Florida Power
CORPORATION

July 25, 1979

File: 3-0-3-a-3

Mr. Robert W. Reid
Chief
Operating Reactors Branch #4
Division of Operating Reactors
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Crystal River Unit 3
Docket No. 50-302
Operating License No. DPR-72

Dear Mr. Reid:

Enclosed for your review is Florida Power Corporation's response to your letter dated March 8, 1979, requesting additional information concerning the CR#3 pump and valve inservice inspection program.

The three sets of the drawings referenced in our submittal will be submitted on or before July 31, 1979.

Upon notification from your office that the ISI program for CR#3 has been approved, Florida Power Corporation will make the necessary revisions to the CR#3 Surveillance Procedures to incorporate the approved program. The revision to the CR#3 procedures will be completed within 90 days from the date of NRC approval.

If you require any further discussion concerning our submittal, please contact this office.

Very truly yours,

FLORIDA POWER CORPORATION

W. P. Stewart

W. P. Stewart
Manager
Nuclear Operations

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STATE OF FLORIDA

COUNTY OF PINELLAS

W. P. Stewart states that he is the Manager, Nuclear Operations, of Florida Power Corporation; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the information attached hereto; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information and belief.

W. P. Stewart

W. P. Stewart

Subscribed and sworn to before me, a Notary Public in and for the State and County above named, this 25th day of July, 1979

Sarah F. Crockett

Notary Public

Notary Public, State of Florida at Large,
My Commission Expires: August 24, 1983

(CrockettNotary 2 DIZ)

434 230

FPC RESPONSE TO NRC REQUEST
FOR ADDITIONAL INFORMATION DATED MARCH 8, 1979

The attached responses address all questions contained in Enclosures 1 through 4 of your March 8, 1979 letter. Each response references an applicable drawing or section of the CR #3 Inservice Inspection Program where the information requested is located. As stated in our cover letter, the drawings referenced in our response are being marked to identify our response information and will be furnished on or before July 31, 1979. A complete copy of the CR #3 Inservice Inspection Program, which has been extensively revised to reflect the NRC's positions, and the results of meeting held at CR #3 with NRC representatives is included in this submittal.

Simpson(NRCResp)D4

434 237

ENCLOSURE 1

Mechanical Engineering Branch

Response 1. See Table B, Numbers 4 and 5, Page 2.

Response 2. See Table B, Number 1, Page 1.

Response 3. See Table B, Numbers 7, 8, 10 and 11, Pages 2, 3, and 4.

Response 4.
(a) No relief requested, except Table B, Number 2, Page 2.
(b) No relief requested, except Table B, Number 2, Page 2.
(c) No relief requested, except Table B, Number 2, Page 2.
(d) No relief requested, except Table B, Number 2, Page 2.
(3) No relief requested, except Table B, Number 2, Page 2.

Simpson(NRCResp)D4

ENCLOSURE 2

Reactor Systems Branch

Response 1. DHV-1, 2: See Decay Heat System, FD-302-641, Table 2A, Number 1, Page 1 of 3.

CFV-2, 4: See Core Flood System, FD-302-702, Table 2A, Number 1, Page 1 of 2.

CFV-1, 3: See Core Flood System, FD-302-702, Table 2A, Number 2, Page 1 of 2.

Response 2. DHV-5, 6: These valves are not being operated in the normally open position at power and power is not removed.

Response 3. Maximum stroke times for all valves are based upon safety function operation.

Response 4. DHV-11, 12: None, see Decay Heat System, FD-302-641, Table 1, Page 1 of 1.

Response 5. DHV-33, 36: It is not necessary to leakcheck these valves as the emergency procedure, EP-106, "Loss of RC/RC Pressure", requires that the ES signal to DHV-34 and 35 be bypassed (BWST isolation valves) and shut when shifting to RB sump from the BWST. Additionally, there is an elevation difference that would not allow RB sump flow to the BWST

Response 6. DHV-7, 8: None, see Decay Heat System, FD-302-641, Table 1, Page 2 of 2.

Response 7. DHV-39, 40: See Decay Heat System, FD-302-641, Table 1, Page 2 of 2.

Response 8. CFV-27: Correct, see Core Flood System, FD-302-702, Table 1, Page 1 of 2.

Response 9. HPI Check Valves: See Makeup & Purification System, FD-302-661, Table 2A, Number 1, Page 1 of 9.

Response 10. DHV-110, 111: See Decay Heat System, FD-302-641, Table 2A, Number 2, Page 1 of 3.

Response 11 MUV-23, 25, 26: See Makeup & Purification System, FD-302-661, Table 2A, Number 1, Basis for Relief, Page 1 of 9 for MUV-42, 36, 37, 160, 163 and 164.

Simpson(NRCResp)D4

Response 12. (1) See Reactor Coolant System, FD-302-651, Table 1, Page 1 of 1, "Remarks".

(2) See Attachment A.

Response 13. See revised Valve Test Program Tables 1, 2 and 2A.

Response 14. DHV-33, 36: See Decay Heat System, FD-302-641, Table 1, Page 2 of 2, "Remarks".

MUV-42, 43, 36, 37, 160, 163, 164: See Makeup & Purification System, FD-302-661, Table 2A, Numbers 1 & 2, Pages 2 & 3, "Alternate Testing".

MUV-10, 11, 1, 7, 2, 6: See Makeup & Purification System, FD-302-661, Table 2A, Number 3, Page 3, "Alternate Testing".

CFV-2, 4, 1, 3: See Core Flooding System, FD-302-702, Table 2A, Numbers 1 & 2, Pages 1 & 2, "Alternate Testing".

Response 15. RCV-4, 5, 6, 7, 103: These are operating convenience valves. Dropped from program.

DHV-91, 93: See Decay Heat System, FD-302-641, Table 2A, Numbers 3 & 4, Page 2.

RCV-53, 12, 13, 14: See Reactor Coolant System, FD-302-651, Table 2A, Numbers 1, 2, 3 & 4, Pages 1 & 2

Response 16. MUV-9, 8, 3, 4: These valves will be open during normal plant operation per ECCS Small Break Analysis Solution for Crystal River Unit 3 (see May 29, 1979 NRC Safety Evaluation). Therefore, valves will be dropped from program as operating convenience valves.

MUV-69, 68, 62, 63: These are operating convenience valves and are dropped from the program.

MUV-59, 66, 70: These are maintenance valves for operating convenience only, not included in our program.

ENCLOSURE 3

Containment Systems Branch

Response 1. See revised Valve Test Program Tables 1, 2 and 3.

It has been verified that all valves that receive either a containment isolation signal or a safety injection actuation signal are included in the program. These valves are so denoted in the "Remarks" column of Tables 1 and 2.

Response 2. See Attachment A, Crystal River Unit 3, Inservice Inspection Program, Number III, "Category 'A' Valves - Leak Rate Testing".

Response 3. MSV-130, 148: See Main and Reheat System, FD-302-011, Table 2A, Number 1, Page 1 of 1.

FWV-29, 30: See Feedwater System, FD-302-081, Table 2A, Number 1, Page 1 of 5.

DWV-162: See Condensate & Demineralized Water Supply, FD-302-182, Table 2A, Number 1, Page 1 of 1.

DWV-160: See Condensate & Demineralized Water Supply System, FD-302-182, Table 1

SWV-79, 80, 81, 82, 83, 84, 85, 86: See Nuclear Services Closed Cycle Cooling System, FD-302-601, Table 2A, Number 1, Page 1.

SWV-109, 110: See Nuclear Services Closed Cycle Cooling System, FD-302-601, Table 2A, Number 2, Page 1.

SWV-35, 37, 39, 41, 43, 45: These valves do not perform a safety function, receive no RB isolation signal, and do not have to change position. Their normal and safety position is open. Therefore, their only function is for maintenance purposes. These valves are removed from the program.

DHV-1, 2, 3, 4: See Decay Heat System, FD-302-641, Table 2A, Numbers 1 & 5, Pages 1 & 2.

DHV-5, 6: See Decay Heat System, FD-302-641, Table 1, Page 1.

MUV-18, 27, 49, 253, 259, 260, 261: See Makeup & Purification System, Table 2A, Numbers 4, 5, 6 & 7, Pages 3, 4, & 5.

Simpson(NRCResp)D4

ENCLOSURE 4

Auxiliary Systems Branch

Response 1.0 MSV-115, 135, 116, 133: These valves are dropped from program as operating convenience valves.

Response 2.1 ASV-50: Valve will be tested at refuelings. See Auxiliary Steam, FD-302-051, Table 2A, Number 1, Page 1.

Response 3.1 EFV-2, 1, 7, 8, 15, 16, 17, 18: See Emergency Feedwater System, FD-302-082, Table 2A, Numbers 1, 2 & 3, Pages 1 & 2.

EFV-11, 14, 32, 33: See Emergency Feedwater System, FD-302-082, Table 1, Page 1, "Remarks".

Response 3.2 EFV-2: Valve is normally closed. It is electrically interlocked to prevent opening with a condenser vacuum.

Response 4.1 FWV-161, 162: Due to TMI-2 incident, valves will be in the throttled open position. See Feedwater System, FD-302-081, Table 1, Page 1.

Response 4.2 FWV-34, 35, 43, 33, 157, 158: See Feedwater System, FD-302-081, Table 2A, Numbers 4, 5 & 6, Pages 2 & 3.

Response 4.3 FWV-45, 46: See above Table 2A, Number 7, Pages 3 & 4.

Response 5.1 DFV-47, 48: Valves shall be quarterly stroked. See Emergency Diesel Generator Fuel Oil Transfer System, FD-302-281, Table 1, Page 1, "Remarks".

Response 6.1 EGV-25, 26: Valves shall be quarterly stroked. See Emergency Diesel Generator Comp. Starting Air, FD-301-282, Table 1, Page 1, "Remarks".

Response 7.1 SWV-59, 60, 63, 64: These valves are for maintenance when isolating the chilled water system from the Nuclear Services System. Therefore, these valves are not included in the program.

Response 7.2 SWV-103, 104: These valves are normally closed, and therefore are not included in the program. Operating convenience valves.

Simpson(NRCResp)D4

Response 7.3 SWV-579, 607: These valves are for maintenance when working on the emergency feedwater pumps 3A and 3B and therefore not included in the program.

Response 7.4 SWV-584: Maintenance valve, not to be included in the program.

Response 8. SFV-7, 34, 50: See Spent Fuel Cooling FD-302-621, Table 2A, Numbers 1, 2 & 3, Pages 1 & 2.

SFV-54, 85, 87, 89: See Table 1 of above section. These valves shall be quarterly stroked.

Response 9. DCV-186, 188: These are maintenance valves for isolating nitrogen from the Decay Heat Closed Cycle Surge Tank, therefore not included in the program.

Response 10.1 MUV-16, 31: See Makeup & Purification System, FD-302-661, Table 2A, Number 8, Page 5.

Response 10.2 MUV-27, 36, 37, 163, 164, 53, 257, 30, 17: See Makeup & Purification System, FD-302-661, Table 2A, Numbers 5, 1, 8, & 9, Pages 1, 5 & 6.

MUV-4, 8, 63, 68: See Attachment A or question response to Enclosure 2, Question 16.

MUV-107: This is an operating convenience valve, therefore not included in the program.

Response 11.1 CAV-58, 61: See Chemical Additional System, FD-302-671, Table 1, Page 1, and Table 2A, Number 1, Page 1.

Response 12.1 WDV-321: There has been a modification to this portion of the Liquid Waste System and a downstream check has been added to the system. The class break is now at the downstream check (FD-302-681, Co-ord. F-15) which makes this valve non-safety related. Therefore, valve is dropped from program.

Response 13.1 DOV-209: This valve shall be stroked at quarterly intervals per Section XI requirements.

Response 14.1 RWV-32, 33: These are operating convenience and maintenance valves and are therefore removed from the program.

Response 14.2 RWV-40, 41, 17, 18, 21, 22, 24: These are maintenance valves for component isolation and therefore removed from the program.

Simpson(NRCResp)D4

CRYSTAL RIVER UNIT 3

INSERVICE INSPECTION PROGRAM

CONTENTS

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 (10CFR 50.50.2(v), Regulatory Guide 1.26, Rev. 3, and ANSI N18.2a-1975.

II. Cold Shutdown - Inservice Inspection

a) For 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 facilities 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 - Catetory '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 10CFR50, Appendix J, type C as specified in the facilities technical specifications as containment isolation 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.

For those valves denoted as SLT-1 it is requested the Appendix J, type C, test be substituted for the Section XI leak testing as provided by IWV-3420 of the code. The combined leakage of all these valves and other penetrations subject to a type 'B' and 'C' Appendix J test shall be less than 0.6La (percent/24 hours), where La is the maximum allowable leakage at Pa, the calculated peak containment internal pressure as specified in the facilities technical specification.

Relief is requested from subparagraph IWV-3420 g)(1). The alternate proposed method of specifying a maximum permissible leakage on each SLT-1 valve shall be an administrative high leakage limit or "action" limit. This limit shall be based upon 95% of 0.6La, where La is in standard cubic feet per minute of leakage, and "normal inches of valve diameter", excluding the type "B" penetrations and the 48" reactor building purge valves. Where valves exceed their individual action limit, they should be replaced or repaired and retested as judiciously as possible.

For valves denoted as SLT-1 and 6 inches and larger, subparagraph IWV-3420 (g)(2) shall be followed.

Type SLT 2 valves shall be individually identified by system and alternate test plans discussed in the "Request for Relief" table.

IV. Systems Other Than Those Containing Steam, Water, and Radioactive Waste - For systems containing fluid other than steam, water, and radioactive waste which are class 1, 2, and 3 shall not be tested in any other manner relative to Section XI requirements than those specified in this submittal for pump and valve inservice testing.

V. Technical Specifications - Should a conflict arise between the Inservice Inspection Program and the Technical Specifications, Florida Power Corporation will propose to the NRC a Technical Specification Change Request, should the testing requirements of Section XI be more restrictive.

VI. Authorized Inspector - (AI) - Florida Power Corporation requests exemption from the requirements of IWA-1300(f) and IWA-2120 (a through h), Section XI, 1974 Edition, through Summer 1975 Addenda. The Crystal River Nuclear Plant is under no boiler code legislation and has no local, municipal, regional or State enforcement authority. We feel that Florida Power Corporation's Quality Assurance Program and the Regulatory Authority, the Nuclear Regulatory Commission, provides more than sufficient insurance that the examinations, pressure tests, and pump and valve testing required by Section XI, ASME B & PV Code are enacted and enforced.

ASME SECTION XI PUMP AND VALVE TEST PROGRAM FOR CRYSTAL RIVER UNIT 3

I. Pump Testing Program

A. The pump test program was developed employing the classification guidelines contained in 10 CFR 50.2(v) for Quality Group A, Regulatory Guide 1.26, Revision 3, and ANSI-N18.2a-1975 for Quality Groups B and C. (Quality Group A is the same as Class 1, Group B is 2, and Group C is 3. Using these guidelines and IWP-1100, the pump list attached as Table A was developed. Table A identifies the following:

1. The pump number and service it performs, along with the P & ID on which it is found.

2. The following test quantities:

. Speed
. Inlet Pressure
. Differential Pressure
. Flow Rate
. Vibration Amplitude
. Bearing Temperature

B. The period for which the pump test program is applicable is the 20-month period commencing March 13, 1977.

C. 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 Vessel Code through Summer 1975 Addenda, except for specific relief requested in accordance with 10 CFR 50.55a(g)(5)(iii) which is identified in Table B of the Pump Testing Program.

D. Table B identifies those test quantities required by the applicable code for which a request for relief is written. Table B identifies the following:

. System
. Test Quantity
. Basis For Relief
. Alternate Testing

434

242

II. Valve Testing Program

A. The valve test program was developed employing the classification guidelines contained in 10 CFR 50.2 (v) for Quality Group A, Regulatory Guide 1.26, Revision 3 and ANSI 18.2a-1975 for Quality Groups B and C, (Quality Group A is the same as ASME Class 1, Group B is 2, Group C is 3.

B. The period for which the valve test program is applicable is the 20-month period commencing March 13, 1977.

C. 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 Summer 1975 Addenda, except for specific relief requested in accordance with 10 CFR 50.55(g)(5)(iii), which is identified in Tables 2A.

D. Figure 1 identifies the drawings which were used to develop the valve test program, together with the number of pages contained in Tables 1, 2, and 2A.

E. Tables, 1, "Valves Being Tested In Accordance With Code Requirements", are divided by system and identifies the following for Category A, B, C, D and E valves:

. Valve Number

. Code Class

. P & ID Coordinates

. Valve Category (all Category A valves will be leak tested at the same (or greater) frequency as scheduled refueling outages, but not less than once every two years.)

. Size, type and actuator (see Attachment D).

. Test During

1 = Quarterly frequency testing
2 = Cold Shutdown frequency testing
3 = Refueling frequency testing

. Test to be performed (see 'Valve Code' Table, Attachment C

. Leak rate valve (Category 'A' valves only).

F. Tables 2 "Valves for Which Relief Is Requested", are divided by system and identifies the following for category A, B, C, D, & E valves:

. Valve Number

- Code Class
- P & ID Coordinates
- Valve Category
- Size, type, and actuator
- Test during

  1 = Quarterly frequency of testing
  2 = Cold Shutdown frequency of testing
  3 = Refueling frequency of testing

- Test to be performed (see Valve Code Table, Attachment C)
- Leak rate valve (Category 'A' valves only)
- Basis for relief, Table 2A, reference number

G. Table 2A "Valve Relief Request Basis" provides further amplification and justification for the specific relief requested. Included in this Table are the following:

- System
- Valves
- Function
- Test Requirement (which relief is requested)
- Basis for Relief
- Alternate Testing

VALVE CODE TABLE

CODE FOR VALVE TEST METHODS & MAXIMUM FULL STROKE TIMES

CATEGORY A-B VALVES

EF-1F Exercise valve (full stroke) every 3 months to Section XI, IWV-3410(a).

EF-1P Exercise valve (part stroke) every 3 months to Section XI, IWV-3410(b).

EF-2F Exercise valve (full stroke) at cold shutdown as allowed by Section XI, IWV-3410(b).

EF-2P Exercise valve (part stroke) at cold shutdown.

EF-3F Exercise valve (full stroke) at refueling.

EF-3P Exercise valve (part stroke) at refueling.

EF-5 Exercise valve (with fail-safe actuators) to observe failure mode every 3 months to Section XI, IWV-3410(e).

EF-6 Exercise valve (with fail-safe actuators) to observe failure mode at cold shutdown, to Section XI, IWV-3410(e).

ET-1 Exercise valve - power operated (full stroke) and measure time (2 sec. max.) Section XI, IWV-3410(c).

ET-2 Exercise valve - power operated (full stroke) and measure time (5 sec. max.) Section XI, IWV-3410(c).

ET-3 Exercise valve - power operated (full stroke) and measure time (15 sec. max.) Section XI, IWV-3410(c).

ET-4 Exercise valve - power operated (full stroke) and measure time (25 sec. max.) Section XI, IWV-3410(c).

ET-5 Exercise valve - power operated (full stroke) and measure time (40 sec. max.) Section XI, IWV-3410(c).

ET-6 Exercise valve - power operated (full stroke) and measure time (46 sec. max.) Section XI, IWV-3410(c).

ET-7 Exercise valve - power operated (full stroke) and measure time (60 sec. max.) Section XI, IWV-3410(c).

ET-8 Exercise valve - power operated (full stroke) and measure time (120 sec. max.) Section XI, IWV-3410(c).

SLT-1 Category "A" valve, seat leak test valve during refueling, but less than every two (2) years by 10 CFR 50, Appendix J, type C.

SLT-2 Category "A" valve that performs a pressure isolation function.

PV-1 Operational checks with appropriate record entries shall record the position of these passive valves before operations are performed and after operations are completed.

(1) Passive valves are valves that are not required to change position to accomplish a safety-related function.

CATEGORY C VALVES

EF-1F Exercise valve (full stroke) every 3 months, Section XI, IWV-3520(a).

EF-1P Exercise valve (part stroke) every 3 months, Section XI, IWV-3520(b).

EF-2F Exercise valve (full stroke) at cold shutdown, Section XI, IWV-3520(b).

EF-2P Exercise valve (part stroke) during cold shutdown.

EF-3F Exercise valve (full stroke) at refueling.

EF-3P Exercise valve (part stroke) at refueling.

TF-3 Safety and relief valve test (set point) to Section XI, Table IWV-3510-1.

SLT-1 Category "A" valve, seat leak test valve at refueling, but less than every 2 years.

SLT-2 Category "A" valve, performs a pressure isolation function.

CATEGORY E VALVES

OC-1 Operational check of valves (veritication if either locked open or locked closed before and after operation) to Section XI, Article IWV-3700.

434 247

LIST OF VALVE TABLE SYMBOLS

SYMBOL	NOMENCLATURE
VALVE TYPES	
BF	BUTTERFLY
CK	CHECK
DA	DIAPHRAGM
GA	GATE
GL	GLOBE
ND	NEEDLE
REG	REGULATOR
REL	RELIEF/SAFETY
3-WAY	
SCK	STOP CHECK
ACTUATOR TYPES	
A	AIR
M	MANUAL
MO	MOTOR
SA	SELF ACTUATED
SO	SOLENOID
VALVE POSITION	
C	CLOSED
LC	LOCKED CLOSED
O	OPEN
LO	LOCKED OPEN
TH	THROTTLED

VALVE TEST PROGRAM MATRIX
FOR TABLES 1, 2, and 2A

SYSTEMS	ISD DIAGRAMS NUMBERS	NUMBER OF PAGES T-1	T-2	T-2A
MAIN AND REHEAT SYSTEM	FD-302-011	2	1	1
AUXILIARY STEAM	FD-302-051	1	2	1
FEEDWATER	FD-302-081	2	2	5
EMERGENCY FEEDWATER	FD-302-082	2	1	2
CONDENSATE	FD-302-'01	1	-	-
CONDENSATE AND DEMINERALIZED WATER SUPPLY	FD-302-182	1	1	1
CHEMICAL CLEANING STEAM GENERATORS	FD-302-192	1	-	-
DOMESTIC WATER	FD-302-211	1	-	-
INSTRUMENT AIR AND STATION AIR	FD-302-271	1	-	-
EMERGENCY DIESEL GENERATOR FUEL OIL TRANSFER	FD-302-281	1	1	1
EMERGENCY DIESEL GENERATOR COMPRESSED STARTING AIR AND ENGINE EXHAUST	FD-302-282	1	1	1
JACKET COOLANT SCHEMATIC DIAGRAM	FD-302-283	1	1	1
AIR COOLER COOLANT SCHEMATIC DIAGRAM	FD-302-284	-	1	1
NUCLEAR SERVICES CLOSED CYCLE COOLING	FD-302-601	2	2	2

		T-1	T-2	T-2A
NUCLEAR SERVICES AND DECAY HEAT SEA WATER	FD-302-611	1	-	-
SPENT FUEL COOLING	FD-302-621	1	1	1
DECAY HEAT CLOSED CYCLE COOLING	FD-302-631	1	1	1
DECAY HEAT REMOVAL	FD-302-641	2	2	3
REACTOR COOLANT	FD-302-651	1	1	2
MAKEUP AND PURIFICATION	FD-302-661	2	4	9
CHEMICAL ADDITION	FD-302-671	1	1	1
LIQUID SAMPLING	FD-302-672	1	-	-
NITROGEN AND HYDROGEN	FD-302-673	1	-	-
LIQUID WASTE DISPOSAL	FD-302-681	1	-	-
GAS WASTE DISPOSAL	FD-302-691	1	-	-
CONTAINMENT MONITORING	FD-302-693	1	-	-
CORE FLOODING	FD-302-702	2	1	2
REACTOR BUILDING SPRAY	FD-302-711	1	1	2
REACTOR BUILDING PRESSURE SENSING AND TESTING	FD-302-712	1	-	-
REACTOR BUILDING LEAK RATE TESTING AND POST ACCIDENT HYDROGEN PURGE	FD-302-722	1	-	-
REACTOR BUILDING FUEL HANDLING AREA AND AUXILIARY BUILDING	FD-302-751	1	-	-
INDUSTRIAL COOLER WATER	FD-302-762	1	-	-
CHILLED WATER	FD-302-756	1	-	-

ABBREVIATIONS

The following standard abbreviations are used by Florida Power Corporation and may be found through this document.

BWST	Borated Water Storage Tank
CF	Core Flood
CR-3	Crystal River Unit #3
CRDM	Control Rod Drive Mechanism
DH	Decay Heat
EFTB-1	Steam-driven Emergency Feedwater Pump Turbine
ESA	Engineering Safeguard Actuation
FPC	Florida Power Corporation
HPI	High Pressure Injection
LPI	Low Pressure Injection
MS	Main Steam
MSRM	Main Steam Rupture Matrix
MU	Make-up Purification
OTSG	Once through steam generator
RB	Reactor Building
RC	Reactor Coolant

TABLE A - PUMP TEST PROGRAM

Prepared by S. W. Johnson Date 7/16/79

Pump	Pump Number	Coor-dinates	Test Quantities						Test Interval (2)
			Speed n(1)	Inlet Pressure P1	Differential Pressure ΔP	Flow Rate Q	Vibration Amplitude V	Bearing Temperature T_b	
BORIC ACID (FD-302-671)	CAP-1A	E-5	No	YES (3)	YES	YES	NO (4)	NO (5)	WEEKLY
	CAP-1B	E-5	NO	YES (3)	YES	YES	NO (4)	NO (5)	WEEKLY
BUILDING SPRAY (FD-302-711)	BSP-1A	E-6	NO	YES	YES	YES	YES	YES	QUARTERLY
	BSP-1B	F-6	NO	YES	YES	YES	YES	YES	QUARTERLY
DECAY HEAT CLOSED CYCLE COOLING (FD-302-631)	DCP-1A	C-2	NO	YES	YES	YES	YES	YES	QUARTERLY
	DCP-1B	D-2	NO	YES	YES	YES	YES	YES	QUARTERLY
DECAY HEAT REMOVAL (FD-302-641)	DHP-1A	G-10	NO	YES	YES	YES	YES	YES	QUARTERLY
	DHP-1B	G-12	NO	YES	YES	YES	YES	YES	QUARTERLY
DECAY HEAT SERVICE SEAWATER (FD-302-511)	RWP-3A	F-3	NO	YES (6)	YES	NO (7)	YES	YES	QUARTERLY
	RWP-3B	F-5	NO	YES (6)	YES	NO (7)	YES	YES	QUARTERLY
EMERGENCY FEEDWATER (FD-302-082)	EFP-1	F-5	NO	YES	YES	NO (8)	YES	YES	QUARTERLY
	EFP-2	C-5	YES	YES	YES	NO (8)	YES	YES	QUARTERLY
EMERGENCY NUCLEAR SERVICE SEAWATER (FD-302-611)	RWP-2A	F-4	NO	YES (9)	YES	NO (10)	YES	YES	QUARTERLY
	RWP-2B	F-5	NO	YES	YES (9)	NO (10)	YES	YES	QUARTERLY
NUCLEAR SERVICES CLOSED CYCLE COOLING (FD-302-601)	SWP-1A	F-13	NO	YES	YES	YES	YES	YES	QUARTERLY
	SWP-1B	G-13	NO	YES	YES	YES	YES	YES	QUARTERLY

434 29

TABLE A - PUMP TEST PROGRAM

Prepared by S. W. Johnson Date 7/16/79

Pump	Pump Number	Coordinates	Test Quantities						Test Interval (2)
			Speed n(1)	Inlet Pressure Pi	Differential Pressure ΔP	Flow Rate Q	Vibration Amplitude V	Bearing Temperature T_b	
MAKEUP AND PURIFICATION (FD-302-661)	MUP-1A	J-9	NO	YES	YES	YES	YES	YES	QUARTERLY
	MUP-1B	J-7	NO	YES	YES	YES	YES	YES	QUARTERLY
	MUP-1C	J-5	NO	YES	YES	YES	YES	YES	QUARTERLY
SPENT FUEL COOLING (FD-302-621)	SFP-1A	D-7	NO	YES	YES	YES	YES	YES	QUARTERLY
	SFP-1B	E-7	NO	YES	YES	YES	YES	YES	QUARTERLY
EMERGENCY DIESEL GENERATOR FUEL TRANSFER PUMPS (FD-302-281)	DFP-1A (AC)	D-3	NO (11)	NO (11)	NO (11)	NO (11)	NO (11)	NO (11)	MONTHLY (11)
	DFP-1B (AC)	D-6	NO (11)	NO (11)	NO (11)	NO (11)	NO (11)	NO (11)	MONTHLY (11)
	DFP-1C (DC)	D-3	NO (11)	NO (11)	NO (11)	NO (11)	NO (11)	NO (11)	MONTHLY (11)
	DFP-1D (DC)	D-6	NO (11)	NO (11)	NO (11)	NO (11)	NO (11)	NO (11)	MONTHLY (11)
CHILLED WATER (FD-302-756)	CHP-1A	C-6	NO (11)	YES	YES	YES	YES	YES	QUARTERLY
	CHP-1B	E-6	NO (11)	YES	YES	YES	YES	YES	QUARTERLY

NOTE: For numbers 1 through 11 see Table B.

434 253

TABLE B

PUMP TEST PROGRAM REQUESTS FOR RELIEF

1) SYSTEM: All Class 1, 2, and 3 pumps as listed in Table A unless specifically noted.

TEST QUANTITY: n, Speed

BASIS FOR RELIEF: All motor drivers are synchronous or induction type except the steam driven emergency feed water pump, EFP-2. The rotative speeds are not required to be measured on these pumps (except EFP-2 as noted) by subarticle IWP-4400. Speed shall be measured at each test on EFP-2 only.

2) SYSTEM: All Class 1, 2, and 3 pumps listed in Table A, unless otherwise specifically noted in Table B herein.

TEST REQUIREMENT: Subarticle IWP-3400, frequency of inservice tests, subparagraph IWP-3400 (a) requires an inservice test performed nominally each month during normal plant operation.

BASIS for RELIEF: It is unnecessary to measure and record all pump test parameters each month to determine if pump shall fulfill its function. Using probabilistic analysis as for the basis for relief, with reference to the following papers, (1) "Possible Criteria Which Can Supplement the Single Failure Criterion" (Draft Copy) April 12, 1976, and (2) "A Note on Reliability and Safety Evaluations: Optimal Test Intervals Considering Test Downtimes", both by W. E. Vesely, U. S. Nuclear Regulatory Commission, Probabilistic Analysis Branch. We request an extended period of three (3) months between inservice pump tests.

ALTERNATE TESTING: An inservice test in accordance with subarticle IWP-3100 will be performed quarterly unless otherwise specifically noted. The pump shall be exercised monthly to allow an oil film on bearing, prevention of shaft sag, bearing brinelling, liquid stagnation, lubrication stagnation, and prevention of seals or packing from corroding or stagnating at the rubbing interfaces.

3) SYSTEM: Chemical Addition

COMPONENTS: CAP-1A and CAP-1B

TEST QUANTITY: Pi, inlet pressure

BASIS for RELIEF: There is not a pressure tap available for mounting a gage to mo. suction pressure. In order to install a pressure tap, a system modification would be required to a Class 3 system. The modification would require a pressure test on the Class 3 system. This would involve draining and flushing the boric acid system.

ALTERNATE TESTING: Suction pressure shall be calculated by the level in the boric acid storage tanks.

TABLE B

PUMP TEST PROGRAM REQUESTS FOR RELIEF

4) SYSTEM: Chemical Addition

COMPONENTS: CAP-1A and CAP-1B

TEST QUANTITY: V, vibration amplitude

BASIS FOR RELIEF: This is a hermetically sealed pump. Vibration readings on these type pumps do not forewarn of pump failure because of the outside mass being so large. Total failure would occur before significant dynamic imbalance would be noted on vibration readings. Additionally, the pumps are totally encased with insulation to prevent boric acid from crystallizing at low temperatures.

ALTERNATE TESTING: These pumps shall be tested weekly in recirculation mode and flow measured. A minimum flow shall be achieved at each weekly test to determine operability. This flow shall be commensurate with its safety operation. Preventive maintenance shall be performed at intervals recommended by the manufacturer.

5) SYSTEM: Chemical Addition

COMPONENTS: CAP-1A and CAP-1B

TEST QUANTITY: Tb, Bearing Temperature

BASIS for RELIEF: This is a hermetically sealed pump. The pumping medium furnishes lubrication for the internal bearings. Total failure would occur before significant temperature increases would occur at the pump casing.

ALTERNATE TESTING: Weekly operability checks shall be performed on these pumps.

6) SYSTEM: Decay Heat Service Seawater

COMPONENTS: RWP-3A and RWP-3B

TEST QUANTITY: Pi, Inlet Pressure

BASIS for RELIEF: There is not a pressure tap installed in the suction line of these pumps to measure inlet pressure. The installation of a tap would require a modification to the system involving a violation of the pipe pressure boundary. The modification would entail tests in accordance with the Construction Code and Section XI, Class 3 System.

ALTERNATE TEST: Inlet pressure shall be calculated by the tide level.

7) SYSTEM: Decay Heat Service Seawater

COMPONENTS: RWP-3A & RWP-3B

TEST QUANTITY: Q, Flow Rate

BASIS for RELIEF: There is not a flow element installed in the discharge line of these pumps to measure the flow rate. The installation of an element

TABLE B

PUMP TEST PROGRAM REQUESTS FOR RELIEF

7) BASIS for RELIEF: would require a modification of the pipe pressure boundary.
CONTINUED This modification would entail examinations and tests in accordance with the Construction Code & Section XI for the Class 3 System.

ALTERNATE TESTING: This system is of fixed resistance. Flow measured is not necessary when the resistance may be fixed.

8) SYSTEM: Emergency Feedwater

COMPONENTS: EFP-1 and EFP-2

TEST QUANTITY: Q, Flow Rate

BASIS for RELIEF: There is not a flow element installed in the discharge line of these pumps to measure the flow rate. The installation of an element would require a modification of the pipe pressure boundary. This modification would entail examination and tests in accordance with the Construction Code & Section XI for this Class 3 System.

ALTERNATE TESTING: The system is of a fixed resistance for inservice testing of this pump. All required test quantities except flow rate shall be measured. The differential pressure shall be used to assist in determining pump operability.

9) SYSTEM: Emergency Nuclear Service Seawater

COMPONENTS: RWP-2A and RWP-2B

TEST QUANTITY: Pi, inlet pressure

BASIS for RELIEF: There is not a pressure tap installed in the discharge line of these pumps to measure the inlet pressure. The installation of a tap would require a modification of the pipe pressure boundary. This modification would entail examination and tests in accordance with the Construction Code & Section XI for a Class 3 System.

ALTERNATE TESTING: Inlet pressure shall be calculated by tide level.

10) SYSTEM: Emergency Nuclear Service Seawater

COMPONENTS: RWP-2A and RWP-2B

TEST QUANTITY: Q, Flow Rate

TABLE B

PUMP TEST PROGRAM REQUESTS FOR RELIEF

10) Continued:

BASIS for RELIEF: There is not a flow element installed in the discharge line of these pumps to measure the flow rate. The installation of an element would require a modification of the pipe pressure boundary. This modification would entail examination and tests in accordance with the Construction Code & Section XI for a Class 3 System.

ALTERNATE TESTING: The system may be variable resistance for the inservice test of these pumps at a given time (i.e.: heat exchanger out for maintenance or cleaning). It will be attempted to fix the resistance of the system during the performance of an inservice test of the pump, though it may not be always possible. If the system resistance is varied during the test, it shall be noted on the procedure. Should a test quantity be out of normal range, it shall be evaluated on the basis of the varied resistance in the system.

11) SYSTEM: Emergency Diesel Generator Fuel Transfer Pumps

COMPONENTS:
DFP-1A (AC Power Supply)
DFP-1B (AC Power Supply)
DFP-1C (DC Power Supply)
DFP-1D (DC Power Supply)

TEST QUANTITIES: Pi, inlet pressure, p, differential pressure, Q, Flow Rate, V, Vibration Amplitude, T_b, bearing temperature.

BASIS for RELIEF: The pumping medium of these pumps is diesel fuel. This system has been classified by the Owner as Class 3 in accordance with the safety function to be performed. Section XI of the ASME Code was originally intended to test only those systems containing water, steam, and radioactive waste containing components in nuclear power plants.

The design basis of the Emergency Diesel Fuel Oil Transfer Pumps is such that each diesel has a separate AC pump powered from an essential bus and a separate backup DC pump powered from vital sources. Additionally, there are provisions for temporarily cross-tieing the systems together and hand pumps if required.

ALTERNATE TESTING: Each diesel and the respective diesel fuel oil transfer system shall be tested in accordance with facility Technical Specifications. This surveillance shall include operational checks of the subject pumps. The successful completion of this surveillance shall denote the subject pumps satisfied their safety function. The current Technical Specifications require each diesel be tested monthly.

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME MAIN & REHEAT STEAM DWG. NO. FD-302-011 PAGE 1 of 2

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
MSV-46	2	2-A			X			6	REL	SA	-	3	TF-3		
MSV-42	2	2-A			X			6	REL	SA	-	3	TF-3		
MSV-37	2	1-A			X			6	REL	SA	-	3	TF-3		
MSV-33	2	1-A			X			6	REL	SA	-	3	TF-3		
MSV-185	2	J-1					X	3	GL	M	LC	1	OC-1		
MSV-184	2	J-3					X	3	GL	M	LC	1	OC-1		
MSV-146	2	K-3					X	3	GL	M	LC	1	OC-1		
MSV-56	2	D-4			X			6	SCK	MO	O	1 1	EF-1F ET-7		
MSV-36	2	D-3			X			6	REL	SA	-	3	TF-3		
MSV-41	2	D-3			X			6	REL	SA	-	3	TF-3		
MSV-45	2	D-3			X			6	REL	SA	-	3	TF-3		
MSV-48	2	D-3			X			6	REL	SA	-	3	TF-3		
MSV-35	2	C-2			X			6	REL	SA	-	3	TF-3		
MSV-39	2	C-2			X			6	REL	SA	-	3	TF-3		
MSV-44	2	C-3			X			6	REL	SA	-	3	TF-3		

434 255

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME MAIN & REHEAT STEAM DWG. NO. FD-302-011 PAGE 2 of 2

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
MSV-47	2	C-3			X			6	REL	SA	-	3	TF-3		
MSV-55	2	B-3			X			6	SCK	MO	O	1 1	EF-1F ET-7		
MSV-34	2	B-2			X			6	REL	SA	-	3	TF-3		
MSV-38	2	B-2			X			6	REL	SA	-	3	TF-3		
MSV-43	2	B-2			X			6	REL	SA	-	3	TF-3		
MSV-40	2	B-2			X			6	REL	SA	-	3	TF-3		
MSV-128	2	K-2					X	4	GL	M	LC	1	OC-1		
MSV-114	2	E-2					X	1-1/2	GL	M	LC	1	OC-1		
MSV-132	2	E-5					X	1-1/2	GL	M	LC	1	OC-1		
MSV-25	2	B-2		X				6	GA	A	C	1	EF-1F ET-7 EF-5		
MSV-26	2	D-3		X				6	GA	A	C	1	EF-1F ET-7 EF-5		

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME MAIN AND REHEAT STEAM DWG. NO. FD-302-011 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY A	B	C	D	E	SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
MSV-411	2	3-A		X				24	GL	A	O	2 2 2 1	EF-2F ET-2 EF-6 EF-1P		2	MSRM
MSV-412	2	B-4		X				24	GL	A	O	2 2 2 1	EF-2F ET-2 EF-6 EF-1P		2	MSRM
MSV-413	2	C-4		X				24	GL	A	O	2 2 2 1	EF-2F ET-2 EF-6 EF-1P		2	MSRM
MSV-414	2	E-4		X				24	GL	A	O	2 2 2 1	EF-2F ET-2 EF-6 EF-1P		2	MSRM
MSV-130	2	K-3		X				3	GL	A	C	2	EF-2F ET-7 EF-6		1	ESA Signal: RB Isolation
MSV-148	2	K-5		X				3	GL	A	C	2	EF-2F ET-7 EF-6			ESA Signal: RB Isolation

434 260

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Main Steam (MS)

1.	Valves:	MSV-140 and MSV-130.
	Function:	These are block valves outside containment to drain the secondary side of the steam generator.
	Test Requirement:	EF-1F
	Basis for Relief:	The valves are not used during normal plant operation and remain full closed. Stroking them during normal plant operation would drain feedwater from the OTSG and create severe system upset transients.
	Alternate Testing:	EF-2F. The valves shall be tested at cold shutdown.
2.	Valves:	MSV-411, MSV-412, MSV-413, MSV-414.
	Function:	These are the main steam isolation valves which automatically close upon a main steam rupture matrix signal of 600 psig decreasing pressure.
	Test Requirement:	EF-1F
	Basis for Relief:	A full stroke of these valves during normal operation would interrupt the flow of steam to the main turbine, resulting in the main steam reliefs lifting and a turbine/reactor trip.
	Alternate Testing:	EF-1P, EF-2F. These valves shall be part-stroked quarterly, full stroked at cold shutdown.

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME AUXILIARY STEAM DWG. NO. FD-302-051 PAGE 1 of

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
ASV-5	3	E-7		X				6	GA		C	1 1	EF-1F ET-7		
MSV-187	3	E-7			X			6	CK	SA	C	1	EF-1F		
MSV-186	3	E-6			X			6	CK	SA	C	1	EF-1F		

434
287

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME AUXILIARY STEAM DWG. NO. FD-302-051 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
ASV-23	3	D-7		X				6	GA	M	C	-	PV-1		2	
ASV-50	3	E-7		X				6		SA	O	3	EF-3F		1	Trip & Throttle Valve

434 293

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Auxiliary Steam

1. Valve: ASV-50

Function: Steam-driven emergency feedwater pump turbine (EFTB-1) overspeed trip and throttle valve.

Test Requirement: EF-1F

Basis for Relief: Testing the overspeed trip of this valve requires manual manipulation of the governor control on EFTB-1. The more frequent the required interval of the test of this valve, the chances are increased inadvertent improper adjustment of the governor. Improper adjustment could prevent required quantity of emergency feedwater to the OTSG for safety operation. (The normal interval for testing the main turbine at this facility for overspeed protection system is each refueling).

Alternate Testing: EF-3F. The overspeed trip of the EFTB-1 will be tested at refueling.

2. Valve: 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 auxiliary steam header. However, this is a non-safety, non-semic back-up source of steam to EFTB-1.

Test Requirement: 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.

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME FEEDWATER DWG. NO. FD-302-051 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SCC/MIN)	REMARKS
			A	B	C	D	E								
FWV-162	2	E-1		X				6	GL	MO	O	C 1	EF-1F ET-5		MSRM
FWV-161	2	E-2		X				6	GL	MO	O	1 1	EF-1F ET-5		MSRM

434 263

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME FEEDWATER DWG. NO. FD-302-081 PAGE 1 of 2

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SCC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
FWV-29	2	D-3		X				18	GA	MO	O	2 2 1	EF-2F ET-5 EF-1P		1	MSRM
FWV-30	2	E-2		X				18	GA	MO	O	2 2 1	EF-2F ET-5 EF-1P		1	MSRM
FWV-31	2	D-2		X				10	GA	MO	O	2 2 1	EF-2F ET-8 EF-1P		2	MSRM
FWV-32	2	D-3		X				10	GA	MO	O	2 2 1	EF-2F ET-8 EF-1P		2	MSRM
FWV-33	2	E-3		X				6	GA	MO	O	2 2	EF-2F ET-5 EF-1P		3	MSRM
FWV-34	2	F-2		X				6	GA	MO	C	2 2	EF-2F ET-5		4	MSRM
FWV-35	2	F-1		X				6	GA	MO	C	2 2	EF-2F ET-5		4	MSRM
FWV-36	2	E-1		X				6	GA	MO	O	2 2 1	EF-2F ET-5 EF-1P		3	MSRM

434 262

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME FEEDWATER DWG. NO. FD-302-081 PAGE 2 of 2

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
FWV-41	2	C-1			X			6	CK	SA	O	2	EF-2F		8	
FWV-42	2	C-3			X			6	CK	SA	O	2	EF-2F		8	
FWV-43	2	F-2			X			6	CK	SA	C	2	EF-2F		5	
FWV-44	2	F-1			X			6	CK	SA	C	2	EF-2F		5	
FWV-157	3	D-1			X			6	CK	SA	C	2	EF-2F		6	
FWV-158	3	D-3			X			6	CK	SA	C	2	EF-2F		6	
FWV-46	2	3-F			X			18	CK	SA	O	-	-		7	
FWV-45	2	2-F			X			18	CK	SA	O	-	-		7	
FWV-40	2	E-1		X				6	GL	A	O	1	-		9	
FWV-39	2	E-3		X				6	GL	A	O	1	-		9	
FWV-37	2	E-2		X				10	GL	A	O	1	-		9	
FWV-38	2	E-3		X				10	GL	A	O	1	-		9	

4574 265

TABLE 2A
VALVE RELIEF REQUEST BASIS

Syscem: Feedwater (FW)

1.	Valves:	FWV-29 and FWV-30
	Function:	Main feedwater block valves for feedwater control during reactor power maneuvering and feedwater isolation on main steam rupture matrix signal.
	Test Requirement:	EF-1F
	Basis for Relief:	Stroking of these valves at normal plant operation would result in a feedwater transient. This would subject the plant to an unsafe condition and a potential reactor trip.
	Alternate Testing:	EF-1P, EF-2F. The valves shall be full stroked and timed at cold shutdown and part stroked every three (3) months.
2.	Valves:	FWV-31 and FWV-32
	Function:	These valves are the low load feedwater block valves. When reactor power is from 15% to 100%, valves are full open. Valves will close on main steam rupture matrix signal.
	Test Requirement:	EF-1F
	Basis for Relief:	Full stroking of these valves during normal plant operation would cause an upset in the feedwater control system by partial interruption of required feedwater flow. This would subject the plant to an unsafe condition and a potential reactor trip.
	Alternate Testing:	EF-1P, EF-2F. Those valves shall be part stroked at three (3) month intervals, and full stroked and timed at cold shutdown.
3.	Valves:	FWV-33 and FWV-36
	Function:	These valves are the startup feedwater block valves and are full open throughout all reactor power operation under normal operating conditions. On loss of all four (4) RC pumps or loss of both main feedwater pumps, the valves close to allow feedwater or emergency feedwater to the OTSG through the emergency feedwater nozzles. Valves close on main steam rupture matrix signal.
	Test Requirement	EF-1F

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Feedwater (FW) #3 continued.

3. Basis for Relief: Full stroking of these valves during normal plant operation would cause a transient in the feedwater control system by partial interruption of required feedwater flow. This would subject the plant to an unsafe condition and a potential reactor trip.

Alternate Testing: EF-1P, EF-2F. These valves shall be part stroked at three (3) month intervals and full stroked and timed at cold shutdown.

4. Valves: FWV-34 and FWV-35

Function: These valves are the emergency feedwater block valves and open on loss of both main FW pumps or loss of all four (4) RC pumps to furnish FW through the emergency FW nozzles of the OTSGs.

Test Requirement: EF-1F

Basis for Relief: The stroking of these valves during normal plant operation would introduce feedwater through the emergency feedwater nozzles on the OTSGs. This would cause a transient in the main steam and feedwater control systems, subjecting the plant to an unsafe condition and a potential reactor trip. The plant is not designed to operate in this manner under normal conditions. Valves cannot be part-stroked during normal plant operation for same reason.

Alternate Testing: EF-2F. The valves shall be full stroked and timed at cold shutdown.

5. Valves: FWV-43 and FWV-44

Function: Check valves outside containment on emergency feedwater line to OTSGs for containment isolation and prevention of back flow in the line. Valve is closed during normal plant operation.

Test Requirement: EF-1F

Basis for Relief: The opening of these check valves would require a positive indication of flow through the emergency feedwater nozzles of the OTSGs. This cannot be done during normal plant operation as it would cause a transient in the main steam and feedwater to the OTSG. This would subject the plant to an unsafe condition. The plant is not designed to operate in this manner under normal conditions.

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Feedwater (FW) #5 continued.

5.	Basis for Relief:	Testing these valves in the reverse flow direction would not increase safety as the feedwater system is a closed loop and backup by block valves for isolation.
	Alternate Testing:	EF-2F. Valves will be full stroked at cold shutdown for opening by flow indication through emergency feedwater flow meter.
6.	Valves:	FWV-157 and FWV-158
	Function:	Normally closed check valves to prevent backflow from main feedwater to emergency feedwater piping. Their safety function is to open for emergency feedwater flow to the OTSGs on loss of both main feedwater pumps.
	Test Requirement:	EF-1F
	Basis for Relief:	To insure that the disks of these valves move off their seats requires a positive indication of flow. This cannot be achieved during normal plant operation as it requires injection of cold emergency feedwater to the preheated main feedwater system. This would result in a transient in the main steam and feedwater control system, subjecting the plant to an unsafe condition and a potential reactor trip. Valves cannot be part stroked for same reasons during normal plant operation.
	Alternate Testing:	EF-2F. Valve shall be full stroked during cold shutdowns.
7.	Valves:	FWV-45 and FWV-46
	Function:	These are the main feedwater system containment isolation valves to prevent backflow. During plant operation these valves are continuously open as long as a main feedwater pump is in operation.
	Test Requirement:	EF-1F
	Basis for Relief:	To insure that the disks of these valves move to their seated position upon cessation of feedwater flow cannot be accomplished with present plant design. These 18" checks do not have external disk position indicators. Other methods of testing would require flooding or nitrogen pressurization of the OTSG and opening drains and vents upstream of the subject valves. These valves are backed up by motor-operated

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Feedwater (FW) #7 continued.

7.	Basis for Relief:	block valves upstream which are being tested. Since the main feedwater system is a closed loop system through the containment with upstream block valves for backup, a reverse flow check of these valves was not designed into the system.
	Alternate Testing:	These valves are tested for full opening during normal plant operation by proper main feedwater flow being maintained in the OTSG. Relief is requested from a reverse flow test.
8.	Valves:	FWV-41 and FWV-42
	Function:	During normal plant operation these valves open to provide main feedwater to the OTSG. Upon a pressure differential the valves close to prevent reverse flow, i.e. when emergency feedwater is initiated and main flow feedwater pumps are tripped. The valves also serve as a system boundary valve between a class 3 and quality-group D system.
	Test Requirement:	EF-1F
	Basis for Relief:	The test of these valves for closure upon cessation of main feedwater flow requires an external disk position indicator on these valves or some other positive means of verification. The valves are not equipped with disk position indicators. The other positive means of identification would require venting and draining the system upstream of the subject valves which is comprised of a large volume of 6" and 18" piping.
	Alternate Testing:	While testing the emergency feedwater system at cold shutdown, closure of these valves shall be verified by proper flow of emergency feedwater to the OTSG.
9.	Valves:	FWV-40, FWV-39, FWV-37, FWV-38
	Function:	FWV-39 and 40 -- These valves are used for start-up feedwater flow control to 15% of full feedwater flow. After 15%, the valves are full open. FWV-37 and 38 -- These valves control feedwater flow during low load operations from 15% to 50% feedwater demand.
	Test Requirements:	EF-1F

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Feedwater (FW) #9 continued.

9. Basis for Relief: These feedwater flow regulating valves are used throughout the normal plant operating cycle. Any malfunction of these valves would be identified immediately and corrective measures initiated. A Section XI inservice test for these category B valves in accordance with IWV-3410 does not add to the safety of this facility.

Alternate Testing: During normal plant operation these valves are being tested by proper feedwater control. Any degradation or malfunction shall be evaluated at the time of detection and corrective measures initiated.

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME EMERGENCY FEEDWATER DWG. NO. FD-302-082 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
EFV-23	3	B-4					X	1 1/2	GA	M	LO	1	OC-1		
EFV-34	3	B-4			X			1	CK	SA	--	1	EF-1F		
EFV-4	3	C-5		X				8	GA	MO	O	1 1	EF-1F ET-7		
EFV-24	3	E-4					X	1	GA	M	LO	1	OC-1		
EFV-35	3	E-4			X			1	CK	SA	--	1	EF-1F		
EFV-3	3	G-5		X				6	GA	MO	O	1 1	EF-1F ET-7		
EFV-11	3	A-5		X				6	GA	MO	O	1 1	EF-1F ET-7		EFV-32, 11, 33, and 14: These valves may be closed by operator action in case of rupture of an EFW line downstream of these valves. The closing of these valves would allow the other steam generator to be feed emergency feedwater and continue cooling the RC system.
EFV-32	3	A-5		X				6	GA	MO	O	1 1	EF-1F ET-8		
EFV-14	3	B-6		X				6	GA	MO	O	1 1	EF-1F ET-7		
EFV-33	3	B-6		X				6	GA	MO	O	1 1	EF-1F ET-8		
EFV-12	3	B-5		X				6	GA	M	C	1	EF-1F		
EFV-13	3	B-6		X				6	GA	M	C	1	EF-1F		

434 283

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME EMERGENCY FEEDWATER DWG. NO. FD-302-082 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
EFV-1	3	C-5		X				8	GA	MO	C	2 2	EF-2F ET-7		1	
EFV-2	2	F-5		X				8	GA	MO	C	2 2	EF-2F ET-7		1	
EFV-7	3	E-4			X			6	SCK	SA	C	2	EF-2F		2	
EFV-8	3	B-5			X			6	SCK	SA	C	2	EF-2F		2	
EFV-5	3	C-5			X			4	CK	SA	C	1 2	EF-1P EF-2F		4	
EFV-6	3	E-5			X			4	CK	SA	C	1 2	EF-1P EF-2F		4	
EFV-15	3	A-7			X			6	CK	SA	C	2	EF-2F		3	
EFV-16	3	A-7			X			6	CK	SA	C	2	EF-2F		3	
EFV-17	3	A-8			X			6	CK	SA	C	2	EF-2F		3	
EFV-18	3	A-7			X			6	CK	SA	C	2	EF-2F		3	

434 817 27

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Emergency Feedwater

1.	Valves:	EFV-1 and EFV-2
	Function:	Emergency feedwater supply from main condenser to emergency feedwater pumps. These are backup valves, only used if the condensate storage tank becomes unavailable. The condenser is a non-seismic non-safety related system.
	Test Requirement:	EF-1F
	Basis for Relief:	The valves are interlocked with the condenser vacuum breakers to prevent inadvertent opening with a condenser vacuum. Testing during normal operation would require a "jumper" to defeat interlock.
	Alternate Test:	EF-2F. Valves shall be full stroked and timed at cold shutdown.
2.	Valves:	EFV-7 and EFV-8
	Function:	These valves are the emergency feedwater pump discharge stop check valves. During normal plant operation the valves are closed.
	Test Requirement:	EF-1F
	Basis for Relief:	To insure the valve disk comes off its seat requires indication of flow to the OTSG. This cannot be done during normal plant operation as it would require flow of emergency feedwater to the OTSG through the emergency feedwater nozzles. This would cause a severe transient in the main steam and feedwater control system, subjecting the plant to an unsafe condition. The plant is not designed to operate in this manner under normal operating conditions. Valves cannot be part-stroked for same reasons during normal plant operation.
	Alternate Testing:	EF-2F. Valves shall be full stroked and timed at cold shutdown by flow to the OTSG.

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: EF

3.	Valves:	EFV-15, EFV-16, EFV-17, EFV-18
	Function:	During normal plant operation these valves are closed providing main steam pressure isolation from the emergency feedwater system. The safety function of the checks are to open to provide emergency feedwater to the OTSG on loss of both main feedwater pumps.
	Required Tests:	EF-1F
	Basis for Relief:	To insure the valve disk comes off its seat requires indication of flow to the OTSG. This cannot be done during normal plant operation as it would require flow of emergency feedwater to the OTSG through the emergency feedwater nozzles. This would cause a severe transient in the main steam and feedwater control system, subjecting the plant to an unsafe condition. The plant is not designed to operate in this manner under normal operating conditions. Valves cannot be part-stroked for same reasons during normal plant operation.
	Alternate Testing:	EF-2F. Valves shall be full stroked at cold shutdown by flow to the OTSGs.
4.	Valves:	EFV-5 and EFV-6
	Function:	First check valve in a series of two at the discharge of the emergency feedwater pumps which are closed during normal plant operation. Upon energizing the emergency feedwater pumps on loss of both main feedwater pumps, the valves open to provide cooling to the RC system through the OTSG.
	Test Requirement:	EF-1F
	Basis for Relief:	Full stroke of this valve would require emergency feedwater flow to the OTSG through the emergency feedwater nozzles. This would cause a severe transient in the mainsteam and feedwater control systems, subjecting the plant to an unsafe condition. The plant is not designed to operate in this manner under normal operating conditions.
	Alternate Testing:	EF-1P, EF-2F. These valves shall be part stroked during system operability checks of the EFW pumps and full stroked at cold shutdown.

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME CONDENSATE DWG. NO. FD-302-101 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
CDV-104	3	G-4					X	1-1/2	GA	M	LO	1	OC-1		
CDV-103	3	G-4					X	8	GA	M	LO	1	OC-1		

434 277

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME CONDENSATE & DEMINERALIZED WATER SUPPLY DWG. NO. FD-302-182 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
DWV-160	2	F-7	X					3	GA	MO	O	1 1 3	EF-1F ET-7 SLT-1	4110	ESA Signal: RB Isolation

434 278

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME CONDENSATE & DEMINERALIZED WATER SUPPLY DWG. NO. FD-302-182 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SCC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
DWV-162	2	E-5	X		X			3	CK	SA	O	3	SLT-1	4110	1	

434 279

TABLE 2A

VALVE RELIEF REQUEST BASIS

System: Condensate & Demineralized Water Supply (DW)

1.	Valve:	DWV-162
	Function:	During normal plant operation this check valve is part-opened to allow a small quantity of demineralized water to flow to the RC pumps' standpipes for flushing. Not required to full open in any safety mode. Must close in case of containment isolation.
	Test Requirement:	EF-1F
	Basis for Relief:	The valve has no safety function other than containment isolation. Therefore, a full stroke of the valve for opening does not increase the level of safety at this facility. During plant heat-up, a flow of 2-4 gph is verified to each RC pump standpipe.
	Alternate Testing:	SLT-1; a seat leakage test shall be performed at each refueling. Relief from stroking requirements is requested.

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME CHEMICAL CLEANING STEAM GENERATORS DWG. NO. FD-302-192 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
CGV-1	2	E-3					X	3	GA	M	LC	1	OC-1		
CGV-2	2	J-3					X	3	GA	M	LC	1	OC-1		

434 281

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME DOMESTIC WATER DWG. NO. FD-302-211 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
DOV-233	3	B-6			X			2	REL	SA	-	3	TF-3		
DOV-238	3	C-8		X				2	GA	MO	C	1 1	EF-1F ET-8		
DOV-210	3	D-7		X				2	GA	MO	C	1 1	EF-1F ET-8		
DOV-209	3	C-8			X			2	CK	SA	C	1	EF-1F		

434 287

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME: INSTRUMENT AIR & STATION SERVICE AIR DWG. NO. FD-302-271 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY A	B	C	D	E	SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
IAV-28	2	E-2	X				X	2	GA	M	LC	1 3	OC-1 SLT-1	2740	
IAV-61	2	E-3					X	2	GA	M	LC	1	OC-1		
IAV-62	2	E-3					X	2	GA	M	LC	1	OC-1		
IAV-29	2	E-2	X				X	2	GA	M	LC	1 3	OC SLT-1	2740	
SAV-24	2	H-9	X				X	3	GA	M	LC	1 3	OC-1 SLT-1	4110	
SAV-23	2	H-9					X	3	GA	M	LC	1	OC-1		

434
283

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME EMERGENCY DIESEL GENERATOR FUEL OIL TRANSFER DWG. NO. FD-302-281 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
DFV-47	3	F-4		X				2-1/2	GA	M	C	1	EF-1F		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		
DFV-35	3	A-2		X				1	REL	SA	-	3	TF-3		
DFV-27	3	A-8		X				1	REL	SA	-	3	TF-3		

434 282

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME EMERGENCY DIESEL GEN. FUEL OIL TRANSFER DWG. NO. FD-302-281 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
DFV-36	3	A-2			X			1	CK	SA	-	1	----		1	
DFV-37	3	A-2			X			1	CK	SA	-	1	----		1	
DFV-39	3	A-3			X			1	CK	SA	-	1	----		1	
DFV-45	3	F-4					X	2	GA	M	LO	1	----		1	
DFV-46	3	F-5					X	2	GA	M	LO	1	----		1	
DFV-28	3	A-8					X	1	CK	SA	-	1	----		1	
DFV-2[illegible]	3	A-8					X	1	CK	SA	-	1	----		1	
DFV-31	3	A-9					X	1	CK	SA	-	1	----		1	
DFV-6	3	D-3					X	1	CK	SA	-	1	----		1	
DFV-7	3	D-3					X	1	CK	SA			----		1	
DFV-14	3	D-6					X	1	CK	SA	-	1	----		1	
DFV-15	3	D-6					X	1	CK	SA	-	1	----		1	
DFV-25	3	H-6			X			2 1/2	CK	SA	-	1	----		1	
DFV-26	3	H-3			X			2 1/2	CK	SA	-	1	----		1	

434

285

TABLE 2A

VALVE RELIEF REQUEST BASIS

System: Emergency Diesel Generator Fuel Oil Transfer (DF)

1.	Valves:	DFV-36, DFV-37, DFV-39, DFV-45, DFV-46, DFV-28, DFV-29, DFV-31, DFV-6, DFV-7, DFV-14, DFV-15, DFV-35, DFV-27, DFV-25, DFV-26.
	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:	TF-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 Testing:	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. The current technical specifications require each diesel be tested monthly.

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME STARTING AIR & ENGINE EXHAUST DWG. NO. FD-302-282 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
EGV-26	3	D-5		X				2-1/2	GA	M	C	1	EF-1F		EGV-26,25: Crasstic line from Air Receiver 3A, 3B, 3C, & 3D.
EGV-25	3	D-4		X				2-1/2	GA	M	C	1	EF-1F		
EGV-6	3	D-3			X			3/4	REL	SA	-	3	TF-3		
EGV-7	3	D-6			X			3/4	REL	SA	-	3	TF-3		
EGV-8	3	D-8			X			1	REL	SA	-	3	TF-3		
EGV-3	3	A-7			X			1	REL	SA	-	3	TF-3		
EGV-1	3	A-1			X			1	REL	SA	-	3	TF-3		
EGV-5	3	D-1			X			3/4	REL	SA	-	3	TF-3		

434 289

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME EMERGENCY DIESEL GENERATOR COMPRESSED STARTING AIR & ENGINE EXHAUST DWG. NO. FD-302-282 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
EGV-21	3	F-1			X			1	CK	SA	-	1	---		1	
EGV-22	3	F-3			X			1	CK	SA	-	1	---		1	
EGV-23	3	E-6			X			1	CK	SA	-	1	---		1	
EGV-24	3	E-8			X			1	CK	SA	-	1	---		1	
EGV-2	3	A-1			X			1	CK	SA	-	1	---		1	
EGV-4	3	A-			X			1	CK	SA	-	1	---		1	

434 284

TABLE 2A

VALVE RELIEF REQUEST BASIS

System: Emergency Diesel Generator Compressed Starting Air and Engine Exhaust

1.	Valves:	EGV-21, EGV-22, EGV-23, EGV-24, EGV-2, EGV-4
	Function:	These are the essential valves comprising the Starting Air and Engine Exhaust System for the emergency diesel.
	Test Requirement:	EF-1F
	Basis for Relief:	The emergency diesels are required to be tested monthly in accordance with the facility technical specifications. The starting and operation of the emergency diesels requires use of this system.
	Alternate Testing:	Each diesel will be tested in accordance with plant technical specifications. The successful completion of this test shall denote the subject valves are functioning correctly. Current technical specifications require each diesel be tested monthly.

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME JACKET COOLANT SCHEMATIC DIAGRAM DWG. NO. FD-302-283 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SCC/MIN)	REMARKS
			A	B	C	D	E								
DJV-15(3A)	3	D-6			X				REL	SA	-	3	TF-3		
DJV-16(3B)	3	D-6			X				REL	SA	-	3	TF-3		

434 286

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME JACKET COOLANT SCHEMATIC DIAGRAM DWG. NO. FD-302-283 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
DJV-27 3A	3	E-6			X				CK	SA	-	1	EF-1F		1	
DJV-29 3A	3	E-6			X				CK	SA	-	1	EF-1F		1	
DJV-28 3B	3	E-7			X				CK	SA	-	1	EF-1F		1	
DJV-30 3B	3	E-7			x				CK	SA	-	1	EF-1F		1	
DJV-1 3A	3	B-4			X				CK	SA	-	1	EF-1F		1	
DJV-31 3A	3	E-5			X				CK	SA	-	1	EF-1F		1	
DJV-32 3B	3	E-5			X				CK	SA	-	1	EF-1F		1	
DJV-17 3A	3	D-8			X				CK	SA	-	1	EF-1F		1	
DJV-18 3B	3	D-8			X				CK	SA	-	1	EF-1F		1	
DJV-2 3B	3	B-4			X				CK	SA	-	1	EF-1F		1	

434
187

TABLE 2A

VALVE RELIEF REQUEST BASIS

System: Jacket Coolant Schematic Diagram (DJ)

1.	Valves:	DJV-27, DJV-29, DJV-28, DJV-30, DJV-1, DJV-31, DJV-32, DJV-17, DJV-18, DJV-2
	Function:	These are the essential valves comprising the Emergency Diesel and Lubrication Cooling Water System.
	Test Requirement:	EF-1F
	Basis for Relief:	The emergency diesels are required to be tested monthly in accordance with the facility technical specifications. The starting and operation of the emergency diesels requires use of this system.
	Alternate Testing:	Each diesel will be tested in accordance with plant technical specifications. The successful completion of this test shall denote the subject valves are functioning correctly. Current technical specifications require each diesel be tested monthly.

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME AIR COOLER COOLANT SCHEMATIC DIAGRAM DWG. NO. FD-302-284 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
DJV-38(3A)	3	B-5			X				CK	SA	-	1	EF-1F		1	
DJV-39(3B)	3	B-5			X				CK	SA	-	1	EF-1F		1	

TABLE 2A

VALVE RELIEF REQUEST BASIS

System: Air Cooler Coolant Schematic Diagram

1.	Valve:	DJV-38, DJV-34
	Function:	Provide cooling water for cooling the combusion air coolers in the emergency diesels.
	Test Requirement:	EF-1F
	Basis for Relief:	The emergency diesels are required to be tested monthly in accordance with the facility technical specifications. The starting and operation of the emergency diesels requires use of this system.
	Alternate Testing:	Each diesel will be tested in accordance with plant technical specifications. The successful completion of this test shall denote the subject valves are functioning correctly. Current technical specifications require each diesel be tested monthly.

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME NUCLEAR SERVICES CLOSED CYCLE COOLING DWG. NO. 302-601

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY A	B	C	D	E	SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SCC/MIN)	REMARKS
SWV-50	2	D-6		X				8	BF	A	O	1 1 1	EF-1F EF-5 ET-7		ESA Signal: RB Isolation
SWV-354	3	E-6		X				16	B	A	C	1 1 1	EF-1F EF-5 ET-4		ESA Signal: Opens on RB Isolation
SWV-49	2	D-7		X				8	BF	A	O	1 1 1	EF-1F EF-5 ET-7		ESA Signal: RB Isolation
SWV-48	2	D-7		X				8	BF	A	O	1 1 1	EF-1F EF-5 ET-7		ESA Signal: RB Isolation
SWV-47	2	D-8		X				8	BF	A	O	1 1 1	EF-1F EF-5 ET-7		ESA Signal: RB Isolation
SWV-353	3	F-7		X				16	BF	A	C	1 1 1	EF-1F EF-5 ET-4		ESA Signal: Opens on RB Isolation
SWV-10	3	G-12			X			18	CK	SA	-	1	EF-1F		
SWV-9	3	G-12			X			14	CK	SA	-	1	EF-1F		
SWV-413	3	F-12			X			14	CK	SA	-	1	EF-1F		
SWV-8	3	F-12			X			14	CK	SA	-	1	EF-1F		

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME: NUCLEAR SERVICES CLOSED CYCLE COOLING DWG. NO. FD-302-601 PAGE 2 of 2

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURATION	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
SWV-412	3	F-12			X			14	CK	SA	-	1	EF-1F		
SWV-278	3	D-14			X			2	REL	SA	-	3	TF-3		Vacuum Relief
SWV-199	3	D-13			X			1	REL	SA	-	3	TF-3		
SWV-151	3	F-6		X				10	BF	A	0	1 1 1	EF-1F EF-5 ET-4		ESA Signal: RB Isolation
SWV-152	3	F-6		X				10	BF	A	0	1 1 1	EF-1F EF-5 ET-4		ESA Signal: RB Isolation
SWV-355	3	F-6		X				10	BF	A	0	1 1 1	EF-1F EF-5 ET-4		ES Signal: RB Isolation
SWV-12	3	G-8		X				12	BF	A	0	1 1 1	EF-1F EF-5 ET-4		ES Signal: RB Isolation

434 297

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME NUCLEAR SERVICES CLOSED CYCLE COOLING DWG. NO. FD-302-601 PAGE 1 of 2

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SCC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
SWV-79	2	C-17		Y				6	BF	A	O	2 2 2	EF-2F EF-6 ET-7		1	ESA Signal: RB Isolation
SWV-80	2	C-15		X				6	BF	A	O	2 2 2	EF-2F EF-6 ET-7		1	ESA Signal: RB Isolation
SWV-81	2	C-13		X				6	BF	A	O	2 2 2	EF-2F EF-6 ET-7		1	ESA Signal: RB Isolation
SWV-82	2	C-12		X				6	BF	A	O	2 2 2	EF-2F EF-6 ET-7		1	ESA Signal: RB Isolation
SWV-83	2	C-16		X				6	BF	A	O	2 2 2	EF-2F EF-6 ET-7		1	ESA Signal: RB Isolation
SWV-84	2	C-14		X				6	BF	A	O	2 2 2	EF-2F EF-6 ET-7		1	ESA Signal: RB Isolation
SWV-85	2	C-12		X				6	BF	A	O	2 2 2	EF-2F EF-6 ET-7		1	ESA Signal: RB Isolation
SWV-86	2	C-10		X				6	BF	A	O	2 2 2	EF-2F EF-6 ET-7		1	ESA Signal: RB Isolation

434
295

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME NUCLEAR SERVICES CLOSED CYCLE COOLING DWG. NO. FD-302-601 PAGE 2 of 2

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
SWV-109	2	C-9		X				3	GA	A	O	2 2 2 1	EF-2F EF-6 EF-7 EF-1P		2	ESA Signal: RB Isolation
SWV-110	3	C-10		X				3	GA	A	O	2 2 2 1	EF-2F EF-6 ET-7 EF-1P		2	ESA Signal: RB Isolation
SWV-299	3	G-3		X				6	GA	M	C	1	PV-1		3	
SWV-300	3	G-3		X				6	GA	M	C	1	PV-1		3	
SWV-306	3	J-3		X				6	GA	M	C	1	PV-1		3	
SWV-307	3	J-3		X				6	GA	M	C	1	PV-1		3	
SWV-284	3	G-9		X				2 1/2	GA	M	C	1	PV-1		4	
SWV-285	3	H-9		X				2 1/2	GA	M	C	1	PV-1		4	
SWV-279	3	J-9		X				2 1/2	GL	M	C	1	PV-1		4	
SWV-280	3	J-9		X				2 1/2	GL	M	C	1	PV-1		4	
SWV-415	3	G-14		X				1/2	GA	M	C	1	PV-1		5	

434 298

TABLE 2A

VALVE RELIEF REQUEST BASIS

System: Nuclear Services Closed Cycle Cooling

1.	Valves:	SWV-79, SWV-80, SWV-81, SWV-82, SWV-83, SWV-84, SWV-85, SWV-86
	Function:	These valves supply cooling water to the RC pump motor's bearings, air cooler, and seal area cooler during RC pump operation.
	Test Requirement:	EF-1F
	Basis for Relief:	The failure of these valves during full stroke exercising would result in loss of cooling water to the RC pump motor bearings, seals and coolers. This could damage the pumps if operator did not take action to trip the pumps. Exercising these valves could place the plant in an unsafe condition.
	Alternate Testing:	EF-2F, EF-6. The valves will be full stroked and timed at cold shutdown
2.	Valves:	SWV-109 and SWV-110
	Function:	These valves furnish cooling water to the control rod drive mechanism (CRDM) stators.
	Test Requirement:	EF-1F
	Basis for Relief:	Exercising these valves would entail loss of cooling water for all CRDM stators until exercising is complete. The loss of cooling water to the CRDMs could result in damage to their stators if the operator did not take action to trip the reactor.
	Alternate Testing:	EF-2F, EF-1P. Valves shall be full stroked and timed at cold shutdown and part stroked at least once every three months.
3.	Valves:	SWV-299, SWV-300, SWV-306, SWV-307
	Function:	Manual inner-tie valves between the non-essential industrial cooling system and the nuclear service closed cycle cooling system. These valves are boundary valves between a class 3 and a quality group D system.
	Test Requirement:	EF-1F

TABLE 2A

VALVE RELIEF REQUEST BASIS

System: Nuclear Services Closed Cycle Cooling
#3 continued

3.	Basis for Relief:	These are passive valves inner-connecting a non-safety, non-seismic system with the nuclear service closed cycle cooling system. These valves add flexibility to the system capability.
	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.
4.	Valves:	SWV-279, SWV-280, SWV-284, SWV-285
	Function:	These are normally closed valves to the high pressure injection pumps that may supply cooling water from the nuclear service closed cycle cooling system. Normal operation requires the cooling water for MUP-1A and MUP-1C to be supplied from the decay heat closed cycle cooling system.
	Test Requirement:	EF-1F
	Basis for Relief:	These are passive valves which are closed for normal and safety modes of operation. The valves add system flexibility.
	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.
5.	Valve:	SWV-415
	Function:	System boundary valve from the chemical addition mixing drum to the nuclear service closed cycle cooling system.
	Test Requirement:	EF-1F
	Basis for Relief:	This is a passive valve not required to change position for normal or safety mode of operator. The valve allows chemical control of the nuclear service closed cycle cooling system.
	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.

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME NUCLEAR SERVICES & DECAY HEAT SEA WATER DWG. NO. FD-302-611 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SCC/MIN)	REMARKS
			A	B	C	D	E								
RWV-37	3	E-3			X			20	CK	SA	-	1	EF-1E		
RWV-36	3	E-4			X			24	CK	SA	-	1	EF-1E		
RWV-35	3	E-4			X			24	CK	SA	-	1	EF-1E		
RWV-34	3	E-5			X			20	CK	SA	-	1	EF-1E		
RWV-38	3	E-4			X			24	CK	SA	-	1	EF-1E		

4214

287

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME SPENT FUEL COOLING DWG. NO. FD-302-621 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SCC/MIN)	REMARKS
			A	B	C	D	E								
SFV-26	3	D-8			X			10	CK	SA	-	3	EF-1F		
SFV-27	3	E-8			X			10	CK	SA	-	3	EF-1F		
SFV-18	2	F-4	X				X	10	GA	M	LC	1 3	OC-1 SLT-1	13,700	
SFV-19	2	F-4	X				X	10	GA	M	LC	1 3	OC-1 SLT-1	13,700	
SFV-54	3	D-13		X				3	DA	M	O	1	EF-1F		System Boundary Valve
SFV-85	2	E-14		X				3	GA	M	C	1	EF-1F		To DH Suction
SFV-87	3	E-12		X				8	GA	M	C	1	EF-1F		From DH Discharge to SF Pools
SFV-89	2	D-5		X				8	GA	M	C	1	EF-1F		From SF Pools to DH Suction

434 309

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME SPENT FUEL COOLING DWG. NO. FD-302-621 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SCC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
SFV-119	2	B-6		X				30	GA	M	C	-	---		4	
SFV-120	2	C-6		X				30	GA	M	C	-	---		4	
SFV-7	3	D-5		X				10	GA	M	O	-	PV-1		1	
SFV-35	3	E-9		X				10	GA	M	C	-	PV-1		5	
SFV-46	3	E-12		X				8	GA	M	C	-	PV-1		5	
SFV-50	3	D-12		X				10	GA	M	O	-	PV-1		3	
SFV-88	3	F-5		X				10	GA	M	C	-	PV-1		5	
SFV-13	2	G-6		X				10	GA	M	C	-	PV-1		5	
SFV-34	3	E-9		X				10	GA	M	C	-	PV-1		2	
SFV-14	3	G-6		X				4	DA	M	C	-	PV-1		5	
SFV-21	3	G-5		X				4	DA	M	C	-	PV-1		5	

434
303

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Spent Fuel Cooling

1.	Valve:	SFV-7
	Function:	Cross-tie suction isolation valve between spent fuel pumps.
	Test Requirement:	EF-1F
	Basis for Relief:	This valve is open during the normal operation of the spent fuel cooling system. The valve adds to the flexibility of the system. The quarterly stroking of this valve does not add to the safety of the facility.
	Alternate Testing:	Operational check with appropriate record entries shall record the position of these passive valves before operations are performed and after operations are completed.
2.	Valve:	SFV-34
	Function:	Cross-tie isolation valve between spent fuel coolers upstream piping.
	Test Requirement:	EF-1F
	Basis for Relief:	The valve is normally closed and not required to be operated during the course of normal system operation. The valve would be used if the respective spent fuel pump's heat exchanger is out for maintenance and the other spent fuel pump is unoperational, which is a highly unlikely event.
	Alternate Testing:	Operational checks with appropriate record entries shall record the position of this passive valve before operations are performed and after operations are completed.
3.	Valve:	SFV-50
	Function:	Downstream of spent fuel coolers cross-tie valve to spent fuel filters.
	Test Requirement:	EF-1F
	Basis for Relief:	This valve is normally left in the open position and not required to be manipulated during the course of normal system operation. The valve adds flexibility to the system for operational modes.

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Spent Fuel Cooling #3 continued

3.	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.
4.	Valves:	SFV-119 and SFV-120
	Function:	These are valves outside of containment on fuel transfer tubes opened during refuelings for fuel transfer.
	Test Requirements:	EF-1F
	Basis for Relief:	These valves are closed during normal plant operation and not required to operate during any plant condition other than refueling. The flanges inside containment are Appendix J tested with 100 SCC/minute allowable leakage.
	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.
5.	Valves:	SFV-35, SFV-46, SFV-13, SFV-88, SFV-14, SFV-21.
	Function:	SFV-35: This valve is normally closed during plant operation. At refuelings it is used to fill the fuel transfer canal. SFV-46: This valve is used following refueling to return the borated water back to the BWST from the transfer canals. SFV-13, SFV-88, SFV-14, SFV-21: These valves are used when circulating the BWST and the filling or draining of the transfer canals.
	Test Requirement:	EF-1F
	Basis for Relief:	These are passive valves not required to operate during normal or safety function plant operation.
	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.

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME DECAY HEAT CYCLE COOLING DWG. NO. FD-302-631 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
DCV-55	3	A-3			X			2	REL	SA	-	3	TF-3		
DCV-24	3	D-4			X			3	CK	SA	-	1	EF-1F		
DCV-23	3	F-5			X			3	CK	SA	-	1	EF-1F		
DCV-56	3	A-5			X			2	REL	SA	-	3	TF-3		
DCV-18	3	F-7					x	8	BF	A	-	1	OC-1		
DCV-17	3	F-7					X	8	BF	A	-	1	OC-1		
DCV-178	3	F-7					X	8	BF	A	-	1	OC-1		
DCV-177	3	F-7					X	8	BF	A	-	1	OC-1		

434 306

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME DECAY HEAT CLOSED CYCLE COOLING DWG. NO. FD-302-631 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16-79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
DCV-187	3	A-2		X				1	GA	M	O	-	PV-1		1	
DCV-190	3	A-2		X				1 1/2	GA	SA	-	3	EF-3F		2	
DCV-189	3	A-5		X				1	GA	M	C	3	EF-3F		2	
DCV-191	3	A-5		X				1 1/2	GA	SA	-	-	PV-1		1	

434 309

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Decay Heat Closed Cycle Cooling

1.	Valves:	DCV-187 and DCV-189
	Function:	These valves provide isolation from the decay heat closed cycle cooling surge tank to the waste gas disposal system.
	Test Requirement:	EF-1F
	Basis for Relief:	These are passive valves not required to function during normal or safety plant operations.
	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.
2	Valves:	DCV-190 and DCV-191
	Function:	Pressure control valves set at 13 psig. Valves relieve over pressure from the decay heat closed cycle cooling surge tanks to the waste gas system.
	Test Requirement:	EF-1F
	Basis for Relief:	These valves are welded to the piping on the surge tank. The only method of testing these valves would be to pressurize the surge tank to 13 psig and verify valve opens. There is a safety valve on each surge tank set at 15 psig which shall be tested in accordance with Section XI.
	Alternate Testing:	No testing shall be performed on these valves.

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME DECAY HEAT REMOVAL DWG. NO. FD-302-641

PREPARED BY S. M. JOHNSON DATE 7/16-79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY A	B	C	D	E	SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
DHV-6	2	B-6		X				10	GA	MO	C	1 1	EF-1F ET-3		DHV-5 and DHV-6: ESA Signal: LPI Pressure gauges installed downstream of subject valves shall be monitored daily. This will assure that leakage of downstream check valves is not excessive to effect integrity of LPI piping. Should excessive leakage occur, corrective measures shall be initiated.
DHV-5	2	D-6		X				10	GA	MO	C	1 1	EF-1F ET-3		
DHV-11	2	D-10		X				4	GA	MO	C	1 1	EF-1F ET-7		
DHV-12	2	B-10		X				4	GA	MO	C	1 1	EF-1F ET-7		
DHV-34	2	H-13		X				14	GA	MO	O	1 1	EF-1F ET-4		ESA Signal: LPI
DHV-35	2	J-13		X				14	GA	MO	O	1 1	EF-1F ET-4		ESA Signal: LPI
DHV-43	2	J-6		X				14	GA	MO	C	1 1	EF-1F ET-8		
DHV-42	2	H-6		X				14	GA	MO	C	1 1	EF-1F ET-8		
DHV-41	2	G-6		X				12	GA	MO	C	1 1	EF-1F ET-8		

434
309

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME DECAY HEAT REMOVAL DWG. NO. FD-302-641 PAGE 2 of 2

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
DHV-44	2	G-2			X			3/4	REL	SA	-	3	TF-3		
DHV-36	2	J-13			X			14	CK	SA	-	1	EF-1F		DHV-33 & 36: Full stroke verified through flow element on discharge of DH pumps of 3000 ppm.
DHV-33	2	H-13			X			14	CK	SA	-	1	EF-1F		
DHV-28	2	F-12			X			1/2	REL	SA	-	3	TF-3		
DHV-17	2	F-10			X			1/2	REL	SA	-	3	TF-3		
DHV-7	2	C-8		X				8	GA	M	C	1	EF-1F		
DHV-8	2	D-8		X				8	GA	M	C	1	EF-1F		
DHV-39	2	H-7		X				14	GA	M	C	1	EF-1F		
DHV-40	2	J-7		X				14	GA	M	C	1	EF-1F		
DHV-48	2	C-7		X				8	GA	M	C	1	EF-1F		DH discharge to SF pools

434 300

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME DECAY HEAT REMOVAL DWG. NO. FD-302-641 PAGE 1 of 2

PREPARED BY S. W. JOHNSON DATE 7/16-79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
DHV-10	2	C-9		X				3	GA	M	C	-	PV-1		6	
DHV-9	2	C-9		X				8	GA	M	C	-	PV-1		6	
DHV-106	2	D-12		X				2 1/2	GL	MO	C	-	PV-1		6	
DHV-75	3	H-10		X				2 1/2	GA	MO	C	-	PV-1		6	
DHV-76	3	J-10		X				2 1/2	GA	MO	C	-	PV-1		6	
DHV-91	2	E-6	X					2	GL	MO	C	2 2 3	EF-2F ET-7 SLT-1	2740	3	
DHV-93	2	E-5	X					2	CK	SA	C	2 3	EF-2F SLT-1	2740	4	
DHV-1	1	D-2	X		X			10	CK	SA	C	2 3	EF-2F SLT-2		1	
DHV-2	1	B-4	X		X			10	CK	SA	C	2 3	EF-2F SLT-2		1	
DHV-3	1	F-3	X					12	GA	MO	C	2 1 2	EF-2F SLT-2 ET-7		5	
DHV-4	1	F-3	X					12	GA	MO	C	2 1 2	EF-2F SLT-2 ET-8			

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME DECAY HEAT REMOVAL DWG. NO. FD-302-641 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
DHV-111	2	D-12		X				10	GL	MO	O	1	----	-	2	
DHV-110	2	D-10		X				10	GL	MO	O	1	----		2	
DHV-105	2	D-9		X				2 1/2	GL	MO	C	-	PV-1		6	

434 312

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Decay Heat Removal

1.	Valves:	DHV-1 and DHV-2
	Function:	During normal plant operation it is the second of two normally closed check valves to provide reactor coolant isolation from the decay heat removal system. The safety function of the valves are open to provide low pressure injection or decay heat removal to the reactor core.
	Test Requirement:	EF-1F, SLT-2
	Basis for Relief:	The opening of these valves requires a reverse differential pressure which cannot be achieved during normal plant operation. Seat leakage tests for these valves by present design would be hazardous to test personnel due to high radiation. The seat leakage test requires the handling and/or collection of high pressure and temperature radioactive fluid which may flash to steam at the valve seat boundary during testing. To test these valves would require the addition of drain valves to a class 1 pressure boundary.
	Alternate Testing:	These valves shall be full stroked at cold shutdown by verification that 3000 gpm decay heat flow is passing through the valves. For verification that during normal plant operation there is not leakage of RC system to the decay heat removal system pressure gauges shall be monitored daily downstream of low pressure injection discharge valves DHV-5 and DHV-6. In addition, should seat leakage occur, relief capacity is provided through relief valves DHV-17 and DHV-28 or 31.5 gpm each.
2.	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.

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Decay Heat Removal continued

Test Requirement: EF-1F

Basis for Relief: These valves are not required to move from a full closed position to a full open (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. A full stroke and time test of these valves does not increase the facility safety.

Alternate Testing: These valves will be tested at the same frequency as system inservice operability checks for the decay heat removal system. The valves shall be tested during these tests to assure that they maintain proper pump discharge operability flow.

3. Valve: DHV-91

Function: By operator action, this valve and RCV-53 opens to cool down the pressurizer when the reactor coolant system is in the design pressure limits of the decay heat removal system.

Test Requirements: EF-1F

Basis for Relief: Stroking of this valve during normal plant operation would be potentially comprising the decay heat system by stroking a valve connecting a high pressure system to a low pressure system. The valve has no safety function. It is used for normal reactor shutdown.

Alternate Testing: EF-2F. Valve shall be stroked and timed at cold shutdown.

4. Valve: 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 when 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.

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Decay Heat Removal continued

	Alternate Testing:	EF-2F. The valve shall be full stroked at cold shutdown with verification being a reduction of RC temperature/pressure.
5.	Valves:	DHV-3 and DHV-4
	Function:	Removal of decay heat from the reactor vessel during the decay heat mode of operation. These valves are only used in the decay heat mode and not ESA mode.
	Test Requirements:	EF-1F, SLT-2
	Basis for Relief:	These valves are not designed to be stroked during normal plant operation. Stroking the valves subject the low pressure DH piping to the high pressure RC system. The valves also have an interlock to prevent opening with RC pressure greater than 284 psig. Seat leakage tests for these valves by present design would be hazardous to test personnel due to high radiation. The seat leakage test requires the handling and/or collection of high pressure and temperature radioactive fluid which may flash to steam at the valve seat boundary during testing. To test these valves would require the addition of drain valves to a class 1 pressure boundary.
	Alternate Testing:	TF-2F. Valves shall be full stroked and timed at cold shutdown. A pressure gage shall be installed downstream of DHV-3 and 4. The gage shall be monitored weekly for increasing pressure, which would denote leakage of DHV-3 and 4. Should escessive leakage occur, corrective action shall be initiated.
6.	Valves:	DHV-9 and DHV-10
	Function:	Decay heat discharge valves to the borated water storage tank for pump operability checks.
	Valves:	DHV-105 and DHV-106

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Decay Heat Removal continued

Function:	Decay heat pump discharge isolation valves to the make up and purification pre-filters. The valves are used during shutdown for RC system "cleanup." Not required for normal or safety shutdown functions.
Valves:	DHV-75 and DHV-76
Function:	Return line to the decay heat pump suction from the makeup system filters. Used during shutdown for RC system "cleanup."
Test Requirement:	EF-2F
Basis for Relief:	These are passive valves not required to change position to fulfill their function for normal or safety reactor shutdown.
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.

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME REACTOR COOLANT DWG. NO. FD-302-651 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST TIMING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
RCV-11	1	A-6		X				2-1/2	GA	MO	O	1 1	EF-1F ET-5		
RCV-8	1	A-3			X			2 1/2	REL	SA	-	3	TF-3		
RCV-9	1	A-5			X			2 1/2	REL	SA	-	3	TF-3		
RCV-10	1	A-6			X			2 1/2	REL	SA	-	3	EF-2F		RCV-10: Electromagnetic Relief valve (solenoid operated) 1) This valve will be stroked at cold shutdown. 2) The set point is lowered to 550 psig when the plant in modes 4, 5, or 6 for overpressure protection. (Appendix G) at low temperature

434 317

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME REACTOR COOLANT DWG. NO. FD-302-651 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
RCV-13	1	C-6		X				2 1/2	GA	MO	O	2 2	EF-2F ET-7		4	
RCV-14	1	C-6		X				2 1/2	GL	MO	-	1	---		3	
RCV-53	1	B-6	X					2	GL	MO	C	2 2 3	EF-2F ET-7 SLT-2		1	
RCV-12	1	B-6	X		X			2	CK	SA	C	2 3	EF-2F SLT-2		2	

434
518

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Reactor Coolant (RC)

1.	Valve:	RCV-53
	Function:	By operator action, this valve opens to cool down the pressurizer when the reactor coolant system is in the design pressure limit of the decay heat removal system.
	Test Requirement:	EF-1F, SLT-2
	Basis for Relief:	Stroking this valve during normal plant operation would be potentially comprising the decay heat system by stroking a valve from a high pressure system connecting to a low pressure system. The valve has no safety function. It is used for normal reactor shutdown. Seat leakage tests for these valves by present design would be hazardous to test personnel due to high radiation. The seat leakage test requires the handling and/or collection of high pressure and temperature radioactive fluid which may flash to steam at the valve seat boundary during testing. To test this valve would require the addition of drain valves to a class 1 pressure boundary. The downstream decay heat valves, DHV-93 and DHV-91, are being Appendix J type seat leak tested. In addition, should RCV-53, RCV-12, DHV-93 and DHV-91 all concurrently leak, the integrity of the decay heat system would be protected by relief valve DHV-17, which has a relief capacity of 31.5 GPM.
	Alternate Testing:	EF-2F. Valve shall be stroked and timed at cold shutdown. No alternate seat leak testing.
2.	Valve:	RCV-12
	Function:	This valve is closed during normal plant operation. Opens to cool the pressurizer from the decay heat removal system when the reactor is in cool down and RC pressure is within design pressure limits of decay heat removal system.

TABLE 2A
VALVE RELIEF REQUEST BASIS

System:	Reactor Coolant continued	
	Basis for Relief: continued	facility. Pressure regulating valves are specifically excluded from testing by Section XI, 1977 Edition through Summer 1978 Addenda, IWV-1200(a). (This addenda is non-mandatory at this facility.)
	Alternate Testing:	During normal plant operation this valve is being continuously tested by maintaining the RC pressure set point. Any malfunction in the valve will be evaluated at the time of detection and corrective action initiated.
4.	Valve:	RCV-13
	Function:	This valve is the isolation block valve for the pressurizer spray valve.
	Test Requirement:	EF-1
	Basis for Relief:	This valve is normally open. Stroking this valve during normal plant operation affects the design method of controlling RC pressure. This could result in a reactor trip and potential unsafe plant condition.
	Alternate Testing:	EF-2F. Valve shall be full stroked and timed at cold shutdown.

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME MAKEUP & PURIFICATION DWG. NO. FD-302-661 PAGE 1 of 2

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY A	B	C	D	E	SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
MUV-19	3	G-3			X			2	CK	SA	-	1	EF-1F		
MUV-20	3	F-3			X			2	CK	SA	-	1	EF-1F		
MUV-21	3	F-3			X			2	CK	SA	-	1	EF-1F		
MUV-22	3	F-3			X			2	CK	SA	-	1	EF-1F		
MUV-88	3	F-11			X			3	CK	SA	-	1	EF-1F		
MUV-142	3	H-13			X			3/4	CK	SA	-	1	EF-1F		
MUV-140	3	G-13			X			3/4	CK	SA	-	1	EF-1F		
MUV-23	2	D- 5		X				2-1/2	GL	MO	C	1 1	EF-1F ET-4		ESA Sig . HPI
MUV-24	2	E-5		X				2-1/2	GL	MO	C	1	EF-1F ET-4		ESA Signal: HPI
MUV-137	3	K-11			X			3	REL	SA	-	3	TF-3		
MUV-26	2	J-4		X				2-1/2	GL	MO	C	1 1	EF-1F ET-4		ESA Signal: HPI
MUV-73	2	H-10		X				6	GA	MO	C	1 1	EF-1F ET-4		ESA Signal: HPI
MUV-178	3	G-10			X			1-1/2	REL	SA	-	3	TF-3		
MUV-139	3	G-11			X			1	REL	SA	-	3	TF-3		

434

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME MAKEUP & PURIFICATION DWG. NO. FD-302-661 PAGE 2 of 2

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY A	B	C	D	E	SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
MUV-103	3	D-11		X				2-1/2	GA	A	C	1	EF-1F		
												1	EF-5		
												1	ET-2		
MUV-150	3	A-6			X			1-1/4	REL	SA	-	3	TF-3		
MUV-76	3	A-6			X			2-1/2	REL	SA	-	3	TF-3		
MUV-40	1	A-3	X					2-1/2	GA	MO	O	1	EF-1F	3425	ESA Signal: RB Isolation
												1	EF-7		
												3	SLT-1		
MUV-41	1	B-3	X					2-1/2	GA	MO	O	1	EF-1F	3425	ESA Signal: RB Isolation
												1	EF-7		
												3	SLT-1		
MUV-75	3	C-6			X			3	REL	SA	-	3	TF-3		
MUV-58	2	K-7		X				6	GA	MO	O	1	EF-1F		ESA Signal: HPI
												1	ET-4		
MUV-25	2	H-5		X				2-1/2	GL	MO	C	1	EF-1F		ESA Signal: HPI
												1	ET-4		
MUV-162	2	F-4			X			4	CK	SA	-	1	EF-1F		
MUV-69		J-9		X				6	GA	M	O	1	EF-1F		
MUV-62	2	J-6		X				6	GA	M	C	1	EF-1F		
MUV-63	2	J-6			X			6	GA	M	C	1	EF-1F		
MUV-63	2	J-9			X			6	GA	M	C	1	EF-1F		

434 323

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME MAKEUP AND URIFICATION DWG. NO. FD-302-661 PAGE 1 of 4

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDIN. TES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
MUV-18	2	F-4		X				4	GA	MO	O	2 2	EF-2F ET-7		4	
MUV-27	2	E-6		X				2 1/2	GA	MO	O	2	EF-2F ET-7		5	ESA Signal: RB Isolation
MUV-49	2	B-4	X					2 1/2	GA	A	O	2 2 2 3	EF-2F EF-6 ET-7 SLT-1	3425	6	ESA Signal: RB Isolation
MUV-53	3	D-6		X				4	GL	MO	O	2 2	EF-2F ET-6		8	ESA Signal: RB Isolation
MUV-64	2	K-9		X				4	GA	A	O	2 2 2	EF-2F EF-6 ET-5		10	ESA Signal: HPI
MUV-65	2	K-10			X			4	CK	SA	C	2	EF-2F		11	
MUV-253	2	C-5	X					1	GL	A	O	2 2 2 3 1	EF-2F EF-6 ET-7 SLT-1 EF-1P	1370	7	ESA Signal: HPI
MUV-257	3	D-6		X				4	GL	MO	O	2 2	EF-2F ET-4		8	ESA Signal: HPI
MUV-258	3	C-2	X					1	GL	MO	O	2 3 2	EF-2F SLT-1 ET-7	1370	7	ESA Signal: RB Isolation

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME MAKEUP AND PURIFICATION DWG. NO. FD-302-661 PAGE 2 of 4

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
MUV-259	2	C-2	X					1	GL	MO	0	2 3 2 1	EF-2F SLT-1 ET-7 EF-1P	1370	7	ESA Signal: RB Isolation
MUV-260	2	B-2	X					1	GL	MO	0	2 3 2	EF-2F SLT-1 ET-7	1370	7	ESA Signal: RB Isolation
MUV-261	2	B-2	X					1	GL	MO	0	2 3 2	EF-2F SLT-1 ET-7	1370	7	ESA Signal: RB Isolation
MUV-42	1	D-2	X		X			2 1/2	CK	SA	C	2 3	EF-2F SLT-2		1	
MUV-43	1	E-4			X			2 1/2	CK	SA	0	2	EF-2F		2	
MUV-160	1	D-4	X		X			2 1/2	CK	SA	C	2 3	EF-2F SLT-2		1	
MUV-161	1	E-4			X			2 1/2	CK	SA	0	2	EF-2F		2	
MUV-1	2	H-6			X			3	CK	SA	C	2	EF-2F		3	
MUV-7	2	H-8			X			3	CK	SA	0	2	EF-2F		3	
MUV-11	2	H-9			X			3	CK	SA	C	2	EF-2F		3	
MUV-31	2	F-6		X				2 1/2	GL	A	0	1	-		8	

434 321

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME MAKEUP AND PURIFICATION DWG. NO. FD-302-661 PAGE 3 of 4

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
MUV-16	2	F-6		X				4	GL	A	O	1	----		8	
MUV-30	2	F-7		X				1	GL	M	C	2	EF-2F		9	
MUV-266	2	H-8		X				2	GL	M	O	1	PV-1		12	
MUV-5	2	G-7		X				1	GL	M	O	1	PV-1		12	
MUV-264	2	H-6		X				1	GL	M	C	1	PV-1		12	
MUV-147	2	H-10		X				2	GL	M	O	1	PV-1		12	
MUV-108	3	D-13		X				2 1/2	GL	A	-	1	----		13	Control Valve
MUV-51	3	B-5		X				2 1/2	GL	A	-	-	----		14	
MUV-60	2	K-6			X			6	CK	SA	C	2	EF-2F		15	
MUV-72	2	J-10			X			6	CK	SA	C	2	EF-2F		15	
MUV-163	2	H-4	X		X			2 1/2	CK	SA	-	2 3	EF-2F SLT-2		1	
MUV-164	2	J-4	X		X			2 1/2	CK	SA	-	2 3	EF-2F SLT-2		1	
MUV-36	2	H-3	X		X			2 1/2	CK	SA	C	2 3	EF-2F SLT-2		1	

434 321

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME MAKEUP AND PURIFICATION DWG. NO. FD-302-661 PAGE 4 of 4

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
MUV-37	2	J-3	X		X			2 1/2	CK	SA	C	2 3	EF-2F SLT-2		1	
MUV-17	2	G-6			X			3	GL	M	C	2	EF-2F		9	
MUV-2	2	H-6			X			3	SCK	SA	C	2	EF-2F		3	
MUV-6	2	H-8			X			3	SCK	SA	O	2	EF-2		3	
MUV-10	2	H-9			X			3	SCK	SA	C	2	EF-2		3	

434 326

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Make-up and Purification

1.	Valves:	MUV-42, MUV-37
	Function:	These valves are the first of two closed valves to prevent reverse flow from the RC system to the MU system. Their safety function is to open to provide HPI to the RC system.
	Valves:	MUV-160, MUV-163, MUV-164
	Function:	These valves are the second of two closed valves to prevent reverse flow to the MU system from the RC system. Their safety function is to open to provide HPI to the RC system.
	Test Requirement:	EF-1, SLT-2
	Basis for Relief:	In order to part stroke or full stroke these valves during normal plant operation it would require injection of MU water (approximately 90 to 100°F) through the HPI nozzles. CR-3 Technical Specifications, Section 5.0, Design Basis, p. 5-8, (Technical Specification Change Request Number 37 dated 3/21/79) limits design cycle transients to 40 cycles on the HPI system. Full or part stroke of these valves during normal plant operation constitutes a cycle transient. Therefore, testing at 3 month periods shall compromise this system leading to potential damage of the HPI nozzles. The piping upstream of these valves is rated at a higher pressure than RC system pressure. Therefore seat leakage is not important for these valves. Pressure gauges shall be installed at the downstream side of the HPI discharge valves (MUV-23, 25 and 26). This gauge shall be monitored for leakage through the two downstream check valves prior to stroking the HPI valves. Should excess leakage occur from the downstream check valves (i.e. MUV-42 and MUV-160; MUV-36 and MUV-163; MUV-37 and MUV-164) corrective measures shall be initiated. This should eliminate water hammer concerns.

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Make-up and Purification continued

	Alternate Testing:	These valves shall be tested at cold shutdown for full stroking. Full stroke will be verified through flow elements to each HPI cold leg in RC system. No alternate seat leak test.
2.	Valve:	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.
	Valve:	MUV-161
	Function:	This valve is the second 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.
	Test Requirement:	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.
	Alternate Testing:	The valve will be tested at cold shutdown for full stroking. Full stroke verified by flow elements in HPI line to RCS.
3.	Valves:	MUV-10, MUV-6, MUV-2
	Function:	These are stopcheck valves to prevent pump run-out and prevent backflow upon pressure differential to the suction side of the MU pumps.
	Valves:	MUV-1, MUV-7, MUV-11
	Function:	These are the first check valve on the discharge of the MU pumps. These will prevent backflow upon pressure differential to the suction side of the MU pumps.

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Make-up and Purification continued

Test Requirements: EF-1F

Basis for Relief: Stroking these valves would require injecting HPI into the RC system. This could cause a potentially unsafe plant condition as design control of pressurizer level is lost. HPI nozzles are limited to 40 thermal transients by technical specifications, Section 50, Design Basis. (See Table 2A, Number 1, Make up and Purification System of this relief request.)

Alternate Testings: EF-1P, EF-2F. These valves shall be part stroked during MU system operability checks (currently monthly) and full stroked at cold shutdown. Full stroke verification will be by flow through the HPI leg.

4. Valve: MUV-18

Function: Block valve outside containment for isolation of RC pump seal injection.

Test Requirement: EF-1F

Basis for Relief: Stroking this valve would interrupt seal injection flow to the RC pump seal package, resulting in potential damage to the seals. During accident conditions the valve will remain open for seal cooling from the HPI (MU) pumps. These get no ES signal. Valves are not designed for part stroking.

Alternate Testing: EF-2F. Valve shall be full stroked and timed at cold shutdown.

5. Valve: MUV-27

Function: Normal make up isolation block valve to reactor coolant system.

Test Requirement: 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.

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Make up and Purification continued

Alternate Testing: EF-2F. Valve shall be full stroked and timed during cold shutdown.

6. Valve: MUV-49

Function: Letdown cooler isolation block valve outside containment. All RC system letdown passes through this valve.

Test Requirements: EF-1F

Basis for Relief: Should this valve fail in the closed position while stroking during normal plant operation, RC system letdown capabilities would be lost. RC pump seal injection cannot be terminated. The plant would have to be tripped on high pressurizer level. Valves are not designed for partial stroking.

Alternate Testing: EF-2F. Valve to be stroked and timed at cold shutdown.

7. Valves: MUV-253 (outside containment); MUV-258, MUV-259, MUV-260, MUV-261 (inside containment)

Function: Controlled bleedoff of reactor coolant pump seals containment isolation valves.

Test Requirement: EF-1F

Basis for Relief: Should any of these valves fail in the closed position while full stroking in normal plant operation, the design mode of normal controlled bleedoff of one gpm of the RC pump seal would be lost. This could lead to seal degradation and possibly premature RC pump seal failure. Seal replacement is a high manrem exposure maintenance item. Valves are not designed for partial stroking.

Alternate Testing: EF-2F. Valves shall be full-stroked and timed at cold shutdown. MUV-253 and MUV-259 shall be part stroked at least once every 3 months.

8. Valve: MUV-16

Function: Reactor coolant pump seal injection control valve for seal injection.

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Make up and Purification continued

	Valve:	MUV-31
	Function:	Controls the pressurizer level by the amount of makeup admitted to the RC system through the valve.
	Test Requirement:	EF-1F
	Basis for Relief:	These valves are being calibrated on a yearly basis with the related instrument string. During normal plant operation these valves are in continuous use and any malfunction would be immediately noted. Corrective action would be initiated immediately. An inservice test per Section XI requirements does not add to the safety of this facility.
	Alternate Testing:	Valves are in continuous use and any malfunction or degradation will be noted and corrective action initiated.
	Valves:	MUV-53 and MUV-257
	Function:	MU pump minimum flow recirculation valves.
	Test Requirements:	EF-1F
	Basis for Relief:	The 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.
	Alternate Testing:	EF-2F. Valves will be stroked and timed at cold shutdown.
9.	Valve:	MUV-30
	Function:	Manual bypass around pressurizer level control valve (MUV-31).
	Valve:	MUV-17
	Function:	Manual bypass around RC pump seal injection controller (MUV-16).
	Test Requirement:	EF-1F

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Make up and Purification continued

	Basis for Relief:	Full stroking of these valves during normal plant operation would be subjecting the plant to a potential transient of the pressurizer level control system and RC pump seal injection flow control valves. While stroking MUV-30 and MUV-17, their respective control valves would have to compensate for this additional flow. If a transient occurred during the exercising, automatic control is not in effect. These valves are located in a high radiation zone where local hot spots in excess of 100 mrem/hour exist.
	Alternate Testing:	EF-2F. Valves shall be full stroked at cold shutdown.
10.	Valve:	MUV-64
	Function:	Makeup tank isolation valve for the ESA mode of operation. The valve is opened during normal plant operation and closes on an ESA signal.
	Test Requirement:	EF-1F
	Basis for Relief:	The closing of this valve during normal plant operation would isolate the makeup tank from the makeup pump suction, cutting off the makeup flow to the pump, resulting in damage to safety related equipment.
	Alternate Testing:	EF-2F. The valve shall be stroked and timed at cold shutdown.
11.	Valve:	MUV-65
	Function:	During normal plant operation this check valve is opened for suction supply to the makeup pumps from the makeup tank. Upon a pressure differential these valves should close to isolate the MUT from the BWST. This function would occur in the ESA mode.
	Test Requirement:	EF-1F
	Basis for Relief:	Testing of this valve during normal plant operation would require a reverse pressure

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Make up and Purification continued

		differential across the valve, thus isolation of the makeup pump from the makeup tank. This would result in damage to the makeup (HPI) pump.
	Alternate Testing:	EF-2F. This valve shall be tested for closure at cold shutdown. Evidence of proper disc seating shall be no increasing level in the makeup tank with BWST head pressure downstream of valve.
12.	Valves:	MUV-266, MUV-264, MUV-147
	Function:	Makeup pumps 1A, 1B and 1C recirculation block valves at the pumps.
	Valve:	MUV-5
	Function:	Manual control valve used to fill the coreflood tank from the makeup system.
	Test Requirement:	EF-1F
	Basis for Relief:	These are passive valves not required to change position for normal or safety shutdown of the reactor.
	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.
13.	Valve:	MUV-108
	Function:	Used to control the rate and amount of addition of boric acid, demineralized water, or water from the RC bleed tanks to the RC system through the makeup system.
	Test Requirements:	EF-1F
	Basis for Relief:	The valve is used frequently during normal plant operation. Any degradation or malfunction of the valve would be evident during the course of plant operation. A full stroke of this valve in accordance with Section XI requirements does not increase the safety of this facility.

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Make up and Purification continued

	Alternate Testing:	The valve is in frequent use during normal plant operation in accordance with its function. Upon detection of valve degradation, corrective measures shall be initiated. The manual bypass, MUV-158, shall be tested in accordance with Section XI.
14.	Valve:	MUV-51
	Function:	Bypass valve around block orifice on RC system letdown line to the makeup and purification system.
	Test Requirement:	EF-1F
	Basis for Relief:	This valve is used frequently during normal operation to increase letdown flow. Any degradation or malfunction of the valve would be evident and evaluated at time of discovery. The testing of this valve in accordance with Section XI requirements does not increase the safety of this facility.
	Alternate Testing:	The valve is in frequent use during normal plant operation in accordance with its function. Corrective measures will be initiated at the time of discovery of any valve degradation.
15.	Valves:	MUV-72 and MUV-60
	Function:	These valves are normally closed during normal plant operation. Upon initiation of HPI, they open for BWST supply to the HPI pumps. Upon depletion of the BWST and changing to RB sump recirculation, the valves close by operator action to prevent backflow to the BWST HPI discharge valves.
	Test Requirements:	EF-1F
	Basis for Relief:	A full stroke of these valves require HPI flow at "safety function" conditions to the RC system. This cannot be done during normal plant operations.
	Alternate Testing:	EF-2F. The valves shall be full stroked at cold shutdown by verification of required flow to the RCS.

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME CHEMICAL ADDITION DWG. NO. FD-302-671 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SCC/MIN)	REMARKS
			A	B	C	D	E								
CAV-121	3	C-5			X			2	CK	SA	-	1	EF-1F		
CAV-81	3	E-5			X			2	CK	SA	-	1	EF-1F		
CAV-83	3	E-5			X			2	CK	SA	-	1	EF-1F		
CAV-57	3	F-5		X				1	DA	A	C	1	EF-1F		
												1	EF-5		
												1	ET-8		
CAV-60	3	F-5		X				1	DA	A	C	1	EF-		
												1	EF-5		
												1	ET-8		
CAV-58	3	F-5			X			1	CK	SA	-	1	EF-1F		CAV-58: Verification of the correct boric acid addition to the system shall constitute a full stroke of this valve.

434
33

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME CHEMICAL ADDITION DWG. NO. FD-302-671 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
CAV-61	3	F-5			X			1	CK	SA	-	1 2	EF-1F EF-2F		1	

434
332

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Chemical Addition

1.	Valve:	CAV-61
	Function:	This check valve is closed during normal plant operation. The valve opens upon emergency injection of boric acid to the RC system through the Makeup and Purification System. The line bypasses the normal injection mode through the batch control valve (MUV-108).
	Basis for Relief:	A full stroke of this valve during normal plant operation would require an uncontrolled injection of boric acid into the RC system through the normal makeup system. This uncontrolled injection would effect reactivity control if proper boron concentration is not maintained. This would require either a reduction of reactor power or a control rod adjustment to compensate for the reactivity change. The results of these would be an increase in radiation waste or possibly control rod placement outside of the rod index curve, respectively.
	Alternate Testing:	EF-1P, EF-2F. The valve shall be part stroked quarterly and full stroked at cold shutdown.

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME LIQUID SAMPLING DWG. NO. FD-302-672 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY A	B	C	D	E	SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSIT	TE DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
CAV-1	2	A-6	X					3/8	GL	MO	C	1 1 3	EF-1F ET-7 SLT-1	1370	ESA Signal: RB Isolation
CAV-3	2	B-6	X					3/8	GL	MO	C	1 1 3	EF-1F ET-7 SLT-1	1370	ESA Signal: RB Isolation
CAV-4	2	C-6		X				3/8	GL	MO	O	1 1	EF-1F ET-7		ESA Signal: RB Isolation
CAV-2	2	A-9	X					1	GL	A	C	1 1 1 3	EF-1F EF-5 ET-7 SLT-1	1370	ESA Signal: RB Isolation
CAV-6	2	C-9		X				1	GL	A	O	1 1 1	EF-1F EF-7 ET-3		ESA Signal: RB Isolation
CAV-5	2	D-6		X				3/8	GL	MO	O	1 1	EF-1F ET-7		ESA Signal: RB Isolation
CAV-7	2	D-9		X				1	GL	A	O	1 1 1	EF-1F EF-7 ET-3		ESA Signal: RB Isolation
CAV-126	2	A-6	X					3/8	GL	MO	C	1 1 3	EF-1F ET-7 SLT-1	1370	ESA Signal: RB Isolation

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME NITROGEN & HYDROGEN DWG. NO. FD-302-613 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
NGV-82	2	H-2	X				X	1	GL	M	LC	1 3	OC SLT-1	1370	
NGV-62	2	H-4	X				X	1-1/2	GA	M	LC	1 3	OC-1 SLT-1	2055	
NGV-81	2	H-3		X			X	1-1/2	GA	M	LC	1	OC-1		

4.24
338

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME LIQUID WASTE DISPOSAL DWG. NO. FD-302-681 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY A	B	C	D	E	SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
WDV-94	2	B-4	X					3	GL	MO	C	1 1 3	EF-1F ET-7 SLT-1	4110	ESA Signal: RB Isolation
WDV-62	2	B-4	X					3	DA	A	C	1 1 3 1	EF-1F EF-5 SLT-1 ET-7	2740	ESA Signal: RB Isolation
WDV-3	2	B-4	X					4	MO	O	O	1 1 3	EF-1F ET-7 SLT-1	5480	ESA Signal: Close on HPI or RB Isolation
WDV-4	2	B-5	X					4	DA	A	O	1 1 3	EF-1F EF-7 SLT-1	5480	ESA Signal: Close on HPI or RB Isolation
WDV-61	2	A-5	X					2		A	C	1 1 3 1	EF-1F EF-5 SLT-1 ET-7	2740	ESA Signal: RB Isolation
WDV-60	2	A-4	X					2	GA	MO	C	1 1 3	EF-1F ET-7 SLT-1	2740	ESA Signal: RB Isolation

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME GAS WASTE DISPOSAL DWG. NO. FD-302-691 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY A	C	D	E	SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
WDV-406	2	A-3	X				1 1/2	GL	MO	O	1 1 3	EF-1F ET-7 SLT-1	2055	ESA Signal: RB Isolation
WDV-405	2	A-3	X				1 1/2	GL	MO	O	1 1 3	EF-1F ET-7 SLT-1	2055	ESA Signal: RB Isolation

434
3511

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME CONTAINMENT MONITORING SYSTEM DWG. NO. FD-302-691 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
WSV-1	2	E-3	X				X	1	DA	M	LC	1 3	OC-1 SLT-1	1370	
WSV-2	2	E-4	X				X	1	DA	M	LC	1 3	OC-1 SLT-1	1370	
WSV-3	2	F-3	X					1	GL	A	O	1 1 1 3	EF-1F EF-5 ET-7 SLT-1	1370	ESA Signal: RB Isolation
WSV-4	2	F-4	X					1	GL	A	O	1 1 1 3	EF-1F EF-5 ET-7 SLT-1	1370	ESA Signal: RB Isolation
WSV-5	2	F-3	X					1	GL	A	O	1 1 1 3	EF-1F EF-5 ET-7 SLT-1	1370	ESA Signal: RB Isolation
WSV-6	2	F-3	X					1	GL	A	O	1	EF-1F EF-5 ET-7 SLT-1	1370	ESA Signal: RB Isolation

434

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME CORE FLOODING DWG. NO. FD-302-702 PAGE 1 of 2

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
CFV-24	2	A-2			X			1	REL	SA	-	3	TF-3		
CFV-28	2	B-1	X					1	GL	A	C	1 1 1 3	EF-1F ET-7 EF-5 SLT-1	1370	ESA Signal: RB Isolation
CFV-27	2	A-7	X					1	GL	A	C	1 1 1 3	EF-1F ET-7 EF-5 SLT-1	1370	ESA Signal: RB Isolation
CFV-25	2	A-1	X					1	GL	A	C	1 1 1 3	EF-1F ET-7 EF-5 SLT-1	1370	ESA Signal: RB Isolation
CFV-26	2	A-7	X					1	GL	A	C	1 1 1 3	EF-1F ET-7 EF-5 SLT-1	1370	ESA Signal: RB Isolation
CFV-23	1	A-6			X			1	REL	SA	-	3	TF-3		
CFV-15	2	B-6	X					1	GA	MO	C	1 1 3	EF-1F ET-7 SLT-1	1370	ESA Signal: RB Isolation
CFV-17	2	B-7	X					1	CK	SA	C	1 3	EF-1F SLT-1	1370	

434

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME CORE FLOODING DWG. NO FD-302-702

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY A	B	C	D	E	SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
CFV-20	2	B-2	X		X			1	CK	SA	C	1 3	EF-1F SLT-1	1370	
CFV-5	2	F-2					X	14	GA	MO	O	1	OC-1		
CFV-6	2	F-6					X	14	GA	MO	O	1	OC-1		
CFV-16	2	B-3	X					1	GA	MO	C	1 1 3	EF-1F ET-7 SLT-1	1370	ESA Signal: RB Isolation
CFV-11	2	E-3	X					1	GL	MO	C	1 1 3	EF-1F ET-7 SLT-1	1370	ESA Signal: RB Isolation
CFV-42	2	E-4	X					1	GL	A	C	1 1 3 1	EF-1F ET-7 SLT-1 EF-5	1370	ESA Signal: RB Isolation
CFV-12	2	E-5	X					1	GL	MO	C	1 1 3	EF-1F ET-7 SLT-1	1370	ESA Signal: RB Isolation
CFV-29	2	A-4	X					3/4	GA	A	C	1 1 3 1	EF-1F ET-7 SLT-1 EF-5	2055	ESA Signal: RB Isolation

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME CORE FLOODING DWG. NO. FD-302-702 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
CFV-1	1	G-4	X		X			14	CK	SA	C	2 3 3	EF-2F SLT-2 EF-3P		2	
CFV-3	1	G-5	X		X			14	CK	SA	C	2 3 3	EF-2F SLT-2 EF-3P		2	
CFV-18	2	A-7	X		X			1	CK	SA	C	3 3	EF-3F SLT-1	1370	3	
CFV-19	2	A-2	X		X			1	CK	SA	C	3 3	EF-3F SLT-1	1370	3	
CFV-2	1	G-3	X		X			14	CK	SA	C	3 3	EF-3P SLT-2		1	
CFV-4	1	G-6	X		X			14	CK	SA	C	3 3	EF-3P SLT-2		1	

474 349

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Core Flood

1. Valves: CFV-2 and CFV-4

Function: This is the second of two normally closed check valves which provides RC isolation from core flood tank. The valves open after a large RC rupture has occurred to provide cooling to the reactor core by water from the core flood tank.

Test Requirement: EF-1F, SLT-2

Basis for Relief: In order to full stroke this valve it would require simulating a large RC rupture in which RC pressure decreases rapidly to saturation pressure for the RC temperature. This simulation is impossible for full stroking these valves during normal plant operation. A part stroke of these valves at cold shutdown would require removing a quantity of core flood volume with a high boric acid concentration into the RC system as this would increase the radioactive waste to deborate the RC system.

Seat leakage tests for these valves by present design would be hazardous to test personnel due to high radiation. The seat leakage test requires the handling and/or collection of high pressure and temperature radiation fluid which may flash to steam at the valve seat boundary during testing.

To test these valves would require the addition of drain valves to a class 1 pressure boundary.

Alternate Testing: EF-3F, SLT-2.

At refueling these valves shall be part-stroked by causing a reverse differential pressure across the valves for opening. Part stroke shall be confirmed by a decreasing core flood tank level and an increasing pressurizer level.

During normal plant operation, the core flood tank pressure and level shall be monitored each shift to assure no leakage through the valve combinations of CFV-1 and CFV-3 or CFV-2 and CFV-4. The boric acid concentration of the core flood tank shall be monitored monthly to verify correct concentration to assure no dilution occurs during operation, i.e. RC system back leakage to the CF tank.

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Core Flood 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.

2. Valves: CFV-1 and CFV-3

Function: These are the first of two normally closed check valves which provides reactor coolant isolation from the decay heat and core flood systems. These valves open to provide decay heat cooling, low pressure injection, or core flood water to the reactor core.

Test Requirement: EF-1F, SLT-2

Basis for Relief: The opening of these valves requires a reverse differential pressure that cannot be achieved by any method during normal plant operation.

Seat leakage tests for these valves by present design would be hazardous to test personnel due to high radiation. The seat leakage test requires the handling and/or collection of high pressure and temperature radioactive fluid which may flash to steam at the valve seat boundary during testing.

To test these valves would require the addition of drain valves to a class 1 pressure boundary.

Alternate Testing: EF-2F, EF-3P, SLT-2

These valves shall be full stroked at cold shutdown by verification that 3000 gpm decay heat flow is flowing through the valves.

At refueling the valves shall be part stroked by causing a reverse differential pressure across the valves for opening. Part stroke shall be confirmed by a decreasing core flood tank level and an increasing pressurizer level.

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Core Flood continued

During normal plant operation the core flood tank pressure shall be monitored each shift to assure no leakage through the valve combinations of CFV-1 and CFV-3 or CFV-2 and CFV-4. The boric acid concentration of the core flood tank shall be monitored monthly to verify correct concentration to assure no dilution occurs during operation, i.e. RC system back leakage to the CF tank.

Core Flood System inventory can be controlled through the blowdown and sampling lines. 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

Function: Provide building isolation, valve opens to allow filling of the CF tank from the MU pumps.

Test Requirement: EF-1F

Basis for Relief: Normally there is not a reason to add makeup to the CF tank during normal operations or cold shutdown except to makeup for sampling losses.

Alternate Testing: EF-3F. When makeup is added to the core flood tank, appropriate entries with procedures shall verify operation of these valves. These valves shall be full stroked each refueling when filling the CF tank after the CF tank test.

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME REACTOR BUILDING SPRAY DWG. NO. FD-302-711 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
BSV-42	2	A-4			X				REL	SA	-	3	TF-3F		
BSV-43	2	A-4			X				REL	SA	-	3	TF-3F		
BSV-3o	2	B-5					X	4	GA	M	LO	1	OC-1		
BSV-4	2	E-3		X				8	GL	MO	C	1 1	EF-1F ET-6		ESA Signal: Open on RB Isolation
BSV-3	2	F-3		X				8	GL	MO	C	1 1	EF-1 ET-6		ESA Signal: Open on RB Isolation
BSV-8	2	E-7			X			1[illegible]	CK	SA	-	1	EF-1F		
BSV-1	2	F-8			X			10	CK	SA	-	1	EF-1F		
BSV-17	2	G-8		X				10	GA	MO	0	1 1	EF-1F ET-7		ESA Signal: Open on RB Isolation
BSV-16	2	E-8		X				10	GA	MO	0	1 1	EF-1F ET-7		ESA Signal: Open on RB Isolation
[illegible]-99	2	C-6					X	3	GA	MO	LC	1	OC-1		
BSV-100	2	C-7					X	3	GA	M	LC	1	OC-1		
BSV-5	3	F-3		X				4	GA	M	C	1	EF-1F		Cross connect valves
BSV-6	2	E-3		X				4	GA	M	C	1	EF-1F		Cross connect valves

434 348

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME REACTOR BUILDING SPRAY DWG. NO. FD-302-711 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
BSV-36	2	D-4		X				4	GA	MO	C	3 3	EF-3F ET-6		1	ESA Signal: Open on RB Isolation
BSV-37	2	D-5		X				4	GA	MO	C	3	EF-3F ET-6		1	ESA Signal: Open on RB Isolation
BSV-153	2	D-4			X			3	CK	SA	C	-	--		2	
BSV-152	2	D-4			X			3	CK	SA	C	-	--		2	
BSV-26	2	E-2			X			3	CK	SA	C	-	--		3	
BSV-27	2	F-2			X			8	CK	SA	C	-	--		3	

434 580

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Building Spray

1.	Valves:	BSV-37 and BSV-36
	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
	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 chemically damaging effect on safety components.
	Alternate Testing:	EF-3F. The subject valves shall be stroked and timed each refueling.
2.	Valves:	BSV-152 and BSV-153
	Function:	These are normally closed valves that prevent reverse flow to the sodium hydroxide tank from the BWST. They must open to allow sodium hydroxide to gravity feed to the borated water system on RB isolation signal (4 psig RB pressure).
	Test Requirement:	EF-1F

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Building Spray continued

Basis for Relief:	Part or full stroke of these valves would require introduction of the high caustic solution of sodium hydroxide into the borated water system. The disassembly of these valves without flushing and draining would be a severe safety hazard to personnel. There exists no method for flushing or draining of these valves.
Alternate Testing:	There presently is no method for part or full stroke of these valves under any plant condition. The problem is under consideration by the facility's engineering staff. No alternate testing.
3. Valves:	BSV-26 and BSV-27
Function:	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:	These valves shall be disassembled and inspected once each inspection period (40 months). 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.

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME REACTOR BUILDING PRESSURE SENSING & TESTING DWG. NO. FD-302-712 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
BSV-147	2	B-1					X	1	GA	M	LO	1	OC-1		
BSV-130	2	B-4					X	2	GA	M	LO	1	OC-1		
BSV-131	2	B-6					X	2	GA	M	LO	1	OC-1		
BSV-132	2	C-9					X	1	GA	M	LO	1	OC-1		

434 383

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME REACTOR BUILDING LEAK RATE TESTING SYSTEM AND POST ACCIDENT HYDROGEN PURGE DWG. NO. FD-302 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SCC/MIN)	REMARKS
			A	B	C	D	E								
LRV-47	3	F-1	X				X	3	GA	M	LC	1 3	OC-1 SLT-1	4,110	
LRV-35	3	F-1	X				X	8	GA	M	LC	1 3	OC-1 SLT-1	10,960	
LRV-36	3	F-1	X				X	8	GA	M	LC	1 3	OC-1 SLT-1	10,960	
LRV-51	2	G-1	X				X	8	GA	M	LC	1 3	OC-1 SLT-1	10.960	
LRV-50	2	G-2	X				X	8	GA	M	LC	1 3	OC-1 SLT-1	10,960	
LRV-49	2	G-2	X				X	8	GA	M	LC	1 3	OC-1 SLT-1	10,960	
LRV-52	3	G-2	X				X	3	GA	M	LC	1 3	OC-1 SLT-1	4,110	
LRV-38	3	F-3	X				X	8	GA	M	LC	1 3	OC-1 SLT-1	10,960	
LRV-44	2	G-4	X				X	2	GL	M	LC	1 3	OC-1 SLT-1	2,740	
LRV-45	2	G-4	X				X	2	GL	M	LC	1 3	OC-1 SLT-1	2,740	

434 359

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME REACTOR BUILDING, FUEL HANDLING AREA AND AUXILIARY BUILDING DWG. NO. FD-302-751 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
AHV-1A	2	B-4	X					48	BF	A	O	1 1 1 3	EF-1P EF-5 ET-1 SLT-1	2000	ESA Signal: RB Isolation
AHV-1B	2	C-4	X					48	BF	MO	O	1 1 3	EF-1 ET-2 SLT-1	2000	ESA Signal: RB Isolation
AHV-1C	2	G-4	X					48	BF	MO	O	1 1 3	EF-1 ET-2 SLT-1	2000	ESA Signal: RB Isolation
AHV-1D	2	G-4	X					48	BF	A	O	1 1 1 3	EF-1 EF-5 ET-1 SLT-1	2000	ESA Signal: RB Isolation

434 355

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME INDUSTRIAL COOLER WATER DWG. NO. FD-302-762 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY A	B	C	D	E	SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
CIV-35	2	G-3	X					2-1/2	GA	A	O	1 1	EF-1F EF-5 ET-7	3425	ESA Signal: RB Isolation
CIV-40	2	H-3	X					2-1/2	GA	A	O	1 1 1	EF-1F EF-5 ET-7	3425	ESA Signal: RB Isolation
CIV-54	2	G-5	X					2-1/2	GA	A	O	1 1 1	EF-1F EF-5 ET-7	3425	ESA Signal: RB Isolation
CIV-41	2	H-5	X					2-1/2	GA	A	O	1 1 1	EF-1F EF-5 ET-7	3425	ESA Signal: RB Isolation

TABLE 2. VALVES FOR WHICH RELIEF IS REQUESTED

SYSTEM NAME CHILLED WATER DWG. NO. FD-302-756 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	BASIS FOR RELIEF (TABLE 2A)	REMARKS
			A	B	C	D	E									
CHV-60	3	G-2		X				2 1/2	GL	A	O	1	-		1	
CHV-61	3	H-2		X				2 1/2	GL	A	O	1	-		1	
CHV-56	3	C-2		X				6	GL	A	O	1	-		1	
CHV-57	3	C-2		X				4	3-way	A	-	1	-		1	
CHV-58	3	C-3		X				6	GL	A	C	1	-		1	
CHV-59	3	C-4		X				4	3-way	A	-	1	-		1	
CHV-62	3	F-5		X				3	GL	A	O	1	-		1	
CHV-63	3	G-5		X				3	GL	A	O	1	-		1	
CHV-68	3	C-9		X				6	GL	A	O	1	-		1	
CHV-48	3	G-2		X				2 1/2	BF	M	O	1	-		2	
CHV-49	3	H-2		X				2 1/2	BF	M	O	1	-		2	
CHV-50	3	C-2		X				4	BF	M	O	1	-		2	
CHV-51	3	C-4		X				4	BF	M	O	1	-		2	

4434 359

TABLE 1. VALVES BEING TESTED IN ACCORDANCE WITH CODE REQUIREMENTS

SYSTEM NAME CHILLED WATER DWG. NO. FD-302-756 PAGE 1 of 1

PREPARED BY S. W. JOHNSON DATE 7/16/79
Revision 2

VALVE NUMBER	CLASS	COORDINATES	VALVE CATEGORY					SIZE (INCHES)	VALVE TYPE	ACTUATOR TYPE	NORMAL POSITION	TEST DURING	TEST METHOD	LEAK RATE VALUE (SSC/MIN)	REMARKS
			A	B	C	D	E								
CHH-66					X			1/2	REL	SA	-	3	TF-3		

434 358

TABLE 2A
VALVE RELIEF REQUEST BASIS

System: Chilled Water

1.	Valves:	CHV-56, CHV-57, CHV-58, CHV-59, CHV-60, CHV-61, CHV-62, CHV-63.
	Function:	These valves control chilled water flow for penetration (AHHE 13A & 13B), Control complex (AHHE-5A & 5B) and switchgear room (AHF-16A & B) cooling by discharge temperature.
	Valves:	CHV-68, CHV-69
	Function:	These valves controls the flow of nuclear service closed cycle cooling water to the chiller (CHHE-1A & 1B) by
	Test Requirement:	EF-1F
	Basis for Relief:	These valves are being calibrated on a yearly basis with the related instrument string. During normal plant operation these valves are in continuous use and any malfunction would be immediately noted. Corrective action would be initiated. An inservice test per Section XI requirements does not add to the safety of this facility.
	Alternate Testing:	Valves are in continuous use and any malfunction or degradation will be noted and corrective action initiated.
2.	Valves:	CHV-48, CHV-49, CHV-50, CHV-51
	Function:	These manual butterfly valves are used for balancing flow between penetration cooling (AHHE-13A & B) and control complex cooling (AHHE-5A & 5B).
	Test Requirement:	EF-1F
	Basis for Relief:	These valves are manually set to balance flows through their respective heat exchangers and do not change position during normal or emergency operation.
	Alternate Testing:	Valves are used for system operating convenience therefore no testing is required per ASME Section XI.