

**Florida
Power**
CORPORATION

July 1, 1985
3F0785-03

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Crystal River Unit 3
Docket No. 50-302
Operating License No. DPR-72
Inservice Testing (IST) of Pump and Valves

Reference: Letter dated July 20, 1984 from G. W. Rivenbark, NRC, to W. S. Wilgus, FPC

Dear Sir:

The referenced letter transmitted questions regarding the Crystal River Unit 3 IST program. Transmitted herewith are Florida Power Corporation's (FPC) responses to those questions. Revised pages to the IST program are also provided and should replace the previously submitted pages of the program in their entirety. Draft responses were provided to our Project Manager on October 31, 1984 and a meeting was held on June 7, 1985 to discuss the proposed FPC positions. This submittal documents the resolution reached during the subject meeting.

Should you have any questions concerning this submittal, please do not hesitate to contact this office.

Sincerely,

G. R. Westafer
Manager, Nuclear Operations
Licensing and Fuel Management

DGG/feb

Enclosure

8507050357 850701
PDR ADOCK 05000302
PDR

cc: Dr. J. Nelson Grace
Regional Administrator, Region II
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
101 Marietta Street N.W., Suite 2900
Atlanta, GA 30323

FOA7
1/40

Crystal River Unit 3 (CR-3)

Responses to NRC Concerning

Inservice Testing of Pump and Valves

- Q1. The licensee has requested specific relief from the inlet and differential pressure measurements required by Section XI for the Emergency Diesel Generator Fuel Transfer pumps based on not having installed instrumentation. The licensee does not propose an alternate test. It is our position that the licensee should provide the instrumentation necessary to perform these tests, as required by the Code.
- R1. Florida Power Corporation will install inlet and differential pressure instrumentation for the Emergency Diesel Generator Fuel Oil Transfer Pumps. The instrumentation will be installed during Refuel VI (March 1987).

- Q2. The licensee has requested specific relief from the flow measurement requirements of Section XI for the Emergency Nuclear Seawater pumps and has not proposed an alternate test. The licensee's basis is that there is not installed instrumentation. It is our position that the licensee should provide the instrumentation necessary to test these pumps in accordance with the Code.
- R2. The Emergency Nuclear Seawater Pumps are vertical, submerged pumps that take suction from a pit open to the Circulating Water Intake Structure through two 48 inch diameter lines. The pit water level is the same as the tide level, therefore, the pump inlet pressure is equal to atmospheric pressure plus a tide level pressure correction.

The system is a fixed resistance type (if heat exchanger fouling is ignored). Table IWP-3100-1, Note 1, states (for systems of this type) measurement of both flow and differential pressure is not required. Differential pressure can be calculated since the pumps have discharge pressure gauges and intake pressure is determined by tide level. Therefore, no relief is needed from the requirement to measure flow. However, a written clarification stating that inlet pressure is determined by tide level is appropriate. Florida Power Corporation performs testing of the Emergency Nuclear Seawater Pumps in accordance with the code, and no changes to the system or test procedures are required.

Q3. The licensee has requested specific relief from the corrective action requirements of Section XI, paragraphs IWV-3420(g) (1) and (2) for Category A valves. The licensee proposes to use the leak rate of 95% of 0.6La as a limit to replace or repair defective valves and then retest as judiciously as possible. It is our position that this relief request should not be granted because the allowable leak rate requested by the licensee is too large. It is our position that the individual valve allowable leak rates should be linearly determined (i.e., a twelve inch valve would be allowed twice the leakage of a 6 inch valve) such that the sum of the total allowable leak rates is less than or equal to 0.6La.

R3. Florida Power Corporation tests Category A valves to the requirements of 10 CFR 50 Appendix J. The testing program does establish valve leakage limits based upon valve diameter (i.e., a twelve inch valve would be allowed twice the leakage of a six inch valve). The total combined leakage of all type B (non valve penetrations) and Type C (valves) must not exceed 0.6La. La (percent/24 hours) is the maximum allowable leakage rate at pressure Pa, where $P_a = 64.3$ psia. Total allowable leakage (0.6La) has been calculated to be 248,656 scc/min. The sum of all Category A valve diameters is approximately 93 inches. Dividing this valve into 0.6La results in a maximum allowable leakage for valves of 2386 scc/min/nominal inch. The Appendix J program assigns an Alert value of 70% and an Action limit of 95% of 2386 scc/min/nominal inch for each valve (i.e., for a 4 inch valve diameter: Alert = 6680 scc/min; Action = 9040 scc/min).

The present program requires a review and evaluation of leakages exceeding the Alert value and "judicious" repair or replacement for leakages exceeding the Action limit. Some flexibility exists for valves leaking above the Action limit to permit considering the total valve leakages to justify deferral of repair. In no case, however, can any valve leakage exceed 0.15La. The

R3. existing Florida Power program offers an effective, conservative
(Cont.) approach to monitoring Category A leakages. The Section XI requirements are no more effective and the development and implementation of two programs would become extremely confusing. The development of this acceptance criteria is attached. Paragraph III of Attachment A of the P&V submittal has been revised to reference Relief Request Number V-100 concerning Category A valves.

Additionally, and not related to this response, paragraph VI has been added to Attachment A of the P&V submittal. The new paragraph addresses calibration of vibration measuring instruments. Relief Request V-110 is attached for your review and approval. The revised Attachment A is also attached.

CALCULATION OF ACCEPTANCE CRITERIA

$L_a = 0.25\%$ by weight per 24 hrs. of the mass of containment air at 64.3 psia.

Mass of Containment Air = $\frac{PV}{RT}$, where:

$P =$ Containment Pressure = 64.3 psia

$V =$ Containment Free Volume = 2×10^6 cu. ft.

$R =$ Gas Constant = $\frac{53.35 \text{ ft} \cdot \text{lb}_f}{\text{lbm} \cdot ^\circ\text{R}}$

$T =$ Containment Temperature, assumed 549.69°R (90°F)

$$\text{Mass of Containment Air} = \frac{(64.3 \text{ psia}) (2 \times 10^6 \text{ ft}^3) (144 \text{ in}^2/\text{ft}^2)}{\frac{53.35 \text{ ft} \cdot \text{lb}_f}{\text{lbm} \cdot ^\circ\text{R}} (549.69^\circ\text{R})}$$

$$\text{Mass of Containment Air} = 631,467.8 \text{ lbm}$$

$$L_a = \frac{(0.0025/\text{day}) (631,467.8 \text{ lbm})}{24 \text{ hrs/day}} = 65.78 \text{ lbm/hr}$$

$$L_a = \frac{(65.78 \text{ lbm/hr}) \left(\frac{471.9 \text{ scc/min}}{\text{SCFH}} \right)}{0.0749 \text{ lbm/cu. ft.}} = 414,427 \text{ scc/min}$$

$$\begin{aligned} 0.6 L_a &= 248,656 \text{ scc/min} \\ 0.15 L_a &= 62,164 \text{ scc/min} \end{aligned}$$

Excluding the type "B" penetrations and the 48" reactor building purge valves, the total number of "nominal inches of penetration diameter" for all other valves to be leak tested approximately:

$$\text{Total D} = 93$$

(Type 'B' + Type 'C') L.R. 0.6. La

Type 'C' L.R. 248656 - 26714 * SCC/M

Type 'C' L.R. 221942 SCC/M

$$\frac{\text{Type 'C' L.R.}}{\text{Total D}} = \frac{221942}{93} = 2386 \text{ SCC/min/nominal inch}$$

* Type 'B' L.R. = Air locks + AHV-1A/D + Type 'B' Master Data

Type 'B' L.R. = 20714 SCC/M + 5000 SCC/M + 1000 SCC/M

Type 'B' L.R. = 26714 SCC/M

The action value shall be 95% of the 2386 calculated above:

$$0.95 \times 2386 = 2260 \text{ scc/min/nominal inch.}$$

The alert value shall be 70% of the 2386 calculated above:

$$0.70 \times 2386 = 1670 \text{ scc/min/nominal inch.}$$

<u>Value Size</u>	<u>Alert Value</u>	<u>Action Value</u>
1"	1670	2260
1½"	2505	3390
2"	3340	4520
2½"	4175	5650
3"	5010	6780
4"	6680	9040
6"	10020	13560
8"	13360	18080
10"	16700	22600

(All leakage rates expressed in scc/minute)

CRYSTAL RIVER UNIT 3 INSERVICE INSPECTION PROGRAM

- I. Identification of Class Boundaries - Class 1, 2, and 3 boundaries were established as identified in Figure 1 of this submittal in accordance with the Code of Federal Regulations (10 CFR 50.50.2(v); Regulatory Guide 1.26, Rev. 3; and ANSI N18.2a-1975).
- II. Cold Shutdown - Inservice Inspection
 - a) Inservice inspection requirements for testing those valves which require stroking or seat movement during cold shutdown, the testing of the subject valves will commence for those periods of cold shutdown, as defined in the CR-3 Technical Specifications, which are expected to exceed 48 hours. This is the minimum time we feel is required to make the necessary arrangements to schedule personnel to accomplish this cold shutdown testing. As many valves as possible will be tested during this cold shutdown. However, cold shutdown will not be extended solely because of cold shutdown valve testing.
 - b) Should a valve fail to exhibit the required change of valve stem position and corrective action is initiated during cold shutdown, an assessment of system operability shall be made in relationship to the component's inoperability. The action statement of the facility's Technical Specifications shall then be followed. Therefore, relief is requested from the "Corrective Action" subparagraph of IWV-3410(g) concerning cold shutdown valves and unit startup.
- III. Category 'A' Valves - Leak Rate Testing - Category 'A' Class 1, 2, and 3 valves are subdivided into types in the CR-3 Pump and Valve Test Program. These types are those being leak tested in accordance with 10 CFR 50, Appendix J, Type C, as specified in the facility's Technical Specifications as containment isola-

tion valves and those valves which perform a pressure isolation function from a high pressure system to a low pressure system. These valves are noted in the Valves Test Program as SLT-1 and SLT-2, respectively.

See the attached relief request (V-100) for a discussion of the SLT-1 LRT.

Type SLT-2 valves shall be individually identified by system and alternate acceptance criteria of one-half gallon per minute per inch nominal pipe size (up to a maximum of 5 gallons per minute) will be utilized.

IV. Delete

V. Technical Specification - Should a conflict arise between the Inservice Testing Program and the Technical Specifications, Florida Power Corporation will follow the more restrictive.

VI. Calibration - The calibration of the vibration measuring instrument cannot be certified to the level required by the Code. See relief request #V-110 attached for a discussion of calibration.

FLORIDA POWER CORPORATION

INSERVICE INSPECTION

RELIEF REQUEST # V-100

CRYSTAL RIVER - UNIT 3

REFERENCE CODE: ASME Boiler and Pressure Vessel Code, Section XI,
1974 Edition through Summer 1975 Addenda.

I. Component for which exemption is requested:

(a) Name and Identification Number: All valves identified as category
A valves.

(b) Function: Valves in which seat leakage has been determined
to be important.

(c) ASME Section III Code Class: Class 1, 2, and 3

(d) Valve Category: A

II. Reference Code Requirement that has been determined to be impractical:

Paragraph IWV-3420 "Valve Leak Rate Testing"

III. Basis for Requesting Relief: The requirements of IWV-3420 are very similar to the existing requirements of 10CFR50 Appendix J. Florida Power Corporation has a testing program that meets the Appendix J requirements and all of the intent of IWV-3420. From Appendix J, the total combined leakage of all type B and C valves must not exceed 0.6La at a test pressure of Pa, or 64.3 psia. The total allowable leakage, 0.6La, has been found to equal 248,656 scc/min, including the Type B penetrations. 221,942 scc/min was attributable to Type C valves. The sum of the relevant valve diameters is approximately 93 inches. These values yield a quotient of 2386 scc/min/inch. An alert value of 70% of this or 1670 scc/min/inch and an action value of 95% of this or 2260 scc/min/inch have been established along with requirements for the evaluation and repair.

IV. **Alternate Examination:** The requirements of 10CFR50 Appendix J for local leak rate testing will be met in lieu of the ASME Code, IWV-3420, requirements. As stated above in the basis for relief the Appendix J program meets the intent of the ASME Code.

V. **Implementation Schedule:** The alternate examination program requirements are currently being met.

FLORIDA POWER CORPORATION
INSERVICE INSPECTION
RELIEF REQUEST #V-110
CRYSTAL RIVER - UNIT 3

REFERENCE CODE: ASME Boiler and Pressure Vessel Code, Section XI,
1974 Edition through Summer 1975 Addenda.

I. Component for which exemption is requested:

Vibration measurement of the bearings on all pumps in the pump program.

II. Reference Code Requirement that has been determined to be impractical:

IWP-4110 "Quality" and Table IWP-4.10-1, "Nominal Maximum Instrument Errors," Vibration Amplitude $\pm 5\%$ full-scale reading

III. Basis for Requesting Relief:

The manufacturer of the vibration measuring equipment has stated to Florida Power Corporation that the "instrument" error can be as low as $\pm 10\%$ of full-scale reading, but not $\pm 5\%$. They indicated that this is due to the transducer precision and accuracy, which must be included in the "instrument" error.

IV. Alternate Examination:

The calibration limits for the vibration amplitude measuring device will be set at $\pm 10\%$ of full-scale, the lowest error that the manufacturer will certify.

V. Implementation Schedule:

The alternate examination limit is currently being met by Florida Power Corporation.

Q4. The licensee has requested specific relief from the exercising requirements of Section XI for valve ASV-50, emergency feedwater pump turbine overspeed trip and throttle valve, and has proposed to test at refueling outages. The licensee's basis is that testing quarterly or at cold shutdown increases the potential for misadjustment of the valve after testing. It is our position that the stated reason is not adequate to grant relief.

R4. Florida Power Corporation will full-stroke test ASV-50 quarterly as required by the Code. The revised tables from the P&V submittal are attached. Florida Power Corporation is requesting relief from the trending requirements of IWB-2410(c) for "fast acting" valves. "Fast acting" is defined as those valves which stroke is less than two seconds. Request for Relief #V-210 is attached for review and approval.

TABLE 1 - VALVES BEING TESTED IN ACCORDANCE WITH ASME CODE REQUIREMENTS

SYSTEM NAME: AUXILIARY STEAM

DRAWING No. FD-302-051

Page 1 of 1
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat. A B C D E	Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	REMARKS
ASV-5	3	E-8	X	6	GA	MO	C	1 1	EF-1F ET-015	370		
ASV-195	3	B-4	X	4	GA	SO	O	1	EF-1F ET-	370		
ASV-196	3	B-4	X	4	GA	SO	O	1 1	EF-1F ET-	370		
ASV-50	3	E-7	X	6		SA	O	1	EF-1F	349*, 370*		

*SP-349, and SP-370 will be revised within 90 days after NRC approval of the pump and valve program to document testing ASV-50.

TABLE 2 - VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME: AUXILIARY STEAM

DRAWING No. FD-302-051

Page 1 of 1
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat.					Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	Relief Table 2A	REMARKS
ASV-23	3	D-7	X					6	GA	M	C	-	PV-1			1	

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Auxiliary Steam (AS)

1. Valves:	ASV-23
Function:	This is the boundary valve between class 3 and quality-group D on the auxiliary steam system. This allows EFTB-1 to be supplied from the auxiliary steam header. However, this is a non-safety, non-seismic back-up source of steam to EFTB-1.
Test Requirements:	EF-1F
Basis for Relief:	This valve is closed during normal plant operation. Auxiliary steam is not a safety and seismic class source of power for the emergency feedwater turbine.
Alternate Testing:	Operational checks with appropriate record entries shall record the position of these passive valves before operations are performed and after operations are completed.

FLORIDA POWER CORPORATION
INSERVICE INSPECTION
RELIEF REQUEST # V-210
CRYSTAL RIVER - UNIT 3

REFERENCE CODE: ASME Boiler and Pressure Vessel Code, Section XI,
1974 Edition through Summer 1975 Addenda. ✓

I. Components for which exemption is requested:

(a) Name and Identification Number:

All power-operated valves with stroke times less than
two seconds.

(b) Function:

Various

(c) ASME Section III Code Class:

Class 2, 3

(d) Valve Category:

A, B

II. Requirement that has been determined to be impractical:

IWV-3410(c)3 requires that valves that increase in stroke time
50% or more from a previous test (previous test less than 10
seconds) shall be tested monthly.

III. Basis for Requesting Relief:

"Fast acting" valves (those valves which stroke in less than two seconds) are not trended to accurately indicate an increase in stroke time of 50% from a previous test. Many of these valves "instantly" stroke and a 50% increase in stroke time is insignificant.

IV. Alternate Examination:

"Fast acting" valves will have an action limit of greater than two seconds stroke time. The action required will be to investigate for any necessary corrective action, and to test monthly until the problem is resolved.

V. Implementation Schedule:

This program will be initiated following approval by the Commission.

Q5. The licensee has requested specific relief from the exercising requirements of Section XI for valve DHV-91, decay heat removal system to pressurizer spray isolation, and has proposed to stroke and stroke time at cold shutdown. The licensee states that stroking this valve during normal plant operation would be potentially compromising to the decay heat system by stroking a valve connecting a high pressure system to a low pressure system. The licensee states the valve has no safety function. We disagree with the licensee and our position is that this valve should be stroked quarterly. We do not agree that the valve has no safety function.

R5. Florida Power Corporation will full stroke test DHV-91 quarterly as required by the Code. The revised tables from the P&V submittal are attached.

TABLE 1 - VALVES BEING TESTED IN ACCORDANCE WITH ASME CODE REQUIREMENTS

SYSTEM NAME: DECAY HEAT REMOVAL

DRAWING No. FD-302-641

Page 2 of 2
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat.					Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	REMARKS
DHV-35	2	J-13	X					14	GA	Mo	O	1 1	EF-1F ET-025	370		ESA Signal: LPI
DHV-36	2	J-13		X				14	CK	SA	-	1	EF-1F	340		DHV-33 & 36: Full stroke verified through flow element on discharge of D pumps of 3000 GPM.
DHV-37	2	H-9		X				3/4	REL	SA	-	3	TF-3	602		
DHV-38	2	J-9		X				3/4	REL	SA	-	3	TF-3	602		
DHV-39	2	H-7	X					14	GA	M	C	1 1	EF-1F ET-71	370		
DHV-40	2	J-7	X					14	GA	M	C	1	EF-1F ET-71	370		
DHV-41	2	G-6	X					12	GA	MO	C	1 1	EF-1F ET-120	370		
DHV-42	2	H-6	X					14	GA	MO	C	1 1	EF-1F ET-120	370		
DHV-43	2	J-6	X					14	GA	MO	C	1 1	EF-1F ET-120	370		
DHV-44	2	G-2		X				3/4	REL	SA	-	3	TF-3	602		
DHV-48	2	C-7	X					8	GA	M	C	1	EF-1F	370		DH Discharge to SF Pools
DHV-91	2	D-3	X					2	GL	MO	C	1	EF-1F	370*		

*SP-370 will be revised within 90 days after NRC approval of the pump & valve program to document testing of DHV-91.

TABLE 2 - VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME: DECAY HEAT REMOVAL

DRAWING No. FD-302-641

Page 2 of 2
DATE: 7/01/85

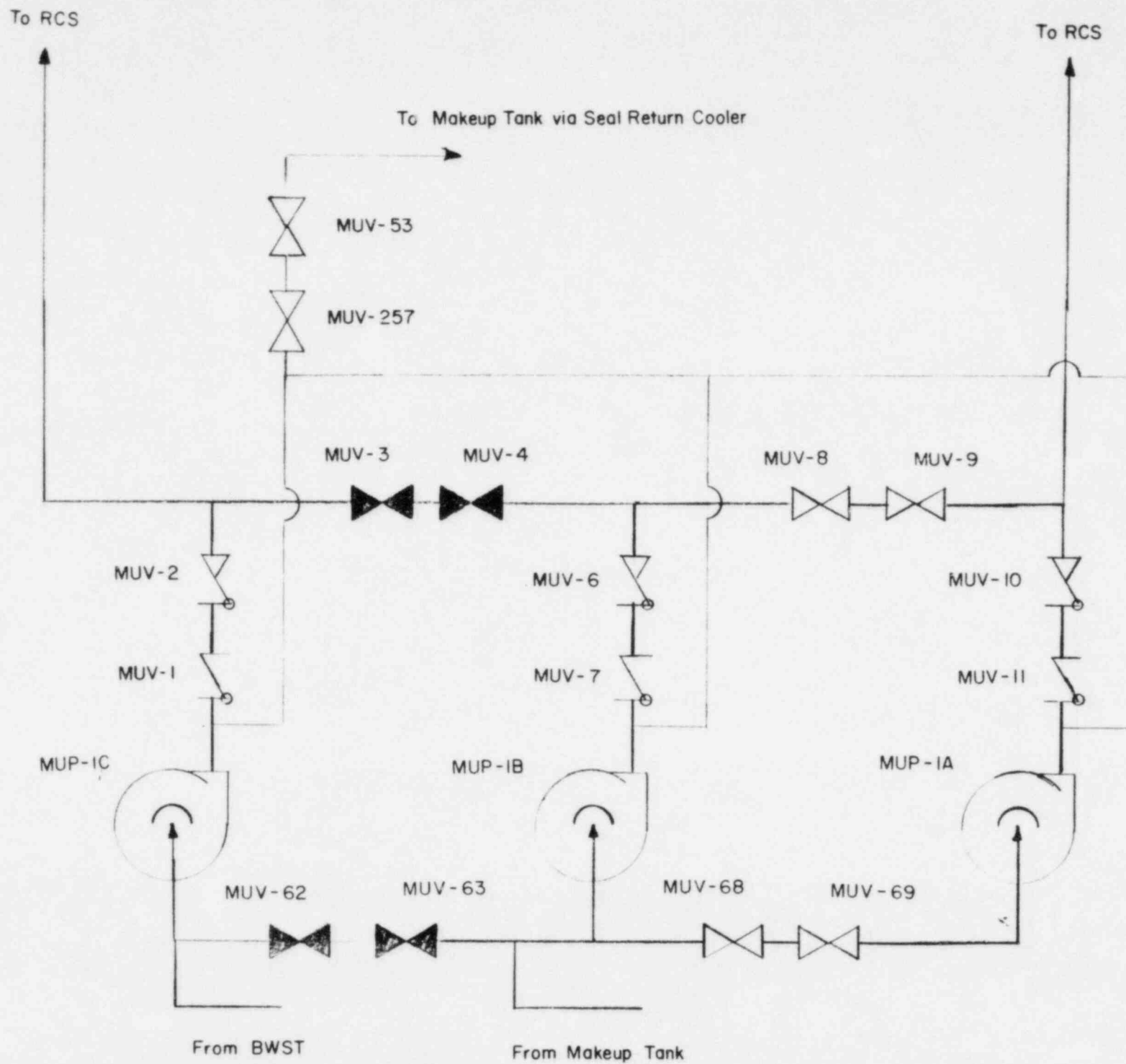
Valve Number	Asme Class	Dwg. Co-Ord.	Asme A	Asme B	Valve Cat. C	Valve Cat. D	Valve Cat. E	Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	Relief Table 2A	REMARKS
DHV-9	2	C-9	X					8	GA	M	C					4	
DHV-10	2	C-9	X					3	GA	M	C	-	PV-1			4	
DHV-75	2	H-10	X					2-1/2	GA	MO	C	-	PV-1			4	
DHV-76	2	J-10	X					2-1/2	GA	MO	C	-	PV-1			4	
DHV-93	2	E-5	X	X				2	CK	SA	C	2 3	EF-2F SLT-1	435	4520	6	
DHV-105	2	D-9	X					2-1/2	GL	MO	C	-	PV-1			4	
DHV-106	2	D-12	X					2-1/2	GL	MO	C	-	PV-1			4	
DHV-110	2	D-10	X					10	GL	MO	O	-	-	-		7	
DHV-111	2	D-12	X					10	GL	MO	O	-	-	-		7	

TABLE 2A
VALVE RELIEF REQUEST BASIS

Decay Heat Removal (DH) (continued)

6. Valves:	DHV-93
Function:	Closed valve during normal plant operation. Opens to cool the pressurizer from the decay heat removal system when the reactor is in cooldown and the RC pressure is within design pressure limits of the decay heat removal system.
Test Requirements:	EF-1F
Basis for Relief:	Opening this valve is impossible during normal plant operation as the decay heat removal system is a lower pressure system than the RC system.
Alternate Testing:	EF-2F. The valve shall be full stroked at cold shutdown with verification being a reduction of RC temperature/pressure.
7. Valves:	DHV-110 and DHV-111
Function:	These valves prevent pump runout during low pressure injection by maintaining the decay heat removal (low pressure injection) pumps at 3000 gpm discharge flow.
Test Requirements:	EF-1F
Basis for Relief:	These valves are not required to move from a full closed to a full open position (or conversely) to fulfill their safety function. The valves are normally full open, sensing no flow, and will throttle to maintain flow during system operability checks or LPI operation.

- Q6. The licensee has requested specific relief from the exercising requirements of Section XI for valves MUV-53 and 257, makeup pump minimum flow recirculation valves, and has proposed to exercise these valves at cold shutdown. The licensee states that stroking of these valves during normal plant operation would interrupt minimum recirculation flow on the running makeup pump. Should the valve fail in the closed position, damage would result to the makeup (high pressure injection) pump. We do not agree with the licensee's basis and, therefore, conclude that relief should not be granted. The licensee has stated that pump damage could result if the valve fails closed on the running pump. However, we have concluded that operation of the pumps could be shifted and testing conducted per Section XI.
- R6. The minimum flow path, from the makeup pumps to the makeup tank is through series valves MUV-53 and MUV-257. Closure of either valve would isolate the common header for all three makeup pumps to the minimum recirculation flow path. Isolation of this flow path would result in pump damage. Florida Power Corporation, therefore, requests that the relief be granted. The attached system drawing is provided for information.



Q7. The licensee requested specific relief from the full-flow exercising requirements of Section XI for valves BSV-26 and 27 and has proposed to inspect internally every forty months. We have concluded that relief should be granted; however, we cannot justify an inspection interval longer than refueling outages.

R7. Florida Power Corporation will disassemble one check valve each refueling outage as requested. The revised tables from the P&V submittal are attached.

TABLE 2 - VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME: REACTOR BUILDING SPRAY

DRAWING No. FD-302-711

Page 1 of 1
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat. A B C D E	Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	Relief Table	REMARKS
BSV-16	2	E-8		X	10	GA	MO	LO	1	OC-1	381	1	
BSV-17	2	G-8		X	10	GA	MO	LO	1	OC-1	381	1	
BSV-26	2	E-2		X	8	CK	SA	C	*	#	620	2	
BSV-27	2	F-2		X	8	CK	SA	C	*	#	620	2	
BSV-36	3	D-4		X	4	GA	MO	C	3 3	EF-3F ET-071	410	3	ESA Signal: Open on RB Isolation
BSV-37	3	D-5		X	4	GA	MO	C	3 3	EF-3F ET-071	410	3	ESA Signal: Open on RB Isolation
BSV-150	2	E-6		X	3	CK	SA	C	-	--	-	V-120	
BSV-151	2	E-7		X	3	CK	SA	C	-	--	-	V-120	

*Either BSV-26 or BSV-27 will be disassembled each refueling outage.

#Check valves will be disassembled and visually inspected to assure operability.

**TABLE 2A
VALVE RELIEF REQUEST BASIS**

System: Reactor Building Spray (BS)

1. **Valves:** BSV-16 & 17

Locked Open. See PRC meeting 9/18/80 #80-32, dated 8/4/80

Test: OC-1.
Cat. - E Valves.

2. **Valves:** BSV-26 and BSV-27

Functions: Normally closed valves which open for containment building cooling on 30 psig RB pressure signal which initiates the building spray pumps.

Test Requirement: EF-1F

Basis for Relief: The full stroke of these valves would require initiation of the RB spray system. This would entail spraying the RB with borated water.

Alternate Testing: One of these valves shall be internally inspected once each refueling outage per the no flow test of IWV-3520. The inspection shall assure that the disks have freedom of motion and determine the general mechanical condition of the valve including presence of any loose parts, debris, abnormal corrosion products, wear and erosion.

3. **Valves:** BSV-36 and BSV-37

Function: On an RB isolation signal, these valves open and the sodium hydroxide begins mixing with the borated water from the BWST through the HPI and LPI systems in anticipation of a 30 psig signal on high RB pressure. The sodium hydroxide raises the pH of the borated water to assist in the chemical stability of iodine, a post accident radionuclide.

Test Requirement: EF-1F

Q8. The licensee requested specific relief from the exercising requirements of Section XI for valves BSV-152 and 153 and proposes not to test them. The licensee's basis is that there is no method for testing, since a disassembly/inspection would expose personnel to highly concentrated boric acid. It is our position that the system should be modified so testing can be performed per the Code.

R8. The requested relief is no longer required. Tank BST-2 and associated valves BSV-152 and 153 are not being used at this time. This change to the plant configuration was approved by the NRC in Amendment No. 64 to the CR-3 Operating License on July 12, 1983. The lines to valves BSV-152 and 153 will be isolated with blank flanges. The blank flanges will be installed during Refuel VI (March 1987).

Valves BSV-11 and BSV-12 will be tested quarterly and the revised table from the P&V submittal is attached.

Check valves BSV-150 and BSV-151 cannot be functionally tested quarterly or at each cold shutdown as required by the Code. The valves are fully functionally tested every five years when the building spray system flow verification test is performed. The Request for Relief #V-120 is attached for review and approval. The applicable tables from the P&V submittal are also attached.

FLORIDA POWER CORPORATION

INSERVICE INSPECTION

RELIEF REQUEST # V-120

CRYSTAL RIVER - UNIT 3

REFERENCE CODE: ASME Boiler and Pressure Vessel Code, Section XI,
1974 Edition through Summer 1975 Addenda.

I. Component for which exemption is requested:

(a) Name and Identification Number: BSV-150 and 151, BST-1 to BS
pump Suction Check Valves

(b) Function: To prevent backflow of borated water from the BWST
into the sodium hydroxide storage tank

(c) ASME Section III Code Class: Class 2

(d) Valve Category: C

II. Reference Code Requirement that has been determined to be impractical:

IWV-3520 (b)(2)

III. Basis for Requesting Relief: This tank, BST-1, is a storage tank for Sodium Hydroxide (NaOH) that will be used for post-LOCA pH control. The building spray system is lined up to the borated water storage tank (BWST) which stores borated water for refueling and post-accident injection through the HPI, LPI and BS systems. The NaOH is not chemically compatible with the borated water, as the boron is an aqueous solution of boric acid. Stroking these check valves could only be accomplished by injecting the NaOH into the borated water at the pump suction and recirculating this mixture to the BWST.

IV. **Alternate Examination:** Florida Power Corporation has a full flow Building Spray test that full stroke opens these valves. This test is performed at five year intervals.

V. **Implementation schedule:** Florida Power Corporation currently meets the Alternate Examination requirements.

TABLE 1 - VALVES BEING TESTED IN ACCORDANCE WITH ASME CODE REQUIREMENTS

SYSTEM NAME: REACTOR BUILDING SPRAY

DRAWING No. FD-302-711

Page 1 of 1
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat.					Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	REMARKS
BSV-1	2	F-8			X			10	CK	SA	-	1	EF-1F	340		
BSV-3	2	F-3		X				8	GL	MO	C	1 1	EF-1F ET-060	370		ESA Signal: Open on RB Isolation. Not subject to Type "C" Leakage Test, See Tech Specs Table 3.6-1
BSV-4	2	E-3		X				8	GL	MO	C	1 1	EF-1F ET-060	370		ESA Signal: Open on RB Isolation. Not subject to Type "C" Leakage Test. See Tech Specs Table 3.6-1
BSV-5	2	F-3		X				4	GA	M	C	1	EF-1F	370		Cross Connect Valves
BSV-6	2	E-3		X				4	GA	M	C	1	EF-1F	370		Cross Connect Valves
BSV-8	2	E-7			X			10	CK	SA	-	1	EF-1F	340		
BSV-11	3	D-6		X				4	GA	MO	C	1	EF-1F	370		
BSV-12	3	D-2		X				4	GA	MO	C	1	EF-1F	370		
BSV-38	3	B-5				X		4	GA	M	LO	1	OC-1	381		
BSV-42	3	A-4			X			2	REL	SA	-	3	TF-3	602		
BSV-43	3	A-4			X			2	REL	SA	-	3	TF-3	602		
BSV-99	3	C-6				X		3	GA	M	LO	1	OC-1	381		
BSV-100	3	C-7				X		3	GA	M	LO	1	OC-1	381		

TABLE 2 - VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME: REACTOR BUILDING SPRAY

DRAWING No. FD-302-711

Page 1 of 1
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat.					Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	Relief Table	REMARKS
BSV-16	2	E-8					X	10	GA	MO	LO	1	OC-1	381		1	
BSV-17	2	G-8					X	10	GA	MO	LO	1	OC-1	381		1	
BSV-26	2	E-2			X			8	CK	SA	C	*	#	620		2	
BSV-27	2	F-2			X			8	CK	SA	C	*	#	620		2	
BSV-36	3	D-4		X				4	GA	MO	C	3 3	EF-3F ET-071	410		3	ESA Signal: Open on RB Isolation
BSV-37	3	D-5		X				4	GA	MO	C	3 3	EF-3F ET-071	410		3	ESA Signal: Open on RB Isolation
BSV-150	2	E-6			X			3	CK	SA	C					V-120	
BSV-151	2	E-7			X			3	CK	SA	C					V-120	

* Either BSV-26 or BSV-27 will be disassembled each refueling outage

Check valves will be disassembled and visually inspected to assure operability.

TABLE 2A
VALVE RELIEF REQUEST BASIS

Basis for Relief:

A full stroke of these valves would introduce sodium hydroxide into the LPI system. Should the valve fail in the open position, the sodium hydroxide would infiltrate the LPI and BWST. This could lead to sodium hydroxide in the HPI system and possibly the RC system. A chemical "clean-up" of the systems would be necessary. This would mean additional radiation waste and make the piping more susceptible to caustic cracking. Should the sodium enter the RCS, it could lead to additional man-rem exposure by activation of the sodium-24.

During cold shutdown, the decay heat (LPI) system is in use. A stroke of the valve could introduce sodium hydroxide in the borated water system. This could increase unit down time to perform a system cleanup and have a chemically damaging effect on safety components.

Alternate Testing:

EF-3F. The subject valves shall be stroked and timed each refueling.

4. See Relief Request #V-120

Q9. The licensee requested specific relief from the Section XI quarterly exercising requirements for valves CFV-2 and 4. The licensee has proposed to partial stroke these valves at refueling outages. It is our position that partial stroking does not provide adequate assurance of valve operability, and that the valves should be either exercised per the Code or internally inspected on a refueling outage frequency.

R9. Florida Power Corporation does perform a partial stroke test of these valves at each refueling shutdown. The test verifies that water does flow from the core flood tanks to the reactor coolant system (RCS) when RCS pressure is reduced below the pressure maintained in the core flood tanks. It is not practicable to design a test which would simulate a large break LOCA and full stroke the valves. Additionally, the system design does not permit leak checking the valves individually in the reverse direction.

Florida Power Corporation proposes to also disassemble one core flood check valve (CFV-1,2,3,4) each refueling outage to internally inspect the check valve mechanism. The revised tables from the P&V submittal are attached. Relief request #V-130 is also attached.

TABLE 2 - VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME: CORE FLOOD

DRAWING No. FD-302-702

Page 1 of 1
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme A	Valve B	Cat. C D E	Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	Relief Table	REMARKS
CFV-1	1	G-4	X	X		14	CK	SA	C	2 3 3	EF-2F EF-3P SLT-2	405		V-130	
CFV-2	1	G-3	X	X		14	CK	SA	C	3 3	EF-3P SLT-2	405		V-130	
CFV-3	1	G-5	X	X		14	CK	SA	C	2 3 3	EF-2F EF-3P SLT-2	405		V-130	
CFV-4	1	G-6	X	X		14	CK	SA	C	3 3	EF-3P SLT-2	405		V-130	
CFV-18	2	A-7	X	X		1	CK	SA	C	3	SLT-1	179	1370	V-170	
CFV-19	2	A-2	X	X		1	CK	SA	C	3	SLT-1	179	1370	V-170	
CFV-17	2	B-7	X	X		1	CK	SA	C	- 3	- SLT-1	-- 179	1370	V-160	
CFV-20	2	B-2	X	X		1	CK	SA	C	- 3	- SLT-1	-- 179	1370	V-160	

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Core Flood (CF)

1. CFV-1 and CFV-3 - See Relief Request #V-130

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Core Flood (CF) (continued)

2. CFV-2 and CFV-4 - See Relief Request #V-130

FLORIDA POWER CORPORATION
INSERVICE INSPECTION
RELIEF REQUEST # V-130
CRYSTAL RIVER - UNIT 3

REFERENCE CODE: ASME Boiler and Pressure Vessel Code, Section XI,
1974 Edition through Summer 1975 Addenda.

I. **Component for which exemption is requested:**

(a) Name and Identification Number:

CFV-1, check valve isolation from "A" train, decay heat and core flood,
to reactor vessel

CFV-2, check valve isolation from "A" core flood tank

CFV-3, check valve isolation from "B" train, decay heat and core flood,
to reactor vessel

CFV-4, check valve isolation from "B" core flood tank

(b) Function: These valves are in the flow path from the core flood tanks to the reactor coolant system (RCS). These valves provide passive isolation from the higher pressure RCS to the low pressure core flood tanks and the decay heat system and between the core flood tanks and the decay heat system. See the attached sketch for the layout of the valves.

(c) ASME Section III Code Class: Class 1

(d) Valve Category: A/C

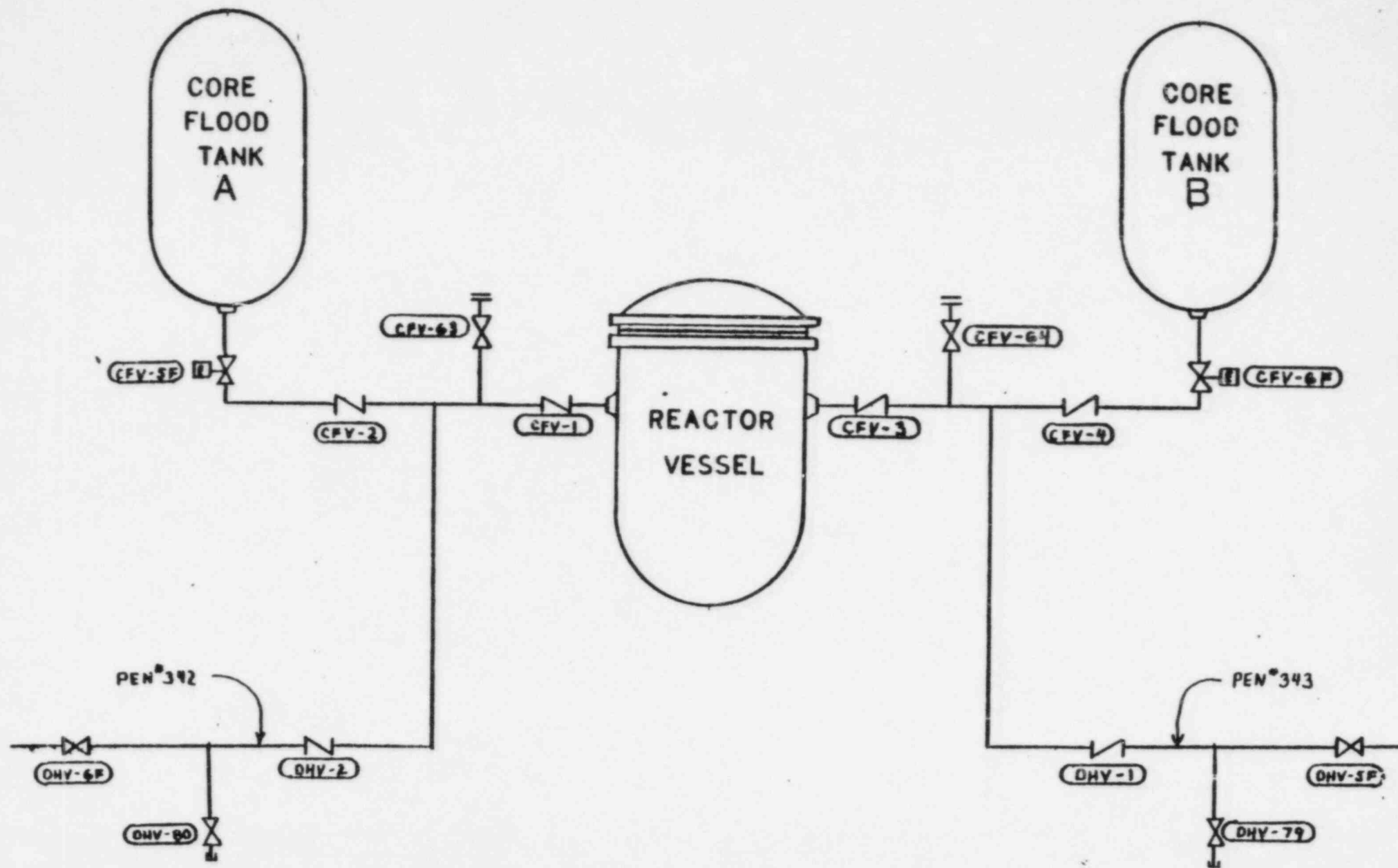
II. **Reference Code Requirement that has been determined to be impractical:**

IWV-3420

IWV-3520(b)(2)

III. **Basis for Requesting Relief:** In both trains, the two check valves are in series, and therefore both cannot be tested for leak tightness. Additionally, due to the magnitude of the design flow for the core flood lines, these valves can not be demonstrated to fully open utilizing a flow test.

- IV. **Alternate Examination:** One of the four check valves will be opened for internal inspection at each refueling. After each valve has been opened once, an evaluation will be made and the frequency adjusted. If no problems have been evidenced the frequency will be extended to one valve every second refueling.
- V. **Implementation Schedule:** The Alternate Examination program will begin in 1987 during Refuel VI.



Q10. At the working meeting of March 1 and 2, 1983, the licensee was asked the question (E-2):

How are check valves CFV-17 and 20 verified to close, their safety-related position, when they are full-stroke exercised quarterly?

These valves only perform a function important to safety in the closed position; therefore, the quarterly exercising of these valves open will be deleted from the IST program and the licensee will provide a request for relief from the Section XI exercising requirements. These valves will be verified shut by the Appendix J leak rate tests performed during refueling outages.

The changes were not made to the program (Reference 1). We have tentatively concluded that the valves cannot be exercised quarterly as the licensee claims. Therefore, so that we can verify the testing that is performed, we request that the licensee provide a copy of the procedure for exercising these valves quarterly.

R10. Florida Power Corporation has not revised the program since the meeting was held on March 1 and 2, 1983. Relief request #V-160 which addresses these valves is attached. The revised pages from the pump & valve program for these valves are also attached.

FLORIDA POWER CORPORATION
INSERVICE INSPECTION
RELIEF REQUEST #V-160
CRYSTAL RIVER - UNIT 3

REFERENCE CODE: ASME Boiler and Pressure Vessel Code, Section XI,
1974 Edition through Summer 1975 Addenda.

I. **Component for which exemption is requested:**

(a) Name and Identification Number:

Core flood tank nitrogen supply line isolation check valves (CFV-17 and CFV-20).

(b) Function:

Provide isolation for penetrations 123 and 124 (inside containment).

(c) ASME Section III Code Class:

Class II

(d) Valve Category:

A/C

II. **Requirement that has been determined to be impractical:**

Quarterly valve exercise requirement of subsection IWV-3520(b)(2).

III. **Basis for Requesting Relief:**

The core flood tanks have a static inventory of borated water with 600 psi pressure applied through a regulated nitrogen gas system. The normal position of these valves and the position to fulfill their function is closed. Stroke testing would not provide assurance that these valves would perform their intended function. Therefore, stroke testing is unnecessary.

IV. **Alternate Examination:**

This valve is subject to 10CFR50 Appendix J Type C leak-rate testing at each refueling which will verify proper valve closure.

V. **Implementation Schedule:**

This will be implemented during Refuel V, scheduled to begin in March, 1985.

TABLE 1 - VALVES BEING TESTED IN ACCORDANCE WITH ASME CODE REQUIREMENTS

SYSTEM NAME: CORE FLOOD

DRAWING No. FD-302-702

Page 1 of 2
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat. A B C D E					Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	REMARKS
CFV-11	2	E-3	X					1	GL	MO	C	1 1 3	EF-1F ET-060 SLT-1	370 179	1370	ESA Signal: RB Isolation
CFV-12	2	E-5	X					1	GL	MO	C	1 1 3	EF-1F ET-060 SLT-1	370 179	1370	ESA Signal: RB Isolation
CFV-15	2	B-6	X					1	GA	MO	C	1 1 3	EF-1F ET-060 SLT-1	370 179	1370	ESA Signal: RB Isolation
CFV-16	2	B-3	X					1	GA	MO	C	1 1 3	EF-1F ET-060 SLT-1	370 179	1370	ESA Signal: RB Isolation
CFV-23	1	A-6		X				1	REL	SA	-	3	TF-3	602		
CFV-24	2	A-2		X				1	REL	SA	-	3	TF-3	602		

TABLE 2 - VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME: CORE FLOODING

DRAWING No. FD-302-702

Page 1 of 1
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme A	Valve B	Cat. C	D	E	Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	Relief Table	REMARKS
CFV-1	1	G-4	X	X				14	CK	SA	C	2 3 3	EF-2F EF-3P SLT-2	405		V-130	
CFV-2	1	G-3	X	X				14	CK	SA	C	3 3	EF-3P SLT-2	405		V-130	
CFV-3	1	G-5	X	X				14	CK	SA	C	2 3 3	EF-2F EF-3P SLT-2	405		V-130	
CFV-4	1	G-6	X	X				14	CK	SA	C	3 3	EF-3P SLT-2	405		V-130	
CFV-18	2	A-7	X	X				1	CK	SA	C	3	SLT-1	179	1370	V-170	
CFV-19	2	A-2	X	X				1	CK	SA	C	3	SLT-1	179	1370	V-170	
CFV-17	2	B-7	X	X				1	CK	SA	C	- 3	- SLT-1	- 179	- 1370	V-160	
CFV-20	2	B-2	X	X				1	CK	SA	C	- 3	- SLT-1	- 179	- 1370	V-160	

Q11. At the working meeting of March 10, 1983, the licensee was asked the following (E-4):

Provide a more detailed technical justification for not full-stroke exercising valves CFV-18 and 19 quarterly.

Licensee's Response:

The only function important to safety that these valves perform is in the closed position. The licensee will, therefore, delete the quarterly stroke testing of these valves to the open position from the IST program and will request relief from the Section XI exercising requirements. These valves will be verified shut by the Appendix J leak rate tests performed during the refueling outages.

The change was not made to the program (Reference 1). We have tentatively concluded that the valves cannot be exercised quarterly as the licensee claims. So that we can verify the testing that is performed, we request that the licensee provide a copy of the procedure for exercising these valves quarterly.

R11. The issue raised for valves CFV-18 and 19 is the same issue described in Question 10 above. Relief request #V-170 which addresses valves CFV-18 and 19 is attached. The revised pages from the pump and valve program for these valves are also attached.

FLORIDA POWER CORPORATION
INSERVICE INSPECTION
RELIEF REQUEST #V-170
CRYSTAL RIVER - UNIT 3

REFERENCE CODE: ASME Boiler and Pressure Vessel Code, Section XI,
1974 Edition through Summer 1975 Addenda.

- I. **Components for which exemption is requested:**
 - (a) Name and Identification Number:
Core flood tank borated water supply line isolation check valves
(CFV-18 and CFV-19)
 - (b) Function:
Provide isolation for penetrations 350 and 372 (inside
containment).
 - (c) ASME Section III Code Class:
Class II
 - (d) Valve Category:
A/C
- II. **Requirement that has been determined to be impractical:**
Quarterly valve exercise requirement of subsection IWV-3520(b)(2)
- III. **Basis for Requesting Relief:**
The core flood tanks have a static inventory of borated water. The
major loss of inventory results from sampling for chemical assay.
Makeup of borated water is not periodic and is not sufficient to full
stroke open these valves. The normal position of these valves and
the position required to fulfill their intended function is closed.
Stroke testing would not provide assurance that these valves would
perform their intended function. Therefore, stroke testing is
unnecessary.
- IV. **Alternate Examination:**
This valve is subject to 10 CFR 50, Appendix J., Type C leak rate
testing at each refueling which will verify proper valve closure.
- V. **Implementation Schedule:**
This will be implemented during Refuel V, scheduled to begin in March,
1985.

TABLE 2 - VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME: CORE FLOODING

DRAWING No. FD-302-702

Page 1 of 1
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme A	Valve B	Cat. C D E	Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	Relief Table	REMARKS
CFV-1	1	G-4	X	X		14	CK	SA	C	2 3 3	EF-2F EF-3P SLT-2	405		V-130	
CFV-2	1	G-3	X	X		14	CK	SA	C	3 3	EF-3P SLT-2	405		V-130	
CFV-3	1	G-5	X	X		14	CK	SA	C	2 3 3	EF-2F EF-3P SLT-2	405		V-130	
CFV-4	1	G-6	X	X		14	CK	SA	C	3 3	EF-3P SLT-2	405		V-130	
CFV-18	2	A-7	X	X		1	CK	SA	C	3	SLT-1	179	1370	V-170	
CFV-19	2	A-2	X	X		1	CK	SA	C	3	SLT-1	179	1370	V-170	
CFV-17	2	B-7	X	X		1	CK	SA	C	- 3	- SLT-1	- 179	1370	V-160	
CFV-20	2	B-2	X	X		1	CK	SA	C	- 3	- SLT-1	- 179	1370	V-160	

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Core Flood (CF) (continued)

Core flood system inventory can be controlled through the blowdown and sampling line. Level and pressure instrumentation with high alarms are on the core flood tanks. Relief capacity is provided by safety relief valves CFV-23 and CFV-24 of 1288 cfm of air or 3978 lbs/hr. saturated steam.

3. Valves:

CFV-18 and CFV-19 - See Relief Request #V-170

Q12. The licensee requested specific relief from the exercising and stroke time test requirements of Section XI for valves DHV-110 and 111 and proposed to operationally test these valves during the decay heat removal system inservice operational tests. We have concluded that system operational testing is not adequate, because it does not guarantee that these valves will be exercised at the required frequency or at a full stroke. In the working meeting of March 1 and 2, 1983, the licensee agreed to provide additional information on valve fail-safe position and demonstrate that in the throttled position design accident flow rate from the decay heat pumps would not be restricted (H-5). The additional information was not provided and, therefore, we have concluded that relief should not be granted.

R12. A change to the monthly pump test procedure will be made within 90 days after NRC approval of the pump & valve program. The change will require valves DHV-110 and 111 to be tested prior to the pump test. Performance of the tests in this order verifies that the valves perform their intended function.

The valves do not have a "fail-safe" position; they fail as-is on loss of power. There is no fail-safe testing required for these valves. If there is a loss of power to these valves the valve operator will fail as-is, i.e., there is no "fail-safe" position. This is due to the logic in the control system. The valves automatically maintain a flow of 3000 gpm by controlling on a flow signal from a downstream flow instrument. With the pumps off (no flow), the valves have moved to the full open position. A failure of the valves under these conditions leaves them full open. With the pumps running the valves close only as far as required to maintain 3000 gpm, thus a failure at this point would leave the system operating at the design point.

Q13. The licensee requested specific relief from the exercising requirements of Section XI for valves FWV-45 and 46. The licensee proposes to not exercise these valves. We have concluded that these valves should be tested in compliance with the requirements of Section XI. It is our position that the licensee should modify the system so testing can be performed, or institute a valve partial disassembly program on a refueling outage frequency.

R13. In discussions with the NRC, it was determined that valves FWV-45 and 46 need not be designated as one of the two valves required for separation between the high and low pressure sections of the feedwater system. FPC proposes to designate valves FWV-22 and 23 instead and to test them at refueling intervals by verifying no backwards rotation of the pump when only the opposite pump is running and the cross-connect valve (FWV-28) is open. The feedwater pumps are turbine driven and have reflective tape on the shaft for speed measurement using a phototachometer, thus would be set up for this type of verification test. The revised table from the P&V submittal is attached.

TABLE 1 - VALVES BEING TESTED IN ACCORDANCE WITH ASME CODE REQUIREMENTS

SYSTEM NAME: FEEDWATER

DRAWING No. FD-302-081

Page 1 of 1
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat.					Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	REMARKS
FWV-161	2	E-2	X					6	GL	MO	O	1 1	EF-1F ET-040	370		MSRM
FWV-162	2	E-1	X					6	GL	MO	O	1 1	EF-1F ET-040	370		MSRM
FWV-22	-	B-3			X			18	SCK	MO	O	3	EF-3F	*		
FWV-23	-	B-1			X			18	SCK	MO	O	3	EF-3F	*		

*A Surveillance Procedure will be developed to test these valves within 90 days of Program approval.

Q14. During the working meeting of March 1 and 2, 1983, the licensee agreed to investigate whether or not the atmospheric steam dump valves, MSV-25 and 26, belonged in the program (Q-2). The valves were not added to the program and no further discussion has been provided. We have concluded that these valves perform a function important to safety and, therefore, should be included in the IST program.

R14. Florida Power Corporation performs the valve stroke exercising test of the atmospheric steam dump valves, MSV-25 and 26, as required by the Code during startup operations. The revised pages from the pump and valve program which include these test requirements are attached.

TABLE 1 - VALVES BEING TESTED IN ACCORDANCE WITH ASME CODE REQUIREMENTS

SYSTEM NAME: MAIN & REHEAT STEAM

DRAWING No. FD-302-011

Page 1 of 2
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat.					Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	REMARKS
MSV-33	2	A-1			X			6	REL	SA	-	3	TF-3	650		
MSV-34	2	B-2			X			6	REL	SA	-	3	TF-3	650		
MSV-35	2	C-2			X			6	REL	SA	-	3	TF-3	650		
MSV-36	2	D-3			X			6	REL	SA	-	3	TF-3	650		
MSV-37	2	A-1			X			6	REL	SA	-	3	TF-3	650		
MSV-38	2	B-2			X			6	REL	SA	-	3	TF-3	650		
MSV-39	2	C-2			X			6	REL	SA	-	3	TF-3	650		
MSV-40	2	B-2			X			6	REL	SA	-	3	TF-3	650		
MSV-41	2	D-3			X			6	REL	SA	-	3	TF-3	650		
MSV-42	2	A-2			X			6	REL	SA	-	3	TF-3	650		
MSV-43	2	B-2			X			6	REL	SA	-	3	TF-3	650		
MSV-44	2	C-3			X			6	REL	SA	-	3	TF-3	650		
MSV-45	2	D-3			X			6	REL	SA	-	3	TF-3	650		
MSV-25	2	C-1		X				6	GA	A	C	2	EF-2F	-		Done by OP-202
MSV-26	2	F-1		X				6	GA	A	C	2	EF-2F	-		Done by OP-202

TABLE 3- VALVES EXEMPT FROM TESTING

SYSTEM NAME: MAIN STEAM & REHEAT

DRAWING No. FD-302-011

Page 1 of 7
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Valve Function	REMARKS
MSV-18	2	H-3	Instrument Isolation	
MSV-27	2	B-2	Isolation Valve	
MSV-28	2	D-4	Isolation Valve	
MSV-73	2	E-1	Instrument Isolation	
MSV-74	2	F-3	Instrument Isolation	
MSV-75	2	F-4	Instrument Isolation	
MSV-76	2	F-5	Instrument Isolation	
MSV-77	2	F-2	Instrument Isolation	
MSV-78	2	F-2	Instrument Isolation	
MSV-79	2	F-2	Instrument Isolation	
MSV-80	2	G-3	Instrument Isolation	
MSV-81	2	G-3	Instrument Isolation	
MSV-82	2	H-3	Instrument Isolation	
MSV-83	2	H-3	Instrument Isolation	

Q15. In the working meeting of March 1 and 2, 1983, the licensee agreed to change valves MSV-55 and 56 from Category C to Category B/C (Q-1). The licensee also agreed to exercise and stroke-time these valves in the open and closed directions. There is no indication that the changes were made. The program for these valves is, therefore, unacceptable.

R15. A change to the quarterly valve exercising procedure will be made within 90 days of NRC approval of the pump and valve program. The change will add valves MSV-55 and 56 to this procedure. The revised page from the pump and valve program which includes the category change and the exercise and stroke time requirements for these valves is attached.

TABLE 1 - VALVES BEING TESTED IN ACCORDANCE WITH ASME CODE REQUIREMENTS

SYSTEM NAME: MAIN & REHEAT STEAM

DRAWING No. FD-302-011

Page 2 of 2
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat. A B C D E	Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	REMARKS
MSV-46	2	A-2	X	6	REL	SA	-	3	TF-3	650		
MSV-47	2	C-3	X	6	REL	SA	-	3	TF-3	650		
MSV-48	2	D-3	X	6	REL	SA	-	3	TF-3	650		
MSV-55	2	B-3	X X	6	SCK	MO	O	1 1	EF-1F ET-060	370		
MSV-56	2	D-4	X X	6	SCK	MO	O	1 1	ET-1F ET-060	370		
MSV-114	2	E-2		X	1-1/2	GL	M	LC	1	OC-1	381	
MSV-128	2	K-2		X	4	GL	M	LC	1	OC-1	381	
MSV-132	2	E-5		X	1-1/2	GL	M	LC	1	OC-1	381	
MSV-146	2	K-4		X	4	GL	M	LC	1	OC-1	381	
MSV-184	2	J-3		X	3	GL	M	LC	1	OC-1	381	
MSV-185	2	J-1		X	3	GL	M	LC	1	OC-1	381	
MSV-186	3	E-7	X	6	CK	SA	C	1	EF-1F	370		DWG.NO. FD-302-051. (AS) SYSTEM.
MSV-187	3	E-7	X	6	CK	SA	C	1	EF-1F	370		DWG.NO. FD-302-051. (AS) SYSTEM.

Q16. The licensee has requested relief from the leak rate testing requirements for the following pressure isolation valves. It is the licensee's intention to use installed instrumentation to monitor valve leak-tight integrity. However, the proposed method does not provide adequate assurance that the leak-tight integrity of each valve is verified individually.

CFV-1	MUV-36
CFV-3	MUV-37
CFV-2	MUV-42
CFV-4	MUV-160
DHV-3	MUV-163
DHV-4	MUV-164

We have concluded that this relief request should be denied.

R16. Valves CFV-1, 2, 3, and 4, are addressed in the responses to questions 9 and 21. Since the required testing cannot be performed, Florida Power Corporation intends to disassemble one of the four check valves at each refueling. Partial stroke testing and seat leak testing being performed now will continue.

For valves DHV-3 and 4, Florida Power Corporation proposes to perform an exercise test and a leak test during startup operations from cold shutdown. The delta-P for these valves will be the factor that determines where in the startup sequence the test occurs. The valves are interlocked to prevent opening when the RCS temperature is equal to or greater than 280°F. The valves must be tested prior to that point. Additionally, the valves must be tested after the decay heat system is secured as there is no redundant decay heat drop line. Florida Power Corporation is investigating the maximum safe operating delta-P for these valves, which may become a deciding factor in when the test can be safely performed. Florida Power Corporation further proposes to perform the test using an acceptance criteria of 1/2-gpm per inch nominal pipe size for these valves. The revised tables from the P&V submittal are attached.

For the makeup check valves, Florida Power Corporation has determined that these are not Category A valves, based on discussions with NRC personnel. Florida Power Corporation intends to categorize valves MUV-23, 24, 25, and 26, plus valves MUV-2, 6, and 10, as the two barriers between the high and low pressure systems. Due to system configuration, valves MUV-23, 24, and 10 will have to be tested together, and valves MUV-25, 26, and 2 will have to be tested together. Valve MUV-6 may be tested with either set. Florida Power Corporation also proposes to use the 1/2-gpm per inch nominal pipe size acceptance criteria for each valve. The revised tables from the P&V submittal are attached.

TABLE 1 - VALVES BEING TESTED IN ACCORDANCE WITH ASME CODE REQUIREMENTS

SYSTEM NAME: DECAY HEAT REMOVAL

DRAWING No. FD-302-641

Page 1 of 2
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat.					Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	REMARKS
DHV-5	2	D-6	X					10	GA	MO	C	2 2	EF-1F ET-015	435		
DHV-6	2	B-6	X					10	GA	MO	C	2 2	EF-1F ET-015	435		
DHV-7	2	C-8	X					8	GA	M	C	1	EF-1F ET-45	370		
DHV-8	2	D-8	X					8	GA	M	C	1	EF-1F ET-45	370		
DHV-11	2	D-10	X					4	GA	MO	C	1 1	EF-1F ET-060	370		
DHV-12	2	B-12	X					4	GA	MO	C	1 1	EF-1F ET-060	370		
DHV-17	2	F-10		X				1/2	REL	SA	-	3	TF-3	602		
DHV-28	2	F-12		X				1/2	REL	SA	-	3	TF-3	602		
DHV-33	2	H-13		X				14	CK	SA	-	1	EF-1F	340		
DHV-34	2	H-13	X					14	GA	MO	0	1 1	EF-1F ET-025	370		ESA Signal: LPI
DHV-3	1	D-2	X					12	GA	MO	C	3	EF-3F SLT-2#	370*		
DHV-4	1	F-3	X					12	GA	MO	C	3	EF-3F SLT-2#	370*		

* SP-370 will be revised within 90 days of Program approval to test these valves.

SLT-2 Acceptance Criteria 1/2 gpm per inch nominal pipe size

TABLE 2 - VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME: DECAY HEAT REMOVAL

DRAWING No. FD-302-641

Page 1 of 2
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme A	Valve B	Cat. C D E	Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	Relief Table 2A	REMARKS
DHV-1	I	D-2	X	X		10	CK	SA	C	2 3	EF-2F SLT-2	435 603	1 gpm	1	
DHV-2	I	B-4	X	X		10	CK	SA	C	2 3	EF-2F SLT-2	435 603	1 gpm	1	

TABLE 2A
VALVE RELIEF REQUEST BASIS

Decay Heat Removal (DH) (continued)

TABLE 1 - VALVES BEING TESTED IN ACCORDANCE WITH ASME CODE REQUIREMENTS

SYSTEM NAME: MAKEUP & PURIFICATION

DRAWING No. FD-302-661

Page 3 of 3
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat. A B C D E	Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	REMARKS
MUV-139	3	G-11	X	1	REL	SA	-	3	TF-3	602		
MUV-150	3	A-6	X	1-1/4	REL	SA	-	3	TF-3	602		
MUV-158	3	D-13	X	2-1/2	GL	M	C	1	EF-1F	370		
MUV-162	2	F-4	X	4	CK	SA	-	1	EF-1F	370		
MUV-178	3	G-10	X	1-1/2	REL	SA	-	3	TF-3	602		
MUV-2	2	H-6	X	3	SCK	SA	TH	1	EF-1F	340		
MUV-6	2	H-8	X	3	SCK	SA	TH	1	EF-1F	340		
MUV-10	2	H-9	X	3	SCK	SA	TH	1	EF-1F	340		

TABLE 2 - VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME: MAKEUP AND PURIFICATION

DRAWING No. FD-302-661

Page 1 of 4
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat. A B C D E	Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	Relief Table	REMARKS
MUV-1	2	H-6	X	3	CK	SA	C	1	EF-1P	370		V-180	
MUV-5	2	G-7	X	1	GL	M	C	-	PV-1			2	
MUV-7	2	H-8	X	3	CK	SA	O	1	EF-1P	370		V-180	
MUV-11	2	H-9	X	3	CK	SA	C	1	EF-1P	370		V-180	
MUV-18	2	F-4	X	4	GA	MO	O	2 2	EF-2F ET-030	435		5	
MUV-27	2	F-6	X	2-1/2	GA	MO	O	2 2	EF-2F ET-060	435		6	ESA Signal: RB Isolation Not subject to Ty "C" Testing. Tech. Specs. Table 3.6-1

Q17. In the working meeting of March 1 and 2, the licensee stated that valves MUV-1, 7, 11, 36, 37, 42, 43, 160, 161, 163 and 164 are not full-stroke exercised (R-3). MUV-1, 7, and 11 would be partial stroke exercised at cold shutdown and full stroke exercised during the system balance procedure after maintenance or system modification. MUV-36, 37, 42, 160, 163, and 164 are partial stroke exercised at cold shutdown. MUV-43 and 161 are partial stroke exercised quarterly and full stroked after maintenance or system modification during the system balance procedure. The licensee's resubmittal program (Reference 1) did not demonstrate these variances from the Code and no relief requests were submitted. In the resubmittal program the licensee stated that valves MUV-1, 7, 11, 43 and 162 would be partial stroke exercised at cold shutdown. We have tentatively concluded that full stroke exercising these valves at cold shutdown could lead to low temperature overpressurization. It is our position that the licensee should re-evaluate the testing requirements of these valves and make the appropriate changes to the program or provide additional justification as to why the testing shown in the resubmittal program is acceptable.

R17. Florida Power Corporation agrees that an attempt to full stroke open these valves at cold shutdown could result in a low temperature overpressurization transient and proposes not to perform this testing. FPC can partially stroke these valves at each cold shutdown, and proposes to do so. Further, FPC proposes that any flow balance test performed to satisfy Standard Technical Specification 4.5.2(g) will be considered documentation of full stroke exercising these valves. The flow balance test verifies that the valves open sufficiently to allow the design analyzed flow to the RCS at a specified RCS pressure. This test is not run periodically, only after a modification to the system that affects the flow balance or total flow passable. Relief requests #V-180 and V-190 are attached to document these alternatives to the Section XI frequency.

FLORIDA POWER CORPORATION
INSERVICE INSPECTION
RELIEF REQUEST #V-180
CRYSTAL RIVER - UNIT 3

REFERENCE CODE: ASME Boiler and Pressure Vessel Code, Section XI,
1974 Edition through Summer 1975 Addenda.

I. **Component for which exemption is requested:**

(a) Name and Identification Number:

Makeup pump discharge check valves (MUV-1, 7, and 11)

(b) Function:

To prevent backflow through an idle makeup pump, while one of the other pumps charges the common discharge header and provides makeup to the RCS

(c) ASME Section III code Class:

Class II

(d) Valve Category:

C

II. **Requirement that has been determined to be impractical:**

Quarterly valve exercise requirements of subsections IWV-3520(a) and IWV-3520(b)(2).

III. **Basis for Requesting Relief:**

These valves are partially stroked during each test of the makeup pumps and one of the pumps is always running. However, the flow rates are not sufficient to full stroke open these valves in this recirculation mode. Full stroke exercising of these valves at cold shutdown could subject the reactor coolant system to low temperature overpressurization.

IV. **Alternate Examination:**

These valves will be partially stroked exercised quarterly. These valves are full stroke exercised following modifications to the system which requires that the flow balancing procedure be performed.

V. **Implementation Schedule:**

This will be implemented within 90 days of approval of this relief request.

FLORIDA POWER CORPORATION
INSERVICE INSPECTION
RELIEF REQUEST #V-190
CRYSTAL RIVER - UNIT 3

REFERENCE CODE: ASME Boiler and Pressure Vessel Code, Section XI,
1974 Edition through Summer 1975 Addenda.

I. **Component for which exemption is requested:**

(a) Name and Identification Number:

Makeup system to RCS check valves (MUV-36, 37, 42 and 43 and
160, 161, 163 and 164).

(b) Function:

To prevent backflow from RCS into the makeup system.

(c) ASME Section III Code Class:

Class I

(d) Valve Category:

C

II. **Requirement that has been determined to be impractical:**

The check valve exercise requirements of IWV-3520(a) and
IWV-3520(b)(2).

III. **Basis for Requesting Relief:**

These valves cannot be exercised during power operation and cannot
be full stroke exercised at cold shutdown due to the possibility
of causing a low temperature overpressurization transient.

IV. **Alternate Examination:**

These valves are partially stroke exercised following modification
to the system that requires the flow balancing procedure.

V. **Implementation Schedule:**

The alternate examination will be required at the end of Refuel V,
scheduled to begin in March, 1985.

TABLE 2 - VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME: MAKEUP AND PURIFICATION

DRAWING No. FD-302-661

Page 1 of 4
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat.					Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	Relief Table	REMARKS
MUV-1	2	H-6			X			3	CK	SA	C	1	EF-1P	370		V-180	
MUV-5	2	G-7		X				1	GL	M	C	-	PV-1			2	
MUV-7	2	H-8			X			3	CK	SA	O	1	EF-1P	370		V-180	
MUV-11	2	H-9			X			3	CK	SA	C	1	EF-1P	370		V-180	
MUV-18	2	F-4		X				4	GA	MO	O	2 2	EF-2F ET-030	435		5	
MUV-27	2	F-6		X				2-1/2	GA	MO	O	2 2	EF-2F ET-060	435		6	ESA Signal: RB Isolation Not subject to Type "C" Testing. Tech. Specs. Table 3.6-1

TABLE 2 - VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME: MAKEUP AND PURIFICATION

DRAWING No. FD-302-661

Page 2 of 4
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat. A B C D E	Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	Relief Table	REMARKS
MUV-36	1	H-3	X X	2-1/2	CK	SA	C	2	EF-2F	435		V-190	
MUV-37	1	J-3	X X	2-1/2	CK	SA	C	2	EF-2F	435		V-190	
MUV-42	1	D-2	X X	2-1/2	CK	SA	C	2	EF-2F	435		V-190	
MUV-43	1	E-3	X	2-1/2	CK	SA	O	2 1	EF-2F EF-1P	435 370		8	
MUV-49	2	B-4	X	2-1/2	GA	A	O	2 2 2 3	EF-2F EF-6 ET-060 SLT-1	435 179	5650	9	ESA Signal: RB Isolation
MUV-53	2	D-6	X	4	GL	MO	O	2 2	EF-2F ET-046	435		3	ESA Signal: HPI Isolation
MUV-60	2	K-6	X	6	CK	SA	C	2	EF-2F	435		11	
MUV-64	2	K-9	X	4	GA	A	O	2 2 2	EF-2F EF-6 ET-040	435		12	ESA Signal: HPI
MUV-65	3	K-10	X	4	CK	SA	C	2	EF-2F	435		13	

TABLE 2 - VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME: MAKEUP AND PURIFICATION

DRAWING No. FD-302-661

Page 3 of 4
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat. A B C D E	Size in Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	Relief Table	REMARKS
MUV-72	2	J-10	X		6	CK	SA	C	2	EF-2F	435	11	
MUV-147	2	H-10		X	2	GL	M	LO	1	OC-1	381	2	
MUV-150	1	D-4	X		2-1/2	CK	SA	C	2	EF-2F	435	V-190	
MUV-161	1	E-4	X		2-1/2	CK	SA	O	2 1	EF-2F EF-1P	435 370	8	
MUV-163	1	H-4	X		2-1/2	CK	SA	-	2	EF-2F	435	V-190	
MUV-164	1	J-4	X		2-1/2	CK	SA	-	2	EF-2F	435	V-190	
MUV-253	2	C-5	X		1	GL	A	O	2 2 2 3	EF-2F EF-6 ET-060 SLT-1	435 179	2260 15	ESA Signal: RB ISOLATION
MUV-257	2	D-6	X		4	GL	MO	O	2 2	EF-2F ET-025	435	3	ESA Signal: HPI
MUV-258	2	C-2	X		1	GL	MO	O	2 2 3	EF-2F ET-060 SLT-1	435 179	2260 15	ESA Signal: RB Isolation

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Make-up and Purification (MU)

1. Valves: MUV-1, MUV-7, and MUV-11 - See Relief Request #V-180

2. Valves: MUV-5

Function: Manual control valve used to fill the coreflood tank from the makeup system.

Valves: MUV-147, MUV-264, MUV-266

Function: Makeup pumps 1A, 1B and 1C recirculation block valves at the pumps.

Test Requirements: EF-1F.

Basis for Relief: These are passive valves not required to change position for normal or safety shutdown of the reactor.

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Make-up and Purification (MU) (continued)

6. Valves:	MUV-27
Function:	Normal make up isolation block valve to reactor coolant system.
Test Requirements:	EF-1F
Basis for Relief:	Should this valve stick in the closed position during a full stroke during normal plant operation, the normal means of pressurizer level control is removed. This could cause a potential unsafe plant condition. Valve is not designed for part stroking.
Alternate Testing:	EF-2F. Valve shall be full stroked and timed during cold shutdown.
7. Valves:	MUV-36, MUV-37, MUV-42 - See Relief Request #V-190

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Make-up and Purification (MU) (continued)

8. Valves:	MUV-43
Function:	This valve is the first of two partially open valves which provides makeup to the RC System. The valve opens to provide HPI to the RC system in the ESA mode.
Valves:	MUV-161
Function:	This valve is the second of two partially open valves which provide makeup to the RC system. The valve opens to provide HPI to the RC system in the ESA mode.
Test Requirements:	EF-1F
Basis for Relief:	These check valves are part stroked opened during normal plant operation. This is verified through the makeup injection flow, i.e., pressurizer level control. Full stroke of these valves at normal plant operation would require injection of makeup to the RC System. This would result in a pressurizer level rise virtually uncontrolled subjecting the plant to a potentially unsafe condition.

Q18. The licensee requested specific relief from the quarterly exercising requirements of Section XI for valves MUV-2, 6 and 10, and proposed to partial stroke these valves quarterly and full stroke at cold shutdown. The basis for relief was that full stroke exercising requires injecting into the core through the HPI nozzles. This type of evolution during power operation would result in a thermal cycle transient on the HPI nozzle. We do not agree with the licensee's basis. In the working meeting, the licensee informed us that these valves mechanical operators on them (R-3) and are located outside the containment, thus making it possible to exercise these valves quarterly without injecting into the core. Therefore, we have concluded that relief should not be granted because it is possible to exercise these valves and meet the requirements of the code.

R18. A change to the quarterly valve stroking procedure will be initiated. This change will add valves MUV-2, 6 and 10 to the procedure and be implemented within 90 days after NRC approval of the pump and valve program. The revised tables from the Pump and Valve Program are attached.

TABLE 1 - VALVES BEING TESTED IN ACCORDANCE WITH ASME CODE REQUIREMENTS

SYSTEM NAME: MAKEUP & PURIFICATION

DRAWING No. FD-302-661

Page 3 of 3
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat.					Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	REMARKS
MUV-139	3	G-11			X			1	REL	SA	-	3	TF-3	602		
MUV-150	3	A-6			X			1-1/4	REL	SA	-	3	TF-3	602		
MUV-158	3	D-13		X				2-1/2	GL	M	C	1	EF-1F	370		
MUV-162	2	F-4			X			4	CK	SA	-	1	EF-1F	370		
MUV-178	3	G-10			X			1-1/2	REL	SA	-	3	TF-3	602		
MUV-2	2	H-6			X			3	SCK	SA	TH	1	EF-1F	340		
MUV-6	2	H-8			X			3	SCK	SA	TH	1	EF-1F	340		
MUV-10	2	H-9			X			3	SCK	SA	TH	1	EF-1F	340		

TABLE 2 - VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME: MAKEUP AND PURIFICATION

DRAWING No. FD-302-661

Page 1 of 4
DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat. A B C D E	Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	Relief Table	REMARKS
MUV-1	2	H-6	X	3	CK	SA	C	1	EF-1P	370		V-180	
MUV-5	2	G-7	X	1	GL	M	C	-	PV-1			2	
MUV-7	2	H-8	X	3	CK	SA	O	1	EF-1P	370		V-180	
MUV-11	2	H-9	X	3	CK	SA	C	1	EF-1P	370		V-180	
MUV-18	2	F-4	X	4	GA	MO	O	2 2	EF-2F ET-030	435		5	
MUV-27	2	F-6	X	2-1/2	GA	MO	O	2 2	EF-2F ET-060	435		6	ESA Signal: RB Isolation Not subject to Type "C" Testing. Tech. Specs. Table 3.6-1

Q19. In the resubmittal program (Reference 1), the licensee indicated that valves MUV-60 and 72 will be full flow stroke exercised at cold shutdown. We do not see how this will be done without resulting in a low-temperature overpressurization of the RCS. We request the licensee to verify the procedure. The licensee was also to verify if these valves were important to safety in the closed position (R-7). In the resubmittal, the licensee did not address these discrepancies. It is our position and should be periodically verified to shut.

R19. Florida Power Corporation does not full flow stroke exercise these valves at cold shutdowns. Relief request #V-200 documenting an adequate alternate test is attached.

These valves, MUV-60 and 72, have been determined to be Category C valves and not category A/C valves. This is based on the following:

- 1) These valves are never challenged with reverse dP during normal operations, startup or shutdown evolutions.
- 2) During accident or transient conditions, in which an Engineered Safeguards injection has occurred and the Borated Water Storage Tank (BWST) has been exhausted, these valves can be challenged with reverse dP only when the High Pressure Injection (HPI) pumps are in service with suction from the Low Pressure Injection (LPI) pump discharge. The flow path would be from the Reactor Building (RB) Sump to the LPI pumps to the Decay Heat System Heat Exchangers to DHV-11 and 12 (piggyback cross-connect valves) to the HPI pumps to the Reactor Vessel and back to the RB Sump. These can be found on flow diagrams FD-302-641 and FD-302-661.
- 3) Each decay heat/low pressure injection pump (DHP) is capable of delivering ten times more flow than each makeup/high pressure injection pump (MUP).
- 4) During the accident evolution described in (2) above, valves MUV-58 and 73 are closed by the operator as a procedural requirement. This procedure also requires, when these valves are closed, that DHV-34 and 35 be opened. This provides an open flow path to the DHP suction.

Any leakage past the seat of MUV-60 and 72 is inconsequential since the flow path is always provided to the MUP suction. Additionally, any leakage past the seat would reenter the decay heat system between the BWST and the DHP's. Since the DHP's are at a lower elevation than the BWST, there would be a recirculation path set up through the decay heat system and very little or no flow would run back up into the BWST. With valves DHV-34 and 35 open, the BWST and the RB Sump would act as a common hydraulic source for the DHP suction.

**FLORIDA POWER CORPORATION
INSERVICE INSPECTION
RELIEF REQUEST #V-200
CRYSTAL RIVER - UNIT 3**

REFERENCE CODE: ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through Summer 1975 Addenda.

I. Component for which exemption is requested:

(a) Name and Identification Number:

Borated Water Storage Tank to Makeup Pumps Suction Header Check Valves (MUV-60 and MUV-72)

(b) Function:

To prevent backflow to the BWST after it is drained and HPI/LPI is in the "piggy-back" mode.

(c) ASME Section III Code Class:

Class II

(d) Valve Category:

C

II. Requirement that has been determined to be impractical:

The check valve exercise requirements of IWV-3520(a) and IWV-3520(b)(2).

III. Basis for Requesting Relief:

These two valves are normally closed check valves that cannot be stroked during power operation. During refueling they can be partially stroke exercised, however, they cannot be full stroke exercised at cold shutdowns due to low temperature overpressurization concerns.

IV. Alternate Examination:

These valves will be partially stroke exercised at each refueling.

V. Implementation Schedule:

This alternate examination will be implemented during Refuel V, scheduled to begin in March, 1985.

Q20. In the working meeting the licensee agreed to change SAV-23 from Category E to Category A/E (P-2); this change was not made in the resubmittal program. Our position is that the ISI program should be revised to reflect the A/E categorization of valve SAV-23.

R20. Florida Power Corporation has revised the pump and valve program to reflect the change in SAV-23 category. The valve is already on the leak rate test program. The revised table from the Pump and Valve Program is attached.

TABLE I - VALVES BEING TESTED IN ACCORDANCE WITH ASME CODE REQUIREMENTS

SYSTEM NAME: STATION SERVICE AIR

DRAWING No. FD-302-271

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DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat.					Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	REMARKS
SAV-23	2	H-9	X				X	3	GA	M	LC	1 3	OC-1 SLT-1	381 179	4110	
SAV-24	2	H-9	X				X	3	GA	M	LC	1 3	OC-1 SLT-1	381 179	4110	

Q21. The licensee has requested specific relief from the exercising requirements of Section XI for valves CFV-1 and 3. The licensee proposes to full flow stroke exercise these valves at cold shutdown using decay heat flow of 3,000 gpm. We have concluded that 3,000 gpm may not be enough flow to full stroke these valves open. Therefore, it is our position that relief should not be granted and the licensee should make a proposal to verify the full stroke capability of these valves. This may require disassembly and inspection on a refueling outage frequency.

R21. Testing the core flood valves at a higher than 3,000 gpm flow rate is impractical and still would not provide conclusive evidence that the valves were full stroked. Florida Power Corporation additionally proposes to disassemble one core flood check valve (CFV-1, 2, 3, 4) each refueling outage to internally inspect the check valve mechanism. The valves will continue to be tested for seal leakage at each refueling outage. The revised tables from the P&V submittal and Relief Request #V-130 are attached with Response 9.

Q22. The licensee did not address exercising or stroke timing the diesel air start valves. It is our position that these valves should be added to the program and tested individually to the Code requirements.

R22. Florida Power Corporation will implement a procedure change to stroke time the air start valves, EGV-36, 37, 40, and 41, separately, that is, during one test EGV-40 would be used, during the next test EGV-41 would be used, and during the third test both valves would be actuated. This testing scheme will also be applied to the other diesel using valves EGV-36 and 37. This will be implemented within 90 days of NRC approval of the pump and valve program. The revised pages from the program which include these valves are attached.

TABLE 1 - VALVES BEING TESTED IN ACCORDANCE WITH ASME CODE REQUIREMENTS

SYSTEM NAME: EMERGENCY DIESEL GENERATOR COMPRESSED STARTING AIR & ENGINE EXHAUST DRAWING No. FD-302-282

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Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat. A B C D E	Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	REMARKS
EGV-5	3	D-1	X	3/4	REL	SA	-	3	TF-3	602		
EGV-6	3	D-3	X	3/4	REL	SA	-	3	TF-3	602		
EGV-7	3	D-6	X	3/4	REL	SA	-	3	TF-3	602		
EGV-8	3	D-8	X	3/4	REL	SA	-	3	TF-3	602		
EGV-21	3	F-1	X	1	CK	SA	C	1	EF-1F	354		
EGV-22	3	F-3	X	1	CK	SA	C	1	EF-1F	354		
EGV-23	3	E-6	X	1	CK	SA	C	1	EF-1F	354		
EGV-24	3	E-8	X	1	CK	SA	C	1	EF-1F	354		
EGV-25	3	D-4	X	2-1/2	GA	M	C	1	EF-1F	370		EGV-25 & 26: Crosstie Line from Air Receiver 3A, 3B, 3C & 3D
EGV-26	3	D-5	X	2-1/2	GA	M	C	1	EF-1F	370		
EGV-56	3	D-1	X	1-1/2	GA	SA	0	1	EF-1F	354		
EGV-57	3	C-1	X	1-1/2	GA	SA	0	1	EF-1F	354		
EGV-58	3	D-8	X	1-1/2	GA	SA	0	1	EF-1F	354		
EGV-59	3	C-8	X	1-1/2	GA	SA	0	1	EF-1F	354		
EGV-36	3	C-1	X	1-1/2	GA	SO	0	1	EF-1F	354		
EGV-37	3	C-1	X	1-1/2	GA	SO	0	1	EF-1F	354		
EGV-40	3	C-8	X	1-1/2	GA	SO	0	1	EF-1F	354		
EGV-41	3	C-8	X	1-1/2	GA	SO	0	1	EF-1F	354		

TABLE 3- VALVES EXEMPT FROM TESTING

SYSTEM NAME: EMERGENCY DIESEL GENERATOR COMPRESSED DRAWING No. FD-302-282
STARTING AIR & ENGINE EXHAUST

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DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Valve Function	REMARKS
EGV-35	3	D-1	Isolation Valve	
EGV-38	3	D-1	Vent	
EGV-39	3	D-8	Isolation Valve	
EGV-42	3	D-7	Vent	
EGV-43	3	D-5	Drain	
EGV-45	3	A-3	Drain	
EGV-46	3	A-6	Drain	
EGV-48	3	D-2	Drain	
EGV-49	3	D-7	Drain Valve	
EGV-50	3	A-3	Isolation Valve	
EGV-51	3	A-6	Isolation Valve	
EGV-52	3	C-1	Isolation Valve	

Q23. The licensee requested relief from the leak rate testing requirements of Section XI, and proposed to use Appendix J leak rate testings as an alternate test with the plant Technical Specifications as a means of establishing limits. We agree with using Appendix J leak rate testing as an alternate test program. However, it is our position that the requirements of Section XI IWV-3420(f) and (g) should be met instead of Technical Specifications limits.

R23. Florida Power Corporation has provided the response to this item in response to Question 3. Both Questions 3 and 23 are related to the leak rate testing program.

- Q24. The licensee requested relief from the exercising requirements of Section XI for the diesel fuel oil transfer system check valves. It is our position that relief should not be granted on the basis that it is possible to exercise these valves and meet the requirements of the Code.
- R24. A procedure change will be made to time the rate of fill of the diesel fuel oil day tank. This will provide a flow value for the transfer pump test and demonstrate that the check valves open. This demonstration meets the Code requirements of IWV-3520(b)(2), therefore, no relief is required. The revised program pages are attached.

TABLE 1 - VALVES BEING TESTED IN ACCORDANCE WITH ASME CODE REQUIREMENTS

SYSTEM NAME: EMERGENCY DIESEL GENERATOR FUEL-OIL
TRANSFER

DRAWING No. FD-302-281

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DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valv A B C D E	at.	Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	REMARKS
DFV-27	3	A-8		X		1	REL	SA	-	3	TF-3	602	
DFV-35	3	A-2		X		1	REL	SA	-	3	TF-3	602	
DFV-45	3	F-4			X	2	GA	M	LO	1	OC-1	381	
DFV-46	3	F-5			X	2	GA	M	LO	1	OC-1	381	
DFV-47	3	F-4		X		2-1/2	GA	M	C	1	EF-1F	370	DFV-47 & 48: Diesel Fuel Storage Tank Cross-Tie Valves
DFV-48	3	F-4		X		2-1/2	GA	M	C	1	EF-1F	370	
DFV-6	3	D-3		X		1	CK	SA	-	1	EF-1F	354*	
DFV-7	3	D-3		X		1	CK	SA	-	1	EF-1F	354*	
DFV-14	3	D-3		X		1	CK	SA	-	1	EF-1F	354*	
DFV-15	3	D-3		X		1	CK	SA	-	1	EF-1F	354*	

*SP-354 will be revised to test these valves within 90 days of Program approval.

TABLE 2 - VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME: EMERGENCY DIESEL GENERATOR FUEL-OIL
TRANSFER

DRAWING No. FD-302-281

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DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat.					Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	Relief Table 2A	REMARKS
DFV-25	3	H-6			X			2-1/2	CK	SA	-	-	-	-	-	1	
DFV-26	3	H-3			X			2-1/2	CK	SA	-	-	-	-	-	1	
DFV-28	3	A-8			X			1	CK	SA	-	-	-	-	-	1	
DFV-29	3	A-8			X			1	CK	SA	-	-	-	-	-	1	
DFV-31	3	A-9			X			1	CK	SA	-	-	-	-	-	1	
DFV-36	3	A-2			X			1	CK	SA	-	-	-	-	-	1	
DFV-37	3	A-2			X			1	CK	SA	-	-	-	-	-	1	
DFV-39	3	A-3			X			1	CK	SA	-	-	-	-	-	1	

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Emergency Diesel Generator Fuel-Oil Transfer (DF)

1. Valves:	DFV-25, DFV-26, DFV-28, DFV-29, DFV-31, DFV-36, DFV-37, DFV-39.
Function:	These valves are part of the emergency diesel generator fuel oil transfer system. Their function is to transfer fuel from the emergency diesel generator fuel oil storage tanks to their respective day tanks.
Test Requirement:	EF-1F
Basis for Relief:	The emergency diesels are required to be tested monthly by this facility's technical specifications. As a part of this test, diesel fuel is transferred to the day tanks from the storage tank by this system. Each diesel is started and run under loaded conditions for at least 1 hour.
Alternate:	Each diesel will be tested in accordance with plant technical specifications. The successful completion of this test shall denote that the subject valves have satisfied their safety function.

Q25. The licensee requested relief from the exercising requirements of Section XI for the flushing water pump discharge check valves. As an alternate test, the licensee proposes to substitute monitoring for normal valve operation. In the relief request, the licensee demonstrated that the position important to safety is closed and in the normal position, the valves are open, therefore, monitoring in the normal position has no bearing on the position important to safety. It is our position that the valves should be exercised per the Code or the licensee should propose an alternate method.

R25. These pumps will be checked to verify no backwards rotation when only the opposite pump is running thus verifying the check valves closed. A procedure change to implement this will be completed within 90 days of NRC approval of the pump & valve program. The revised program pages are attached.

TABLE 1 - VALVES BEING TESTED IN ACCORDANCE WITH ASME CODE REQUIREMENTS

SYSTEM NAME: DOMESTIC WATER

DRAWING No. FD-302-211

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DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat.					Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	REMARKS
DOV-209	3	C-7			X			2	CK	SA	C	1	EF-1F	370		
DOV-210	3	C-7		X				2	GA	MO	C	1 1	EF-1F ET-030	370		
DOV-233	3	B-6			X			2	REL	SA	-	3	TF-3	602		
DOV-238	3	C-8		X				2	GA	MO	C	1 1	EF-1F ET-030	370		
DOV-118	3	C-7			X			1-1/2	CK	SA	-	1	EF-1F	370*		
DOV-119	3	C-7			X			1-1/2	CK	SA	-	1	EF-1F	370*		

*SP-370 will be revised to test these valves within 90 days of Program approval

TABLE 2 - VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME: DOMESTIC WATER

DRAWING No. FD-302-211

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DATE: 7/01/85

Valve Number	Asme Class	Dwg. Co-Ord.	Asme Valve Cat. A B C D E	Size In Inches	Valve Type	Act. Type	Norm. Pos.	Test Freq.	Test Method	Surv. Proc.	Leak Rate (SCC/Min)	Relief Table 2A	REMARKS
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TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Domestic Water (D0)