST DURING	TEST METHOD	STROKE TIME (SEC)	* * REMARKS *
**	10-MOV-65A	2	D-5	*********	4 1 6	GA GA	MO	LO	1	OC-1	N/A	VALVE KEY-LOCKED + CHAINED OPEN DURING NORMAL OPERATION.
	10-MOV-12A	2	D-4		K 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	0	3 3	EF-1 ET-2	TBD	
	10-MOV-148A	з	A-1	x	16	GA	MO	LC	3	EF-1 ET-2	TBD	VALVE KEY-LOCKED CLOSED DURING NORMAL OPERATION.
	10-MDV-149A	з	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

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* SYSTEM: RESIDUA	AL HEAT REMO	DVAL-SYS	5. ND. 10				ISD.	NO. : 11825	-FM-20D,	REV 12	FITZPATRICK VALVE PROGRAM
* * PREPARED BY: W. *	NEWELL	DATE	E: 4/13/78						REV	IEWED B	Y: N. HOLLAND DATE: 6/1/78
	* * * * * *	COOPD	VALVE	S17F	VA! UF	ACT	NORM	TEST	TEST	STROKE	**************************************
*	*	INATE	ABCDE	(IN)	TYPE	TYPE	POS.	DURING	METHOD	(SEC)	*
RHR-14B	3	E-8	x	12	ск	SA	-	з	EF-1	N/A	CHECK VALVE OPENS WITH PUMP TEST. CHECK SHUT WITH OTHER PUMP TEST.
RHR-14D	3	E6	x	12	ск	SA	-	з	EF-1	N/A	CHECK VALVE OPENS WITH PUMP TEST. CHECK SHUT WITH OTHER PUMP TEST.
RHR-118	З	G-5	x	16	GA	м	LO	1	OC-1	N/A	
RHR-24B	з	H-5	x	16	GA	м	LO	1	OC-1	N/A	
10-MOV-898	з	I-5	x	16	GA	MO	с	3 3	EF-1 ET-2	TBD	FULL STROKE VALVE TO THE POSITION TO FULFILL ITS SYSTEM FUNCTION
10-MOV-138	2	B-5	x	20	GA	MO	LO	1	OC-1	N/A	VALVE KEY-LOCKED + CHAINED OPEN DURING NORMAL OPERATION.
10-MOV-13D	2	8-3	x	20	GA	MO	LO	1	OC-1	N/A	VALVE KEY-LOCKED + CHAINED OPEN DURING NORMAL OPERATION.
RHR-64B	2	D-4	x	з	ск	SA		3	EF-1	N/A	CHECK VALVE OPENS WITH PUMP TEST. CHECK SHUT WITH OTHER PUMP TEST.
RHR-64D	2	E-3	x	з	ск	SA	-	з	EF-1	N/A	CHECK VALVE OPENS WITH PUMP TEST. CHECK SHUT WITH OTHER PUMP TEST.
10-MOV-168	2	E-2	x	4	GA	MO	0	3	EF-1 ET-2	TBD	PUMP MINIMUM FLOW BYPASS VALVE. VALVE OPERATES DURING PUMP TEST.
RHR-428	2	E-5	x	16	ск	SA	-	з	EF-1	N/A	CHECK VALVE OPENS WITH PUMP TEST. CHECK SHUT WITH OTHER PUMP TEST.
RHR-42D	2	E-3	x	16	СК	SA	-	з	EF-1	N/A	CHECK VALVE OPENS WITH PUMP TEST. CHECK SHUT WITH OTHER PUMP TEST.
RHR-45B	2	E-5	x	16	GA	м	LC	1	0C-1	N/A	
RHR-45D	2	E-4	×	16	GA	м	LO	1	OC-1	N/A	

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		TAB	LE 1: VAL	VES BEI	ING TEST	ED IN	ACCORDA	ANCE WITH	CODE RE	QUIREME	NTS REV. 3, 10/01/79
SYSTEM: RESIDUAL	HEAT REMO	******	. ND. 10	******	******	*****	ISD. P	••••******	-FM-20D,	REV 12	FITZPATRICK VALVE PROGRAM
PREPARED BY: W. N	EWELL	DATE	4/13/78						REV	IEWED D	Y: N. HOLLAND DATE: 6/1/78 *
	***************************************	******	VALVE	\$######	UAL UF	ACT		TEST	TEST	STROKE TIME	* REMARKS *
	*	INATE	ABCDE	(IN)	TYPE	TYPE	POS.	DURING	METHOD	(SEC)	*
10-MOV-658	2	F-5	x	16	GA	MO	LO	1	OC-1	N/A	VALVE KEY-LOCKED + CHAINED OPEN DURING NORMAL OPERATION.
10-MOV-668	2	E-4	x	20	QL.	MO	LO	3 3	EF-1 ET-2	TBD	
10-MOV-12B	2	F-3	x	16	GA	MO	LO	1	0C-1	N/A	VALVE KEY-LOCKED + CHAINED OPEN DURING NORMAL OPERATION.
10-MOV-1488	з	K-1	x	16	GA	MO	LC	3 3	EF-1 ET-2	TBD	VALVE KEY-LOCKED CLOSED DURING NORMAL OPERATION.
10-MOV-149B	з	K-1	x	16	GA	MO	LC	3 3	EF-1 ET-2	TBD	VALVE KEY-LOCKED CLOSED DURING NORMAL OPERATION.
RHR-9	2	H-2	x	20	GA	м	LC	1	OC-1	N/A	

									****	NCE WITH	CODE RE	QUIREMENT	5	REV. 3,	10/01/79	
.*	******************	*********	TAB	LE 1: VAL	-VE	S BEI	NG TEST	ED IN .	462847	********	********	********	****************	TRICK VA	LVE PROGRA	*
•		TOUTO CON	TROL-SY	STEM NO. 1	1				ISD. N	0. : 11825	-FM-21A,	REV 10				*
*	SYSTEM: STANUST L	.10010 0010									REV	IEWED BY:	N. HOLLAND	DATE	5/30//8	
	PREPARED BY: M. PA	ARTRIDGE	DATE	4/4/78									************	*******	*********	****
*				********	***	*****		*****	******	********	*******	CTROKES				*
**	********			VALVE					-	TEGT	TEST	TIME *	RE	MARK	S	-
*	VALVE NUMBER	* CLASS	COORD	A B C D	E	SIZE (IN)	TYPE	TYPE	POS.	DURING	METHOD	(SEC) *	***********	*******	*********	***
**	*************	********	******	********	**	*****						NICA				
		2	1-3		x	з	GA	м	LO	1	OC-1	NIA				
	SLC-11	•														
						2.5	GA	M	LC	1	OC-1	N/A				
	SLC-41	2	H-4		×	2.3	- On									
										1.1	00-1	N/A				
	RI C-12A	2	H-5		x	2.5	GA	M	LU		00 .					
	DLU-JEN											·				
		-	4-7		x	2.5	GA	M	LO	1	OC-1	N/A				
	SLC-129	~	H-/													
						-		GA	c	1	TF-1	N/A				
	SLC-39A	2	F-5	×		2	RL	SH								
											TE-1	N/A				
		2	F-7	x		2	RL	SA	C	1	11-1	10.11				
	SLC-370															
					×	1 5	GL	M	LO	1	OC-1	N/A				
	SLC-13A	2	F-5		^											
									10		OC-1	N/A				
	SLC-138	2	F-7		×	1.5	GL	n								
		2	E-5		x	1.5	GL	M	LC	1	0C-1	N/M				
	SLC-26															
							GL	M	LC	1	OC-1	N/A				
	SLC-34	2	E-6		^	1.5										
										· · · ·	XP-1	N/A				
	11-EV-144	2	C-5	×	(1. 5	XP	XP	C		~ .					
												200 C				
			6-7	x		1.5	XP	XP	С	1	XP-1	N/A				
	11-EV-14B	*	0													
									10	1	OC-1	N/A				
	SLC-15	2	B-6		X	1.9	GL									
											00-1	NZA				
	01.0-10	1	A-6		>	1.5	GL	M	LO	1	00-1	in a				
	SFC-19															

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		TAB	LE 1 VALV	ES BEI	NG TEST	ED IN	ACCORD	ANCE WITH	CODE RE	QUIREMENT	S	REV. 3.	10/01/79
SYSTEM STANDBY	LIQUID CON	TROL-SY	STEM NO. 11				ISD.	NO. 11825	-FM-21A	REV 10	FITZ	PATRICK V	ALVE PROGRAM .
PREPARED BY: M.F	PARTRIDGE	DATE	: 4/4/78						REV	IEWED BY:	N HOLLAND	DATE	5/30/78 *
VALVE NUMBER	* * CLASS	COORD	VALVE CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	TEST	TEST	STROKE* TIME * (SEC) *	R 1	E M A R K	S *
SLC-24	2	J-3	x	1	GL	м	LC	1	OC-1	N/A			

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			TABLE	2: VALVES	FOR WHI	CH SEAT L	EAKAGE IS IMPORT	ANT	***********	REV. 3.	10/01/79	
***	SYSTEM: STANDBY I PREPARED BY: M. PA	LIQUID CONT	ROL-SYSTEM NO. 1 DATE: 4/4/78	1		ISD. N	ND :11825-FM-21A.	REV 10 IEWED BY	FIT Y: N. HOLLAND	ZPATRICK VAL DATE:	VE PROGRAM	* * * * * *
*	VALVE NUMBER	* * CLASS *	COORD SIZ INATE (IN	E VALVE) TYPE	ACT. TYPE	NORM. POS.	LEAK RATE VALUE	STROKE TIME (SEC)	* * R	EMARKS	3	
**	SLC-16	1	B-6 1.5	ск	SA	-		N/A	CONTAINMENT TEST PER 10	ISO VALVE. CFR50 APP J.	SEAT LEAK	
	SLC-17	1	A-6 1.5	ск	SA			N/A	CONTAINMENT	ISO VALVE.	SEAT LEAK	

				TABLE 3: VAL	VES FOR	WHICH REL	IEF IS I	BEING RE	QUESTED			REV.	3,	10/01/79	
	SYSTEM: STANDBY	LIQUID CONTR ARTRIDGE	OL-SYSTEM DATE: 4/4	NO 11 /78		IS	D. NO. : 1:	1825-FM-	-21A, REV REVIEWE	10 ED BY: N.	FITZF	PATRICK	TE:	E PROGRAM	
*	VALVE NUMBER	* * C'LASS *	COORD INATE	VALVE CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS	TEST DURING	TEST METHOD	STROKE TIME (SEC)	REASON REQUES EXEMPT	FOR TING TON	TESTING TO BE PERFORMED	* * * *
	SLC-43A	2	F-5	X	1. 5	ск	SA	-	3	EF-1	N/A	NOTS	7	EF-2	1.
	SLC-43B	2	F-7	x	1 5	CK	SA	-	з	EF-1	N/A	NOTE	7	EF-2	
	SLC-16	1	B-6	5 X	1.5	ск	SA	-	3 1	EF-1 SLT-1	N/A	NOTE	8	EF-3 SLT-1	
	SLC-17	1	A-6	2 X	1 5	ск	SA	-	3	EF-1	N/A	NOTE	8	EF-3 SLT-1	

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			TABLE	1: VALV	ES BEI	NG TEST	ED IN	ACCORD	ANCE WITH	CODE RE	QUIREME	NTS		REV. 3	10/01/79	
**	****	***	****	****	****	****	*****	******	****	******	*****	******	*****	******	*******	***
*																*
*	SYSTEM REACTO	R CORE ISOLA	TION COOL	ING-SYSTE	M NO. 1	3		ISD. P	ND. : 11625	-FM-22A,	REV 13		FITZ	PATRICK V	ALVE PROGRA	M #
*																
*	PREPARED BY	M. PARTRIDGE	DATE	4/4/78						REV	IEWED B	Y: N. HO	LLAND	DATE	: 5/30/78	
*																*
**	****	*****	*******	*******	*****	******	******	******	********		******	******	*****	*******	*********	***
*		*		VALVE							STROKE	*				
*	VALVE NUMBER	* CLASS	COORD C	ATEGORY	SIZE	VALVE	ACT.	NORM.	TEST	TEST	TIME	*	RI	EMARP	S	
*		*	INATE A	BCDE	(IN)	TYPE	TYPE	POS	DURING	METHOD	(SEC)	*				*
**	****	****	******	****	*****	******	******	******	*****	*******	*******	*******	*****	********	*********	***
	13-MOV-41	2	F-8	x	6	GA	MO	C	3	FF-1	TRD	ENSURE	VAL VE	13-MOV-3	9 IS SHUT	
					-				2	ET-2		DECORE	OPENT	NO UNI UE		

* FOR THE PURPOSES OF THE SECTION XI PUMP AND VALVE PROGRAM THE ASTERISKED VALVES ARE NOT SAFETY RELATED AND THE CODE REQUIREMENTS ARE USED ONLY AS A GUIDELINE FOR TESTING.

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				TABLE 2	VALVES	FOR WHIC	CH SEAT L	EAKAGE IS IMPOR	TANT		REV. 3,	10/01/79	
****	SYSTEM. REACTOR C	CORE ISOLATI	DATE: 4/	9-5YSTEM	ND. 13	******	ISD. N	0 :11825-FM-22A. REV	REV 13 VIEWED B	FIT: Y: N. HOLLAND	PATRICK VA DATE:	LVE PROGRAM	* * * * * *
* * * *	VALVE NUMBER	************ * * CLASS *	COORD INATE	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	LEAK RATE VALUE	STROKE TIME (SEC)	R	EMARK	5	* * * *
**	13-MOV-15	1	C-4	з	GA	MO	0		TBD	CONTAINMENT TEST PER 100	ISO VALVE. FR50 APP J	SEAT LEAK	
	13-MOV-16	1	D-4	з	GA	MO	0		TBD	CONTAINMENT TEST PER 100	ISO VALVE. FR50 APP J	SEAT LEAK	
	RCIC-5	2	H6	8	ск	SA	-		N/A	CONTAINMENT TEST PER 100	ISO VALVE. FR50 APP J	SEAT LEAK	
	RCIC-4	2	F-6	8	ск	SA	-		N/A	CONTAINMENT TEST PER 100	ISO VALVE. FR50 APP J	SEAT LEAK	
	13-MOV-21	۱	F-5	4	GA	MO	с		TBD	CONTAINMENT	ISO VALVE	SEAT LEAK	

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			т	ABLE 3: VAL	LVES FOR	WHICH REL	IEF IS	BEING RE	EQUESTED			REV.	з, і	10/01/79	
**	SYSTEM: REACTOR C	ORE ISOLATIO	N COOLING	-SYSTEM NO. 1	13	******** IS	D. NO. : *	1825-FM-	-22A, REV	13	FITZ	PATRICK	VAL	VE PROGRAM	* * *
*	PREPARED BY: M. P.	ARTRIDGE	DATE 4/4	/78					REVIEW	ED BY: N.	HOLLAND	DA	TE: 1	5/30/78	* * *
**	VALVE NUMBER	* CLASS	COORD	VALVE CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS	TEST DURING	TEST METHOD	STROKE TIME (SEC)	REASON REQUES EXEMPT	FOR	TESTING TO BE PERFORMED	* * * *
**	13-MOV-15	1	C-4	2	3	********* GA	MO	0	3 3 1 1	EF-1 ET-1 SLT-1 EF-4	TBD	NOTE	9	EF-2 ET-1 SLT-1 EF-4	
	13-MOV-16	1	D-4	2	з	GA	MO	n	3 3 1	EF-1 ET-1 SLT-1	TBD	NOTE	9	EF-2 ET-1 SLT-1	
	RCIC-5	2	H-6	2 X	8	СК	SA	-	3 1	EF-1 SLT-1	N/A	NOTE	10	EF-2 SLT-1	
	RCIC-4	2	F-6	2 X	8	ск	SA	-	3 1	EF-1 SLT-1	N/A	NOTE	10	EF-2 SLT-1	
	* RCIC-8	2	G-7	x	2	ск	SA	-	з	EF-1	N/A	NOTE	10	EF-2	
	* RCIC-7	2	G-7	x	2	СК	SA	17	3	EF-1	N/A	NOTE	10	EF-2	
•	RCIC-29	3	J-5	x	2	СК	SA		з	EF-1	N/A	NOTE	10	EF-2	
	* 13-MOV-27	2	I-5	x	2	GL	мо	с	3 3	EF-1 ET-2	TBD	NOTE	10	EF-2 ET-2	
	ŧ 13-MOV-20	з	A-5	x	4	GA	мо	0	3 3	EF-1 ET-2	TBD	NOTE	9	EF-2 ET-2	
	13-MOV-21	1	F-5	2	4	GA	MO	с	3 3 1	EF-1 ET-1 SLT-1	TBD	NOTE	11	EF-2 ET-1 SLT-1	
	* 13-ADV-22	1	D-5	x	4	ск	A	с	3	EF-1	N/A	NOTE	12	EF-2	
	* 13-MOV-30	з	1-3	x	з	GL	MO	с	3	EF-1 ET-2	TBD	NOTE	10	EF-2 ET-2	

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* SEE PAGE 22

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					TABLE 3 VAL	VES FOR	WHICH REL	IEF IS I	BEING RE	EQUESTED			REV. 3,	10/01/79
** * *	SYSILA PEACTOR PREPARED BY: M	CORE	ISOLAT:	ION COOLIN	*************** G-SYSTEM NO. 1 4/78	3	********* IS	D. NG . 1	1825-FM	-22A, REV REVIEW	13 ED BY: N	FITZ	PATRICK VAL DATE:	VE PROGRAM
**	VALVE NUMBER	****	CLASS	COORD INATE	VALVE CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS	TEST	TEST METHOD	STROKE TIME (SEC)	REASON FOR REQUESTING EXEMPTION	TESTING TO BE PERFORMED
••	* RCIC-40	*****	Э	I-9	×	6	ск	SA	с	з	EF-1	N/A	NOTE 29	EF-3
	RCIC-12		5	F-6	x	1.5	ск	SA	с	з	EF-1	N/A	NOTE 30	EF-2
	RCIC-13		2	F-6	x	1.5	CK	SA	с	3	EF-1	N/A	NOTE 30	EF-2

* SEE PAGE 22

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10/01/79 ñ REV. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS TABLE 1.

FITZPATRICK VALVE PROGRAM DATE: 5/30/78 ISD ND 11825-FM-228, REV 10 SYSTEM: REACTOR CORE ISOLATION COOLING-SYSTEM ND. 13 *

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

N HOLLAND REVIEWED BY: *

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

	ENSURE VALVE 13-MDV-44 IS SHUT BEF DPENING VALVE			
TBD	TBD ORE	N/A	N/A	TBD
EF-1 ET-2	EF-1 ET-2	DC-1	RD-1	EF-1 ET-2
n n	<u>е</u> е	1	1	<i>ო</i> ო
0	U	ΓO	υ	U
Q	QM	٤	RD	Oμ
GA	GA	GA	RD	or
\$	ş	¢	8	N
		×	×	
×	×			×
8-2	A-3	8-3	D-3	D-7
e	63	e	n	m
13-M0V-18	PE-VOM-E1	RCIC-24	13-Z-3	13-MOV-132

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FITZPATRICK VALVE PROGRAM *

ISD NO 11825-FM-228. REV 10 SYSTEM: REACTOR CORE ISOLATION COOLING-SYSTEM NO. 13

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

7.0

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

TESTING 下市市市市市市市 TO BE STROKE REASON FOR REQUESTING TIME TEST TEST CATEGORY VALVE COORD * CLASG * VALVE NUMBER

EXEMPTION PERFORMED * (SEC) DURING METHOD POS ACT. TYPE VALVE SIZE (IN) ABCDE INATE

EF-2 ET-2	EF-2 ET-2	EF-2	EF-2
NOTE 31	NOTE 31	NOTE 31	NOTE 32
TBD	TBD	N/A	N/A
EF-1 ET-2	EF-1 ET-2	EF-1	EF-1
00		e	m
U	0	Ŧ	TH
Qμ	r	I	SA
0A	e o	RG	Ca
m	CI	CN.	
×	×	×	,
6-3	F-3	E-3	
e	e	n	e
13-MOV-131	13-HDV-1	13-40V-2	

EF-1

6

TH

SA

RG

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D-6

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* 13-PCV-23

* SEE PAGE 22

GENERAL PHYSICS CORPORATION COLUMBIA, MARYLAND 21044

2.0 FITZPATRICK VALVE PROGRAM SEAT LEAK LEAK SEAT LEAK SEAT LEAK 10/01/79 VALVE KEY-LOCKED + CHAINED OPEN VALVE KEY-LOCKED + CHAINED OPEN ú ú ú U DATE: 3/30/78 VERIFY VALVE OPENS DURING PUMP VERIFY VALVE OPENS DURING PUMP TYPE TYPE TYPE TYPE SEAT DURING NORMAL OPERATION DURING NORMAL OPERATION ·除班市都市市市市市市市市市市市市市市市市市市 (I) TEST PER LOCFRSU APP U. TEST PER LOCFR50 APP J. 'n 'n CONTAINMENT ISO VALVE CONTAINMENT ISO VALVE. × CONTAINMENT ISD VALVE. REV. 3. CONTAINMENT ISO VALVE. TEST PER 10CFR50 APP TEST PER 10CFR50 APP MAR ω α N. HOLLAND TEST TEST VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS STROKE* # JWIL REVIEWED BY ***************** ISD. ND. : 11825-FM-23A. REV 13 (SEC) TBD TBD TBD TBD N/A A/N N/A N/A N/A N/A N/A N/A METHOD ET-2 SLT-1 ET-1 SLT-1 TEST SLT-1 SLT-1 EF-1 ET-2 00-1 EF-1 ET-1 1-00 EF-1 0C-1 0C-1 0C-1 EF-1 EF-1 00-1 EF-1 草草草草草草 *************** DURING TEST 3 30 m m m m m m m -** --** ** --MUNN rc POS 9 5 PC 1 LC LC 2 0 0 ł U 1 U TYPE 专作市市市市市市市市市 QW Qu ACT P SA SA P Q P Σ Σ Σ Σ VALVE TYPE GA 40 GA GA 40 40 GA CK CK GA GL S ***************** 3ZIS (NI) 16 13 12 10 10 16 12 12 12 12 N N × × × × ABCDE × × CATEGORY 4/5/78 VALVE × × TABLE 1 N N m 3 DATE ちちちちち CODRD INATE 9-0 8-7 B-7 H-7 8-7 9-H 1-6 9-0 E-3 0-13 C-5 C-2 CORE SPRAY-SYSTEM ND. 14 CLASS N CI. N N M. PARTRIDGE CJ. N N CH. ----故市市市日 * * 北方主在市市市市市市市市市市市市市市 NUMBER PREPARED BY 14-MOV-11A 14-MOV-12B 14-MOV-11B 14-MUV-12A 14-MOV-7A 14-MOV-7B CSP-10A CSP-10B CSP-33A CSP-33B SYSTEM CSP-8A CSP-8B VAL VE

GENERAL PHYSICS CORPORATION COLUMBIA, MARYLAND 21044

PAGE

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS REV. 3, 10/01/79

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* * SYSTEM: CORE SPRAY * PREPARED BY: M. PAF *	Y-SYSTEM N	D. 14 DATE	4/5/78				ISD /	40. 11825	-FM-23A. REVI	REV 13 EWED BY	N. 1	FITZF	PATRIC	K VALVE PROGR	AM *
**************************************	* CLASS	COORD INATE	VALVE CATEGORY A B C D E	SIZE (IN)	VALVE	ACT. TYPE	NORM POS	TEST	TEST	STROKE* TIME * (SEC) *		R E	E M A	R K S	*
CSP-14A	1	8-3	X	10	GA	м	LO	1	0C-1	N/A					
CSP-14B	1	8-3	x	10	GA	м	LO	1	OC-1	N/A					
14-MOV-26A	2	E-4	x	8	GL	мо	с	3	EF-1 ET-1	TBD	TEST	DURING P	PUMP 1	EST	
14-MOV-268	2	E-3	x	8	GL	MO	с	3	EF-1 ET-1	TBD	TEST	DURING F	NUMP 1	TEST	
CSP-13A	2	H6	,	с э	GL	м	LO	1	OC-1	N/A					
CSP-18B	2	I-6	,	(з	GL.	м	LO	1	OC-1	N/A					
14-MOV-5A	2	H-5	x	3	GA	MO	o	3 3	EF-1 ET-2	TBD					
14-MOV-58	2	1-5	x	з	GA	MO	o	3 3	EF-1 ET-2	TBD					
14-5V-20A	2	G-4	x	1.5	RL	SA	с	1	TF-1	N/A					
14-5V-20B	2	1-1	x	1.5	RL	GA	с	1	TF-1	N/A					

						TABLE 2	VALVES	FOR WHIC	CH SEAT	LEAKAGE IS IMPOR	TANT	REV. 3. 10/01/79
**	SYSTEM FREPARED	CORE SF	PARTRI	STEM NO.	14 DATE: 4/	5/78	*******	******	ISD.	ND. 11825-FM-23A REV	REV 13 IEWED BY	FITZPATRICK VALVE PROGRAM
**	VALVE	NUMBER	*	CLASS	COORD INATE	SIZE (IN)	VAL VE TYPE	ACT. TYPE	NGRM. POS.	LEAK RATE VALUE	STROKE TIME (SEC)	* REMARKS *
**	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-	118		1	D-2	12	GA	MO	D		TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 100FR50 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-	128		1	C-2	10	GA	MC	с	TBD	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J. TYPE C.
	14-ADV-	13A		1	C-4	10	СК	SA	-	11 CFM OR 10 GPM	N/A	TESTED PNEUMATICALLY AT 45 PS10 OR HYDROSTATICALLY AT 1000 PS10
	14-A0V-	138		1	C -3	10	ск	SA	-	11 CFM OR 10 GPM	N/A	TESTED PNEUMATICALLY AT 45 PS1G OR HYDROSTATICALLY AT 1000 PS1G

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			TAI	ILE 3 VALVI	ES FOR WH	ICH RELIE	F IS BE	ING REG	UESTED		*******	REV 3,	10/01/79	
***	SYSTEM: CORE SPRAY-SY PREPARED BY: 1. PARTRI	STEM NO 1	4 DATE: 4/5/7	'9		ISD.	NO 116	325-FM-2 R	3A. REV EVIEWED	13 BY: N.H	FITZP	ATRICK VAL	VE PROGRAM	
* * * *	VALVE NUMBER #	CLASS	SOORD C	VALVE ATEGORY 3 C D E	SIZE (IN)	VALVE TYPE	ACT. TYPE	NDRM FOS	TEST DURING	TEST METHOD	STROKE TIME (SEC)	REASON FOR REQUESTING EXEMPTION	TESTING TO BE PERFORMED	
	14-ADV-13A	1	C-4 1	x	10	СК	SA	-	3 1	EF-1 SLT-1	N/A	NO'E 13	EF-2 SLT-1	
	14-A0V-138	-1	C-3 1	x	10	СК	SA	-	3 1	EF-1 SLT-1	N/A	NOTE 13	EF-2 SLT-1	

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		TAB	LE 1 VALV	ES BEI	NG TEST	TED IN	ACCORD	ANCE WITH	I CODE RE	GUIREME	NTS	REV 3.	10/01	179
*******	********	*****	******	*****	*****	**** **	******	********	********	******	****		******	******
•														
* SYSTEM: REACTOR W	ATER CLEAN	IUF-SYST	EM NO. 12				ISD.	NO 11825	-FM-24A.	REV 12	F11	ZPATRICK N	ALVE PR	GGRAM *
•														
* PREPARED BY M PAR	TRIDGE	DATE	4/6/78						REVI	EWED BY	N HOLLANI	DATE	1: 5/30/	78 *
*														*
*******	*****	****	***	*****	******	*****	****	********	*******	*******	********	****	*******	*****
 Contract (Contract) 	*		VALVE							STROKE				
* VALVE NUMBER	* CLASS	CODRD	CATEGORY	SIZE	VALVE	ACT.	NORM.	TEST	TEST	TIME	r 9	EMARY	S	*
*	*	INATE	ABCDE	(IN)	TYPE	TYPE	POS	DURING	METHOD	(SEC)	*			*
***	****	****	****	*****	*****	******	****	****	****	******	******	*****	*******	****
		942 Centres		1000				1						
12-MDV-80	1	8-4	5	1	GA	MO	C	3	EF-1	TBD	CONTAINMENT	ISU VALVE	SEAT	LEAN
								3	ET-1		TEST PER 10	CFR50 APP	J. TYPE	. C.
								1	EF-4					
								1	SLT-1					

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TABLE 2	VALVES FOR	WHICH SEA	T LEAKAGE IS	IMPORTANT
A R R Mark Start Name - Name -	A C Shew W See and C Sec.	A set of the set of	the second of the second	A REAL PROPERTY OF A REAL PROPER

REV 3. 10/01/79

* SYSTEM REACTOR W	ATER CLEANUP	-SYSTEM N	12		******	ISD. N	**************************************	REV 12	FITZPATR	ECK VAL	VE PROGRAM
* * PREPARED BY M. PAR	TRIDGE	DATE: 4/	6/78				REVI	EWED BY	N. HOLLAND	DATE	5/30/78
<pre>************************************</pre>	* CLASS	COORD INATE	SIZE (IN)	VALVE TYPE	ACT TYPE	NORM. POS.	LEAK RATE VALUE	STROKE TIME (SEC)	REM	ARKS	
RWC-62	1	A5	4	CK	SA	0	**************	4	CONTAINMENT ISO TEST PER 10CFR50	APP J.	SEAT LEAK TYPE C.
12-100-18	1	8-4	6	GA	MO	0		TBD	CONTAINMENT ISO TEST PER 100FR50	APP J.	SEAT LEAK TYPE C.
12-MOV-80	1	B-4	1	GA	MO	с		TBD	CONTAINMENT ISO	APP J.	SEAT LEAK
12-MOV-15	1	A-4	6	GA	MO	0		TBD	CONTAINMENT ISO	APP J.	SEAT LEAK

				TABLE 3 Val	VES FOR	WHICH REL	IEF IS I	BEING RI	EQUESTED			REV. 3, 1	10/01/79	
****	SYSTEM. REACTOR W	ATER CLEANUP	-SYSTEM N DATE: 4/	0. 12 6/78		IS	D. NO 11	1825-FM	-24A, REV REVIEWED	12) BY: N	FITZF HOLLAND	ATRICK VALV	VE PROGRAM	
* * * *	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)	REASON FOR REQUESTING EXEMPTION	TESTING TO BE PERFORMED	-
	RWC-62	1	A-2	5 X	4	СК	SA	a	3 1	EF-1 SLT-1	N/A	NOTE 33	EF-2 SLT-1	
	12-MOV-18	1	₿-4	2	6	GA	MD	D	3 1 3 1	EF-1 EF-4 ET-1 SLT-1	DAT	NOTE 33	EF-2 EF-4 ET-1 SLT-1	
	12-MOV-15	1	A-4	2	6	GA	MD	O	3 1 3 1	EF-1 EF-4 ET-1 SLT-1	TBD	NOTE 33	EF-2 EF-4 ET-1 SLT-1	

		TAB	LE 1 VALV	ES BEI	NG TEST	ED IN	ACCORDA	ANCE WITH	CODE RE	QUIREME	NTS REV. 3, 10/01/79
* SYSTEM HIGH PRES * PREPARED BY: M.PA	ARTRIDGE	NT INJE	*************** CTION-SYSTE : 4/6/78	******	3	*****	ISD N	VO 11825	-FM-25A-I REVII	REV 12 EWED BY	FITZPATRICK VALVE PROGRAM N HOLLAND DATE: 5/30/78
* • VALVE NUMBER	* * CLASS *	COORD	VALVE CATEGORY A B C D E	SIZE (IN)	VAL VE TYPE	ACT. TYPE	NORM. POS	TEST DURING	TEST METHOD	STROKE TIME (SEC)	* REMARKS *
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	мо	с	3	EF-1 ET-2	TBD	ENSURE VALVE 23-MOV-57 IS SHUT BEFORE OPENING VALVE.
23-MOV-57	5	I-4	x	16	GA	мо	с	3	EF-1 ET-2	TBD	ENSURE VALVE 23-MOV-58 IS SHUT BEFORE OPENING VALVE.

				TABLE 2	VALVES	FOR WHIC	CH SEAT L	EAKAGE IS IMPOR	TANT	REV 3, 10/01/79	
* * * * * *	SYSTEM HIGH PRESS	URE CODLANT	INJECTIO DATE: 4/	******** N-SYSTEM 6/78	ND 23	*******	ISD N	40 11825-FM-25A REV	-REV 12 IEWED BY	FITZPATRICK VALVE PROGRAM N. HOLLAND DATE: 5/30/78	* * * * * *
**	VALVE NUMBER	* CLASS	COORD INATE	SIZE	VAL.VE TYPE	ACT. TYPE	NORM. POS.	LEAK RATE VALUE	STROKE TIME (SEC)	REMARKS	* * * *
**	23-MOV-15	1	c-3	10	GA	MO	0	*********	TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J. TYPE C.	
	23-MOV-16	1	D-3	10	GA	MO	С		TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J. TYPE C.	
	23-MDV-60	1	D-3	1	GA	MO	D		TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J. TYPE C.	
	HPI-65	2	C-5	20	СК	SA	~		N/A	CONTAINMENT ISD VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.	
	HPI-12	2	C-5	20	ск	SA	-		N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J. TYPE C.	
	23-MOV-19	1	E-5	14	GA	MD	C		TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J. TYPE C.	

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TABLE 3: VALVES FOR WHICH RELIEF IS BEING REQUESTED REV. 3. 10/01/79

SYSTEM HIGH PRESS	SURE COOLANT	INJECTI	ON-SYSTEM NO.	23	19	SD NO. 1	1825-FM	-25A-REV	12	FITZ	PATRICK VAL	VE PROGRAM
PREPARED BY: M. PAR	RTRIDGE	DATE 4	/6/78					REVIEWE	D BY. N	HOLLAND	DATE:	5/30/78
************	*******	*******		********	*********	******	******	*****	******	STROKE	REASON FOR	TESTING
VALVE NUMBER	* CLASS	COORD	CATEGORY	SIZE	VALVE	ACT.	NORM.	TEST	TEST	TIME (SEC)	REQUESTING	TO BE PERFORMED
****	49 44 44 44 44 44 44 44 44 44 44 44 44 4	1 NM (E.		*******	********	*******	******	*****	*****	*****	******	**********
23-MOV-15	1	C-3	2	10	GA	MO	O	з	EF-1	TBD	NOTE 14	EF-2
								1	EF-4			EF-4
								з	ET-1			ET-1
								1	SLT-1			SLT-1
23-MOV-60	1.1	D-3	2	1	GA	MO	0	3	EF-1	TBD	NOTE 15	EF-2
20 1100 00								З	ET-1			ET-1
								1	SLT-1			SLT-1
401-45	2	0-5	2 X	20	ск	SA	-	з	EF-1	N/A	NOTE 16	EF-2
HF1-03	2		E .					1	SLT-1			SLT-1
UD7-10	2	C-5	2 X	20	CK	SA	_	3	EF-1	N/A	NOTE 16	EF-2
HFI-IZ	2	0.0	E ^	20				1	SLT-1			SLT-1
HPI-403	2	B-6	x	2	ск	SA	-	Э	EF-1	N/A	NOTE 17	EF-2
HP1-402	2	B-6	×	2	ск	SA	-	з	EF-1	N/A	NDTE 17	EF-2
23-MOV-17	2	1-2	x	16	GA	MO	0	3	EF-1 EF-2	TBD	NOTE 18	EF-2 EF-2
		1.56						-		TDD	NOTE 14	FF-2
23-MOV-20	2	F-5	×	14	GA	MU	U	3	ET-2	150	NOTE 14	ET-2
						MO	~	2	EE-1	TRD	NOTE 19	FE-2
23-MOV-19	1	E-5	2	14	GA	no	·	3	ET-1	100	NOTE IT	ET-1
								1	SLT-1			SLT-1
			~	1.0	CH.			2	FE-1	N/A	NOTE 20	FF-2
23-A0V-18		E-0	^	14	UN	· ·		9				
22 MOU 24		End	×	8	CI	MD	C	3	EF-1	TBD	NOTE 16	EF-2
23-MUV-21	e	14	^	U	J.	The		3	ET-2			ET-2
HP1-62	2	1-5	X	4	CK	SA	-	3	EF-1	N/A	NOTE 16	EF-2

TABLE 3	VALVES FOR	WHICH RELIEF	IS BEING	REQUESTED
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REV. 3. 10/01/79

10.04	and the set that the loss in	the two lines are lines into	the star and the last and and		the set of the set of the set of the		the last has not not been been	and and the loss had not been and the	the set on the set in the	at 11 14 15 15 16 16 16	to be the left of the set of the	the second second second	the second second second second second	N. M. J. M. M. M. M. J. M. M. M.	米米米米米米米	46.06
*****	SYSTEM PREPAREI	HIGH P D BY: M	RESSURE	COOLAN	T INJECTIC DATE: 4/	N-SYSTEM ND 2	3	19	D NO. 1	1825-FM	-25A-REV REVIEWEI	12) BY: N	FITZ	PATRICK VAL DATE:	VE PROGRAM	* * * * * *
* * *	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)	REASON FOR REQUESTING EXEMPTION	TESTING TO BE PERFORMED	* * * *
	23-MOV-	-25		2	H-6	X	4	GL	MD	с	3 3	EF-1 ET-2	TBD	NOTE 16	EF-2 ET-2	
	HP1-56			2	E-5	x	2	СК	SA	-	з	EF-1	N/A	NOTE 16	EF-2	
	HPI-13			2	D6	x	2	ск	SA	o	з	EF-1	N/A	NOTE 16	EF-2	
	HPI-61			2	D-B	x	16	ск	SA	-	з	EF-1	N/A	NOTE 21	EF-3	

			TAB	LE I VAL	VES BE	ING TEST	ED IN	ACCORDA	ANCE WITH	CODE RE	QUIREMENT	S	REV. 3,	10/01/79	
********* * SYSTEM * * PREPARE	HIGH PRESS	SURE CODLA	******* NT INJE DATE	CTION-SYST	******	23		ISD. N	********** VO. 11825	-FM-258, REVI	REV 11 EWED BY:	FIT	ZPATRICK VA	LVE PROGRAM	*****
* VALVE	NUMBER	*********** * CLASS *	COORD	VALVE CATEGORY A B C D E	SIZE (IN)	VAL.VE TYPE	ACT. TYPE	NORM. PUS	TEST	TEST	STROKE* TIME * (SEC) *	R	E M A R K	s	** * * *
23-MOV	-14	2	G-3	x	10	GA	MD	с	3	EF-1 ET-2	TBD				
HP I-55		5	B-5	x	2	GL	м	LO	1	OC-1	N/A				
HP I-46		2	B-5	x	2	GL	Μ	LO	1	OC-1	N/A				
HPI-Z-	7	2	D-3	x	16	RD	RD	С	1	RD-1	N/A				

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		T,	ABLE 3: VAL	VES FOR	WHICH REL	IEF IS I	BEING RE	QUESTED			REV. 3,	10/01/79	
SYSTEM: HIGH PRESS PREPARED BY: M. PAR	SURE COOLANT	INJECTION- DATE: 4/6/	-SYSTEM NO 2: /78	3	******** IS	20 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	******** 1825-FM-	-25B.REV REVIEWEI	11) BY: N	FTTZF HOLLAND	PATRICK VAL DATE:	VE PROGRAM 5/31/78	* * * * *
VALVE NUMBER	* * CLASS	COORD	VALVE CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS	TEST DURING	TEST	STROKE TIME (SEC)	REASON FOR REQUESTING EXEMPTION	TESTING TO BE PERFORMED	* * * *
23-H0V-1	2	F-3	x	10	GA	н	тн	з	EF-1	N/A	NOTE 22	3F-2	
23-HOV-2	2	E-3	x	10	RG	н	тн	з	EF-1	N/A	NOTE 22	EF-2	
23-PCV-50	2	C-6	x	2	RG	SA	124	з	EF-1	N/A	NOTE 23	EF-2	

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		TAB	LE 1: VALV	ES BEI	NG TEST	ED IN	ACCORDA	ANCE WITH	CODE RE	QUIREME	NTS	REV. 3.	10/01/79	
* SYSTEM: REACTOR W * PREPARED BY: M.PA	ATER RECIR	CULATIO	N-SYSTEM NC). 2		*****	ISD N	40 11825	-FM-268. REVI	REV 9 EWED BY	FITZF N. HOLLAND	ATRICK VAL	VE PROGR/	AM #
* * VALVE NUMBER *	* * CLASS	COORD	VALVE CATEGORY A B C D E	SIZE (IN)	VALVE	ACT. TYPE	NORM POS.	TEST	TEST	STROKE TIME (SEC)	* R E	MARKS		* * * *
2-407-39	1	I-4	2	1	GA	A	с	3 1 3 3	EF-1 EF-4 ET-1 ET-5 SLT-1	TBD	CONTAINMENT I TEST PER 10CF	SO VALVE. R50 APP J,	SEAT LEA TYPE C.	ΑK
2-A0V-40	1	J-4	5	1	GA	A	с	3 3 3 1	EF-1 ET-1 ET-5 SLT-1	TBD	CONTAINMENT I TEST PER 10CF	SO VALVE R50 APP J,	SEAT LEA TYPE C.	АK

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********************	**********		TABLE 2:	VALVES	FOR WHIC	CH SEAT	LEAKAGE IS IMPOR	TANT		REV. 3,	10/01/79
* * SYSTEM: REACTOR W	ATER RECIRCU	LATION-SY	STEM NO.	2		ISD.	NO 11825-FM-268	REV 9	FITZ	PATRICK VAL	VE PROGRAM
* PREPARED BY: M. PAI	RTRIDGE	DATE: 4/0	6/78				REV	IEWED BY	N. HOLLAND	DATE	5/31/78
* VALVE NUMBER	* CLASS	COORD	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS	LEAK RATE VALUE	STROKE TIME (SEC)	**************************************	E M A R K S	
2-404-39	1	I-4	1	GA	A	c		TBD	CONTAINMENT TEST PER 100	ISO VALVE. FR50 APP J,	SEAT LEAK
2-A0V-40	1	J-4	1	GA	A	с		TBD	CONTAINMENT TEST PER 100	ISD VALVE.	SEAT LEAK

	*************	********	TABL	E 1: VALV	ES BEI	NG TEST	ED IN	ACCORDA	NCE WITH	CODE RE	QUIREME	NTS	REV 3	10/0	1/79
* * * * *	SYSTEM: CONTROL R PREPARED BY: W. NE	OD DRIVE-9	SYS. NO DATE	3 4/17/78				ISD.N	0. 11825	-FM-27A, REV	REV 8 IEWED B	Y. N. HOLLAND	DAT	E: 5/31	/78 *
* * *	VALVE NUMBER	* CLASS	COORD INATE	VALVE CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	TEST	TEST METHOD	STROKE TIME (SEC)	e R e R	EMAR	K 5	*
	CRD-110	1	1-5	5 X	Э	ск	SA	с	1 1	PV-1 SLT-1	N/A	CONTAINMENT TEST PER 100	ISO VALV FRSO APP	E. SEA J. TYP	T LEAK E C.
	CRD-113	1	J-5	2 X	з	СК	SA	с	1	PV-1 SLT-1	N/A	CONTAINMENT TEST PER 100	ISO VALV	L. SEA	T LEAK

	******		T	ABLE 2	VALVES	FOR WHIC	H SEAT L	EAKAGE IS IMPORT	FANT	· ***************	REV. 3,	10/01/79
* * * * *	SYSTEM: CONTROL R PREPARED BY: W. NE	ROD DRIVE-SY	S. NO. 3 DATE: 4/1	7/78			ISD. N	10. : 11825-FM-27A	REV 8	Y. 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)	R E 1	1 A R K 1	s
**	CRD-110	1	I-5	з	ск	SA	с		N/A	CONTAINMENT IS	VALVE.	SEAT LEAK
	CRD-113	1	J-5	з	ск	SA	c		N/A	CONTAINMENT IS	VALVE.	SEAT LEAK

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	TABLE 1: VALV	ES BEING TEST	ED IN ACCORDA	NCE WITH CODE RE	QUIREMENTS	REV. 3, 10/01/79
* SYSTEM CONTROL ROD DRIVE-S	YS.NO 3		ISD. N	0 11825-FM-27B	REV 5	FITZPATRICK VALVE PROGRAM
* PREPARED BY: W.NEWELL *	DATE: 4/17/78			REV	IEWED BY N. HO	LLAND DATE: 5/31/78
**************************************	VALVE COORD CATEGORY INATE A B C D E	SIZE VALVE (IN) TYPE	ACT NORM. TYPE POS	TEST TEST DURING METHOD	STROKE* TIME * (SEC) *	REMARKS
26-27-3-Z-132 2	в-ө х	1 RD	RD C	1 RD-1	N/A TYPICA	L OF 137 UNITS

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GENERAL PHYSICS CORPORATION COLUMBIA, MARYLAND 21044

				TABLE 3 VAL	VES FOR	WHICH REL	IEF IS	BEING RE	QUESTED		*********	REV. 3.	10/01/79	
**	SYSTEM: CONTROL PREPARED BY: W.N	ROD DRIVE-S	YS.ND. 3 DATE: 4/	/17/78		IS	5D. NO. 1	1825-FM	-27B REV REVIEW	5 ED BY: N	FITZ	PATRICK VAL	VE PROGRAM	*****
**	VALVE NUMBER	* * CLASS	COORD	VALVE CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	ACT TYPE	NORM. POS.	TEST DURING	TEST METHOD	STROKE TIME (SEC)	REASON FOR REQUESTING EXEMPTION	TESTING TO BE PERFORMED	* * * *
	26-27-HCU-115	2	0-0	x	. 5	ск	SA	-	а	EF-1	N/A	NOTE 24	EF-1	
	26-27-3-A0V-126	2	8-8	x	1	GA	A	с	3	EF-1 ET-2	TBD	NOTE 24	EF-1 ET-2	
	26-27-HCU-138	2	B-7	x	. 5	СК	SA	24.2	з	EF-1	N/A	NOTE 24	EF-1	
	26-27-3-A0V-127	2	B-7	x	. 75	GA	A	с	3	EF-1 ET-2	TBD	NOTE 24	EF-1 ET-2	

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.

			TAB	LE 1 VALV	ES BEI	NG TEST	ED IN	ACCORDA	NCE WITH	CODE RE	QUIREMEN	ITS RE	V. 3, 1	0/01/7	9
*	SYSTEM: MAIN STEAM	-SYSTEM N	10.29					ISD M	0. 11825	-FM-29A.	REV 13	FITZPATE	ICK VALV	E PROG	RAM
* *	PREPARED BY: M. PAR	TRIDGE	DATE	4/6/78						REVI	EWED BY:	N. HOLLAND	DATE: 5	/31/78	4
**	VALVE NUMBER	* CLASS	COORD	VALVE CATEGORY	SIZE	VALVE	ACT.	NDRM	TEST	TEST	STROKE *	R E M	ARKS	******	*****
**	*******	*	10041E	******	******	11PC	******	FUD. *******	144444444	HE THUD ####################################	(DEC) *	*****	*****	******	****
	02-RV-71A	1	F-3	x	6	RL	SA	С	1	TF-1	N/A	VLV PERFORMS ADS TECH SPEC PARA 4	FUNCTIO 5 D + 4	N. TES	r BY
	02-RV-718	1	G-3	X	6	RL	SA	с	1	TF-1	N/A	VLV PERFORMS ADS	FUNCTIO	N. TES 6. E. 1	r by
	02-RV-710	1	F-3	x	6	RL	SA	С	-1	TF-1	N/A	VLV PERFORMS ADS TECH SPEC PARA 4	FUNCTIO	N. TES	r BY
	02-RV-71D	1	F-4	x	6	RL	SA	с	1	TF-1	N/A	VLV PERFORMS ADS TECH SPEC PARA 4	FUNCTIO 5. D + 4	N. TES	F BY
	02-RV-71E	1	D-3	x	6	RL	SA	С	1	TF-1	N/A	VLV PERFORMS ADS TECH SPEC PARA 4	FUNCTIO	N. TEST	r BY
	02-RV-71F	1	E-4	×	6	RL	SA	С	1	TF-1	N/A	VLV PERFORMS ADS TECH SPEC PARA 4	FUNCTIO	N. TEST	R BY
	02-RV-716	1	E-3	x	6	RL	SA	С	1	TF-1	N/A	VLV PERFORMS ADS TECH SPEC PARA 4	FUNCTIO	N. TEST	r BY
	02-RV-71H	1	D-3	x	6	RL	SA	С	1	TF-1	N/A	VLV PERFORMS ADS TECH SPEC PARA 4	FUNCTIO	N. TEST	R BY
	02-RV-71J	1	D-3	x	6	RL	SA	с	1	TF-1	N/A	VLV PERFORMS ADS TECH SPEC PARA 4	FUNCTIO	N. TEST	r BY
	02-RV-71K	1	F-3	x	6	RL	SA	с	1	TF-1	N/A	VLV PERFORMS ADS TECH SPEC PARA 4	FUNCTIO	N. TEST	r BY
	02-RV-71L	1	C-3	x	6	RL	SA	с	1	TF-1	N/A	VLV PERFORMS ADS	FUNCTIO	N. TEST	BY
	29-MOV-74	1	G-8	5	з	GA	MD	с	1 1	PV-1 SLT-1	N/A	CONTAINMENT ISO TEST PER 100FR50	APP J.	SEAT LE	EAK
	29-MOV-77	1	н-ө	2	3	GA	MO	с	1	PV-1 SLT-1	N/A	CONTAINMENT ISD TEST PER 10CFR50	APP J.	SEAT LE	EAK

TABLE 2: VALVES FOR WHICH SEAT LEAKAGE IS IMPORTANT

REV. 3. 10/01/79

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SYSTEM. MAIN STEAM	-SYSTEM NO.	29				ISD N	D. 11825-FM-29A,	REV 13	FITZPATRICK VALVE PROGRAM
PREPARED BY: M. PAR	TRIDGE	DATE: 4/	6778				REVI	EWED BY	N. HOLLAND DATE: 5/31/78 *
**************************************	* CLASS	COORD	SIZE	VALVE	ACT.	NORM	LEAK RATE	STROKE TIME	**************************************
	*	INATE	(IN)	TYPE	TYPE	POS.	VALUE	(SEC)	
*****	*****	******	****	********	****	*******	**************	*****	***************************************
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-808	I	H-6	24	GL	A	0		TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
29-ADV-80C	1	H7	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	O		TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J. TYPE C.
29-A0V-86A	1	H4	24	QL	A	0		TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J. TYPE C.
29-407-868	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	o		TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
29-ADV-86D	1	H-7	24	GL	A	o		TBD	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.
29-MOV-74	1	G-8	з	GA	MO	С		N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J. TYPE C.
29-MOV-77	1	н-в	3	GA	MO	С		N/A	CONTAINMENT ISO VALVE. SEAT LEAK TEST PER 10CFR50 APP J, TYPE C.

.

			TABLE 3 VAL	VES FOR	WHICH REL	IEF IS	BEING RE	EQUESTED			REV 3.	10/01/79
*****************	*************	******	**********	***	*******	*******	*****	*******	******	******	******	************
* SYSTEM: MAIN STEA	M-SYSTEM NO	29			IS	5D NO 1	1825-FM	-29A, REV	13	FITZ	PATRICK VAL	VE PROGRAM
* PREPARED BY: M. PA	RTRIDGE	DATE 4	/6/78					REVIEWE	BY: N	HOLLAND	DATE	5/31/78 *
*	***	14.14.44.44.44.44.44.44.44.44.44.44.44.4	****	******	*********	*******	******	*******	*******	******	****	环。 化学家学校学校学校
•	*		VALVE							STROKE	REASON FOR	TESTING *
* VALVE NUMBER *	* CLASS *	COORD INATE	CATEGORY A B C D E	SIZE (IN)	VAL VE TYPE	ACT TYPE	NORM. POS.	TEST DURING	TEST METHOD	TIME (SEC)	REQUESTING EXEMPTION	TO BE * PERFORMED *
	***********	*********		********	*********	*******	*******	********			***********	
24-40V-804	1	H-6	2	24	GL_	A	0	3	EF-1	THD	NUTE 25	EF-1 EE-A
								1	EF-4			EF-4 EE-5
								3	ET-1			ET-1
								1	SLT-1			SLT-1
29-ADV-808	1	H-6	2	24	GL	A	D	з	EF-1	TBD	NOTE 25	EF-1
								1	EF-4			EF-4
								3	EF-5			EF-5
								3	ET-1			ET-1
								1	SLT-1			SLT-1
29-A0V-80C	1	H-7	2	24	GL	A	0	з	EF-1	TBD	NOTE 25	EF-1
								1	EF-4			EF-4
								З	EF-5			EF-5
								3	ET-1			ET-1
								1	SLT-1			SLT-1
29-A0V-80D	1	H-7	2	24	GL	A	0	3	EF-1	TBD	NOTE 25	EF-1
								1	EF-4			EF-4
								З	EF-5			EF-5
								3	ET-1			ET-1
								1	SLT-1			SLT-1
29-A0V-86A	1	H-4	2	24	GL	A	0	з	EF-1	TBD	NOTE 25	EF-1
								1	EF-4			EF-4
								З	EF-5			EF-5
								З	ET-1			ET-1
								1	SLT-1			SLT-1
29-AUV-868	1	H-5	2	24	GL	A	0	з	EF-1	TBD	NOTE 25	EF-1
								1	EF-4			EF-4
								з	EF-5			EF-5
								3	ET-1			ET-1
								1	SLT-1			SLT-1
29-A0V-86C	1	H-6	2	24	GL	A	0	з	EF-1	TBD	NOTE 25	EF-1
								1	EF-4			EF-4
								3	EF-5			EF-5
								з	ET-1			ET-1
								1	SLT-1			SLT-1

	*************		TAI	BLE 3: VALVE	ES FOR W	HICH RELI	EF IS B	EING RE	QUESTED			REV. 3.	10/01/79	
****	SYSTEM: MAIN STEA PREPARED BY: M.PA	AM-SYSTEM NO. ARTRIDGE	29 DATE: 4/6/7	78		ISD	NO. : 11	825-FM-	29A. REV REVIEWED	13 BY: N.	FITZF	ATRICK VAL	VE PROGRAM 5/31/78	* * * * * *
* * *	VALVE NUMBER	* * CLASS *	COORD (INATE	VALVE CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. FOS	TEST	TEST	STROKE TIME (SEC)	REASON FOR REQUESTING EXEMPTION	TESTING TO BE PERFORMED	* * * *
	29-A0V-86D	1	H-7 :	2	24	GL	Α	0	3 1 3 3 1	EF-1 EF-4 EF-5 ET-1 SLT-1	TED	NOTE 25	EF-1 EF-4 EF-5 ET-1 SLT-1	

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	TABLE 1: VALVES	BEING TESTED IN	ACCORDANCE WITH CODE	REQUIREMENTS	REV. 3. 10/01/79
· · · · · · · · · · · · · · · · · · ·	****	*****	**********************	*******************	*
* SYSTEM CONDENSATE-SYSTEM NO	33		ISD NO 11825-FM-3	CA, REV 18	FITZPATRICK VALVE PROGRAM *
* PREPARED BY: M. PARTRIDGE	DATE. 4/7/78		R	EVIEWED BY: N. HOLL	AND DATE: 5/31/78 *
****	*******	***	*****	·····································	***************************************
* VALVE NUMBER * CLASS	COORD CATEGORY SI	ZE VALVE ACT	NORM TEST TES	T TIME *	REMARKS *
* *************************************			PUS DURING PET	\$*********************	****************
CND-102 2	D-4 X 10	GA M	LC 1 DC-1	N/A	

GENERAL PHYSICS CORPORATION COLUMBIA, MARYLAND 21044

TABLE 2: VALVES FOR WHICH SEAT LEAKAGE IS IMPORTANT REV. 3, 10/01/79

* SYSTEM: FEEDWATER- * PREPARED BY: M. PAF *	-SYSTEM NO 3 RTRIDGE	4 DATE: 4/	7/78			ISD N	0 11825-FM-34A. REVI	REV 15 EWED BY	FITZPAT	DATE:	VE PROGRAM
**************************************	* CLASS	COORD INATE	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	LEAK RATE VALUE	STROKE TIME (SEC)	**************************************	A R K S	***************************************
FWS-28A	1	A-6	18	ск	SA	-		N/A	CONTAINMENT ISO TEST PER 10CFR30	VALVE.	SEAT LEAK
FWS-288	1	B-4	18	ск	SA	-		N/A	CONTAINMENT ISO TEST PER 10CFR50	VALVE. APP J,	SEAT LEAK
34-NRV-111A	1	C-6	18	ск	SA	-		N/A	CONTAINMENT ISO TEST PER 10CFR50	VALVE.	SEAT LEAK
34-NRV-1118	1	C-4	18	ск	SA	-		N/A	CONTAINMENT ISO TEST PER 10CFR50	VALVE.	SEAT LEAK

			TABLE 3 VAL	VES FOR	WHICH REL	IEF IS	BEING R	EQUESTED			REV. 3,	10/01/79
**************************************	-SYSTEM NO. :	34 DATE: 4/	**************************************	*******	IS	5D. NO. : 1	1825-FM	-34A, REV REVIEWEI	15) BY: 1	FITZI N. HOLLAN ⁷⁾	PATRICK VAL DATE:	VE PROGRAM
* VALVE NUMBER	* CLASS	COORD INATE	VALVE CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	TEST	TEST METHOD	STROKE TIME (SEC)	REASON FOR REQUESTING EXEMPTION	R TESTING * TO BE * PERFORMED *
FWS-28A	1	A-6	2 X	18	ск	SA	-	3 1	EF-1 SLT-1	N/A	NOTE 26	EF-3
FWS-288	1	B-4	2 X	18	СК	SA	-	3 1	EF-1 SLT-1	N/A	NOTE 26	EF-3
34-NRV-111A	1	C-6	2 X	18	ск	SA	-	3 1	EF-1 SLT-1	N/A	NOTE 27	EF-2
34-NRV-1118	1	C4	2 X	18	ск	SA	-	3	EF-1	N/A	NOTE 27	EF-2

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GENERAL PHYSICS CORPORATION COLUMBIA, MARYLAND 21044

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		TAB	LE 1 VALV	ES BE	ING TEST	ED IN	ACCORDA	ANCE WITH	CODE RE	QUIREME	INTS	REV. 3	10/0	1/79
* *	********	******	**********	*****	*****	*****	TODA	19999999999999999999999999999999999999	-CM-444	DEU 13	FIT7F	ATRICK		ROGRAM
* SYSTEM: SERVICE	WATER-STST	EM NU. 4	0				150.0	VU IIOZJ		HEV IE				
PREPARED BY: M. PA	RTRIDGE	DATE	: 4/10/78						REVI	EWED BY	Y: N. HOLLAND	DATE	E: 5/31	/78
***************	***	*****	·····································	*****	*****	******	*****	*****	*******	CTDOKE	·*************************************	*** **	******	*******
VALVE NUMBER	* CLASS	COORD	CATEGORY A B C D E	SIZE (IN)	VALVE TYPE	ACT. TYPE	NORM. POS.	TEST	TEST METHOD	TIME (SEC)	* RE	MARI	K S	
*******	****	*****	********	****	*****	******	******	****	*******	*****	**************	*******	*******	*******
ESW-1A	З	B-6	x	12	СК	SA	-	3	EF-1	N/A	CHECK TO ENSUR	E VALVE	OPENS	DURING
ESW-1B	з	B-7	×	12	ск	SA	-	Э	EF-1	N/A	CHECK TO ENSUR	E VALVE	OPENS	DURING
ESW-2A	з	C-7	x	8	BF	м	с	1	PV-1	N/A				
ESW-2B	3	C-7	x	6	BF	м	с	1	PV-1	N/A				
ESW-3A	з	C-7	x	8	BF	м	o	1	PV-1	N/A				
ES₩-30	3	D-7	x	8	BF	м	o	1	PV-1	N/A				
ESW-6A	з	C-8	x	8	ск	SA	_	з	EF-1	N/A	CHECK TO ENSUR	E VALVE	OPENS	DURING
											DIESEL TEST.			
ESW-6B	З	C-B	x	8	СК	SA	-	3	EF-1	N/A	CHECK TO ENSUR DIESEL TEST.	E VALVE	OPENS	DURING
46-MOV-102A	3	D-7	x	в	GA	MO	0	3	EF-1 ET-2	TBD				
46-MOV-1028	з	D-7	x	8	GA	MO	٥	3	EF-1 ET-2	TBD				
46-MOV-101A	з	D-7	x	10	GA	MO	с	3	EF-1 ET-2	TBD				
46-MOV-1013	З	D-7	x	10	GA	MO	с	3	EF-1 ET-2	TBD				

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FITZPATRICK VALVE PROGRAM 10/01/79 FUNCTIONALLY CHECK EACH QUARTER FUNCTIONALLY CHECK EACH QUARTER FUNCTIONALLY CHECK EACH QUARTER EACH QUARTER FUNCTIONALLY CHECK EACH QUARTER "TONALLY CHECK EACH GUARTER FUNCTIONALLY CHECK EACH QUARTER FUNCTIONALLY CHECK EACH QUARTER 5/31/78 m 1 8 ---PER TECH SPEC PARA 4. 11. PER TECH SPEC PARA 4. 11. TTO TECH SPEC PARA 4. 11. S 4.11 PER TECH TPEC PARA 4. 11. PER TECH SPEC PARA 4. 11 PER TECH SPEC PARA 4. 11. DATE: REMARK 17 PER TECH SPEC PARA FUNCTIONALLY CHECK REV REVIEWED BY: N. HOLLAND FU. N VALVES BEING TESTED IN ACCORDANCE WITH CODE REGUIREMENTS STROKE* * (SEC) * TIME ISD. ND. : 11825-FB-10H. REV 10 N/A N/A A/A N/A A/A N/A N/A A/A METHOD TEST EF-3 EF-1 EF-5 EF-3 EF-1 EF-5 EF-1 EF-1 EF-1 EF-5 E-- J3 EF-5 EF-1 DURING TEST 3 3 3 3 3 3 30 3 3 3 3 3 3 3 3 POS. 0 0 0 0 0 Q 0 0 非常常常非 TYPE ACT 4 ٩ 1 4 1 4 4 4 2. 以为我在这个家族的是是是是这些的的的的是是这些的的,你们的是是是是是是是是是是是是是是是是是是是是是是是是是是是是是 VALVE TYPE GA GA GA 40 QA 0A GA 40 99 SIZE (NI) ¢٦ 5 0 5 n 5 5 s: ci. ni ei. rú ai ni ci. N SYSTEM: REACTOR BUILDING WATER COOLING-SYS NO ABCDE DATE: 4/20/78 CATEGORY VALVE TABLE 1 × × × × × × × COORD INATE 8-7 A-7 C-7 F-7 6-7 H-7 C-7 D-7 * CLASS m 3 m 3 3 3 3 m PREPARED BY . M. NEWELL * VALVE NUMBER 66-TCV-107D 66-TCV-107B 66-TCV-107H 66-TCV-107A 66-TCV-107F 66-TCV-107K 66-TCV-107C

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GENERAL PHYSICS CORPORATION 21044 CULUMBIA, MARYLAND

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FUNCTIONALLY CHECK EACH QUARTER

N/A

EF-5

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66-TCV-107G

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66-TCV-107E

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EF-5

PER TECH SPEC PARA 4. 11. B.

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4.11

PER TECH SPEC PARA

FUNCTIONALLY CHECK EACH QUANTER

N/A

EF-1 EF-5

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66-TCV-107J

PER TECH SPEC PARA 4. 11. B.

10/01/79 REV. 3. VALVES FOR WHICH RELIEF IS BEING REQUESTED TABLE 3:

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FITZPATRICK VALVE PROGRAM ISD. NO. 11825-F8-10H, REV 10 66 SYSTEM REACTOR BUILDING WATER COOLING-SYS. ND.

DATE: 4/20/78 PREPARED BY: W NEWELL

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REVIEWED BY: N. HOLLAND DATE: 5/31/78

TESTING 非非非非非非非非 TO BE STROKE REASON FOR REQUESTING TIME TEST TEST NORM. ACT. TYPE VALVE SIZE CATEGORY VALVE COORD * CLASS . VALVE NUMBER

EXEMPTION PERFORMED * (SEC) DURING METHOD PDS. TYPE (NI) ABCDE INATE

EF-33 E--43 NOTE 28 NOTE 28 N/A A/A EF-1 EF-1 m 3 1 ŧ SA SA CK CK CK 4 4 × × E-7 E-7 3 3 SWS-60A SWS-608

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GENERAL PHYSICS CORPORATION COLUMBIA, MARYLAND 21044

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SYSTEM LUBRICATION DIL AND CODLING, EM DIESEL GEN -SYS.ND. 93 ISD.ND. 40096(SCHODNMAKER DRAWING) FITZPATRICK VALVE PROGRAM + 10/01/79 10 STV. 3. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS TABLE 1

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DATE: 5/31/78 REVIEWED BY N HOLLAND DATE: 4/21/78 PREPARED BY: W. NEWELL

FUNCTIONA LY CHECK DURING DIESEL FUNCTIONALLY CHECK DURING DIESEL ທ REARX TEST TIME * STROXE* (SEC) # N/A A/A METHOD TEST EF-1 EF-1 DURING TEST 3 3 POS. 0 0 TYPE ACT. SA AS VALVE TYPE ME ME SIZE (NI) -0 ġ, ABCDE CATEGORY VALVE × COORD INATE E-4 E-A * CLASS 3 3 VALVE NUMBER EDG-55A EDQ-558

FUNCTIONALLY CHECK DURING DIESEL FUNCTIONALL' CHECK DURING DIESEL TEST TEST TEST N/A N/A EF-1 EF-1 3 3 0 0 SA SA ME ME -0 -0 × E-4 E-4 m C EDG-55D EDG-55C

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SYSTEM:	Reactor Building Cooling Water
VALVES:	ESW-9A & B ESW-25 E_&-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 milve 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.

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SYSTEM: Reactor Building Cooling Water

C

3

VALVES:

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

CATEGORY :

CLASS:

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.

Rev. 3, 10/1/79

SYSTEM: Reactor Building Cooling Water

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

2

CATEGORY: A-2, C

CLASS:

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

 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.

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.

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SYSTEM:Residual Heat RemovalVALVES:10-MOV-25A & BCATEGORY:A-3CLASS: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-MCV-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).

SYSTEM: Standby Liquid Control

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VALVES: SLC-43A & B

CATEGORY:

CLASS:

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

TEST FEQUIREMENT: Exercise valves for operability every three months.

BASIS FOR RELIEF: To exercise these values 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.

SYSTEM: Standby Liquid Control

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VALVES: SLC-16, SLC-17

CATEGORY: A-2, C

CLASS:

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 REQURIEMENT: 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 values on the steam line to the Reactor Core Isolation Cooling pump drive turbine. Values 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)

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SYSTEM:	Reactor Core Isolation Cooling (RCIC)						
VALVES:	RCIC-5 RC	CIC-4	13-MOV-30	RCIC-29	13-MOV-27	RCIC-8	RCIC-7
CATEGORY :	A-2, C A-	-2, C	в	с	В	С	С
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 value for operability at cold shutdown (but not more frequently than every three months).

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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 differ- ential 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).

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SYSTEM: Core Spray

VALVES: 14-AOV-13A & B

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CATEGORY: A-1, C

CLASS:

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.

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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).

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SYSTEM: High Pressure Coolant Injection (HPCI)

VALVE: 23-MOV-60

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CATEGORY: A-2

CLASS:

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

SYSTEM:

VALVES:

CATEGORY:

CLASS:

FUNCTION:

High Pressure Coolant Injection (HPCI)

HPI-65	HPI-12	23-MOV-21	HPI-62	23-MOV-25	HPI-56	HPI-13
A-2, C	A-2, C	В	с	В	С	с
2	2	2	2	2	2	2

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.

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

SYSTEM: High Pressure Coolant Injection (HPCI)

VALVES: HPI-402, HPI-403

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CATEGORY:

CLACS:

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).

SYSTEM:

High Pressure Coolant Injection (HPCI)

VALVE: 23-MOV-17

B

2

CATEGORY:

CLASS:

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).

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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).

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 SYSTEM:
 High Pressure Coolant Injection (HPCI)

 VALVE:
 23-AOV-18

 CATEGORY:
 C

 CLASS:
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 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).

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SYSTEM: High Pressure Coolant Injection (HPCI)

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VALVE: HPI-F1

CATEGORY:

CLASS:

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.

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SYSTEM:	High Pressure Coolant Injection (HPCI)
VALVES :	23-HOV-1, 23-HOV-2
CATEGORY:	В
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 value 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 values for operability concurrent with the HPCI pump and turbine test on the approach to cold shutdown (but not more frequently than every three months).

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SYSTEM:	High Pressure Coolant Injection (HPCI)
VALVE:	23-PCV-50
CATEGORY:	В
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 oper- ated 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).

SYSTEM:

Control Rol Drive (CRD)

VALVES :

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

FUNCTION:

CLASS:

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 REQUIREMI IT: 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).

SYSTEM: Main Steam (MS)

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

A-2

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CATEGORY :

CLASS:

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 values during power operations would result in a plant SCRAM and unnecessary transients on the primary and secondary plants. Values are designed to be part stroked during power operation to demonstrate freedom of stem/disc motion.

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

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SYSTEM:	Feedwater
VALVES:	FSW-28A & B
CATEGGRY:	A-2, C
CLASS:	1
FUNCTION:	Containment isolation values in the feedwater lines. These values are open during power operation.
TEST REQUIREMENT:	Exercise valves for operability every three months.
HASIS FOR RELIEF:	Exercising the subject values would require shutdown of the piant and a test method identical to the 10CFR50 Appendix 3, Type C test. These values do not have a mechanical operator that permits exercising the value at cold shutdown.
ALTERNATE TESTING	Demonstrate closure of the subject valves during the Appendix Type C test performed on each valve at refueling.

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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 RELIFF:	Exercising the subject values 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 values is not designed to permit exercising the values open and closed.
ALTERNATE TESTING:	Demonstrate closure of the subject valves during the Aprendix J,

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SYSTEM:

VALVES:

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SWS-60A & B

C

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CATEGORY:

CLASS:

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

Reactor Building Cooling Water (PBCW)

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.

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NOTE 30

SYSTEM:

Reactor Core Isolation Cooling (RCIC)

RCIC-12, RCIC-13

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VALVES:

CATEGORY:

CLASS :

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:	В
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 values and cannot be meaningfully tested until the RCIC turbine is operating. 13-HOV-1 and 2 are normally open values; if they were cycled and failed during normal plant operations, the RCIC system would be made inoperable. 13-MOV-131 is the only closed value in the RCIC steam supply preventing RCIC turbine operation. As identified in Pump note 7, 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.

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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 downsteram 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, MOV-18, 12-MOV-15

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CATEGORY :

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).

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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:
 - 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
- Active Components in Service Water and Instrument Air Systems which are required to support safety system functions
- 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.
- 1. 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)
- 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:
 - 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.
 - Identification of the applicable ASME Code Section XI Edition and Addenda.
 - 3. The period for which the program is applicable.
 - 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)

D-3

- 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).

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- 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 just fication 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
 - Specific identification of the ASME Code requirement that has been determined to be impractical for each component.
 - Information to support the determination that the requirement in (2) is impractical; i.e., state and explain the basis for requesting relief.
 - Specification of the inservice testing that will be performed in lieu of the ASME Code Section XI requirements, if any.
 - 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.

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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.

 "Environmental Conditions Prohibitive" (e.g., high radiat on 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.

"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 juopardize 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:

- 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 guality and safety, or
- 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

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RECOMMENDED STANDARD FORMAT FOR VALVE INSERVICE TESTING PROGRAM SUBMITTALS

(Not to be used for relief basis) PAGE REMARKS P&ID NO. 1045-E-2A 30 sec. stroke time 60 sec. stroke time SYSTEM NAME AUXILIARY COOLANT SYSTEM COMPONENT COOLING S E svitsmettA pritest Relief Requests × × SRV SRV SRV SRV 5 5 CV S CV 10 E Test Requirements Tw 0 0 2 noitizog lamon 10 . 1 0 , 5 1 ŧ 1 3/4 REL SA 3 REL SA 3 REL SA 10 GA MO REL SA REL SA GA MO SA SA 3/4 REL SA Actuator Type T Σ REL GA CK CK Valve Type 6 16 (sadont) ast2 3 --× 4 × þ × Category A | B | C | D Valve * * * * × × × × D-14 X A-10 11-8 8-10 0-14 0-15 C-15 C-15 E-14 11-0 8-11 • coordinates n n n n n SSRIJ 3 3 3 3 3 3 Valve 7228 722C 7448 702C 715 729 200 707 710 717 834

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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				
мт	-	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 value position before operations are performed and after operations are completed, and verify that value is locked or sealed. 				
cs	-	Exercise valve for operability every cold shutdown				
RR	-	Exercise valve for operability every reactor refueling				

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RELIEF REQUEST BASIS

System:	Auxiliary Coolant Sy	stem, Component Cooling
۱.	Valve: Category: Class:	717 C 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: Category: Class:	834 B-E 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 value is not required to change position during plant operation to accomplish its safety function. Exercising this value will increase the possibility of surge tank line contamination.
	Alternate Testing:	Verify and record valve position before and after each valve operation.

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Function:

Category:

Valve:

Class:

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

DRAWING #	REV #	STATUS	SYSTEM
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	Cirs 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

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DRAWING #	REV #	STATUS	SYSTEM
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)	SRCT
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 Loon Condensate
		mie	Feedwater and Steam Lines
11825-FM-119A	3	NNS	Neutron TTP Mon
11825-FM-119P	2	NNS	Neutron TIP Mon
11825-FM-115A		NNS	Reactor Food Dump Turbing Exhaust Ducts
11825-FM-104		NNS	Aux Boiler Boom Boiler Breeching
11020 111 101		11110	at Dust Collectors Ch 1
11825-FM-108		NNC	Aux Boiler Doom Boiler Preaching
11020 111 100		MAD	Aux. Boller Room Boller Dreeching
11825-FB-35F	6	NNS	Control Room Area Corvice & Chilled
11023 10 330	, i i i i i i i i i i i i i i i i i i i		Water
11825-FR010H	11	VT	Reactor Building Corning Mator Cooling
Schoonmaker Drawing		AT	Reducti burnding Service water cooling
#40096	5	VT	Tacket Water Suster with Usat
110050		AT	Evolution (Lubrication Oil and
			Cooling PDN
			COUTING, EDAI

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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.