GULF STATES UTILITIES COMPANY

RIVER BEND STATION POST OFFICE BOX 220 ST. FRANCISVILLE, LOUISIANA 70775

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July 19, 1985
RBG- 21,573
File No. G9.5

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

Dear Mr. Denton:

River Bend Station - Unit 1
Docket No. 50-458

Enclosed for your review are revisions to Gulf States Utilities River Bend Station Final Safety Analysis Report (FSAR) (Enclosure 1) and corresponding proposed Technical Specifications (Enclosures 2 & 3). These revisions are provided as a result of final review of the as-built design to the reactor plant sampling containment isolation valves and the hydrogen mixing valves with respect to the isolation signals provided.

Additionally, the FSAR is being revised to remove from Table 6.2-51 the manual valves on the recirculation flow control valve hydraulic lines, and to correctly show the location of the motor operated isolation valves as being located outside the drywell.

Sincerely,

J. E. Booker

J. E. Booker
Manager-Engineering,
Nuclear Fuels & Licensing
River Bend Nuclear Group

JEB/DWW/JEP/je

Enclosure (3)

B001
1/1

ENCLOSURE 1

RBS FSAR

TABLE 6.2-40 (CONT)

CONT. PEN. NUMBER	GENERAL DESIGN CRITERIA OR REGULATORY GUIDE	SYSTEM NAME	FLUID	LINE SIZE (INCH)	ESF SYSTEM	ESSEN./ NON-ESS CLASS. (22)	THROUGH LINE LEAKAGE CLASSIFICATION	FSAR ARRG'T FIGURE	ISOLATION VALVE NUMBER	LOC OF VALVE INSIDE/ OUTSIDE CONT	TYPE TEST	TYPE C TEST MEDIUM	LENGTH OF PIPE FROM CONT. TO OUTERMOST ISOLATION VALVE	VALVE									ISOLATION SIGNAL	CLOSURE TIME (SEC.)	POWER SOURCE
														TYPE	OPERATOR	ACTUATION MODE		POSITION						
																PRIMARY	SECONDARY	NORMAL	SHUTDOWN	POST ACCIDENT	POWER FAILURE			
1XJB-HZ23B (CONT. FROM SHT 1)	56	RHR HEAT EXCHANGER 'B' VENT AND RELIEF VALVE DISCHARGE TO SUPPRESSION POOL (19)	WATER	1	NO	N	SGTS	6.2-64	1E12-HBV F030	OUTSIDE	A	N/A	N/A	RV GLOBE	PROCESS	PROCESS	N/A	CLOSED	CLOSED	CLOSED	N/A	N/A	N/A	N/A
			WATER	1	NO	N	SGTS	6.2-64	1E12-HBV F101	OUTSIDE	A	N/A	N/A	RV GLOBE	PROCESS	PROCESS	N/A	CLOSED	CLOSED	CLOSED	N/A	N/A	N/A	N/A
			WATER	1	NO	N	SGTS	6.2-64	1E12-HBV F070	OUTSIDE	A	N/A	N/A	RV GLOBE	PROCESS	PROCESS	N/A	CLOSED	CLOSED	CLOSED	N/A	N/A	N/A	N/A
		PASS RETURN TO SUPPRESSION POOL	WATER	1	NO	E	SGTS	6.2-64	1BSR+SOV 139	OUTSIDE	A,C	A-N (M-4)	N/A	GLOBE	SOV	ELECT.	N/A	CLOSED	CLOSED	CLOSED	F.A.I.	INJ	3	A
1XJB-HZ24A	56	RHR 'A' AND LPCS TEST RETURNS AND MINIMUM FLOW BYPASS AND HEAT EXCHANGER DUMP TO SUPPRESSION POOL	WATER	14	YES	E	SGTS	6.2-64	1E12-MOV F024A	OUTSIDE	A,C	W	18'-7"	GATE	MOV	ELECT.	MANUAL	CLOSED	CLOSED	OPEN	F.A.I.	A,K,INJ	61.0	A
			WATER	4	YES	N	SGTS	6.2-64	1E12-MOV F011A	OUTSIDE	A,C	W	N/A	GLOBE	MOV	ELECT.	MANUAL	CLOSED	CLOSED	CLOSED	F.A.I.	A,K,INJ	34.1	A
			WATER	4	YES	E	SGTS	6.2-64	1E12-MOV F064A	OUTSIDE	A,C	W	N/A	GATE	MOV	ELECT.	MANUAL	CLOSED	CLOSED	CLOSED	F.A.I.	INJ	6.6	A
			WATER	10	YES	N	SGTS	6.2-64	1E21-MOV F012	OUTSIDE	A,C	W	N/A	GLOBE	MOV	ELECT.	MANUAL	CLOSED	CLOSED	CLOSED	F.A.I.	A,K,INJ	57.2	A
			WATER	4	YES	E	SGTS	6.2-64	1E21-MOV F011	OUTSIDE	A,C	W	N/A	GATE	MOV	ELECT.	MANUAL	OPEN	OPEN	OPEN	F.A.I.	INJ	20.9	A
1XJB-HZ24B	56	RHR 'B' TEST RETURN, RHR PUMP 'B' MIN. FLOW BYPASS AND HEAT EXCHANGER DUMP TO SUPPRESSION POOL	WATER	14	YES	E	SGTS	6.2-64	1E12-MOV F024B	OUTSIDE	A,C	W	14'-11 5/8"	GATE	MOV	ELECT.	MANUAL	CLOSED	CLOSED	OPEN	F.A.I.	A,K,INJ	63.8	B
			WATER	4	YES	N	SGTS	6.2-64	1E12-MOV F011B	OUTSIDE	A,C	W	14'-11 5/8"	GLOBE	MOV	ELECT.	MANUAL	CLOSED	CLOSED	CLOSED	F.A.I.	A,K,INJ	30.9	B
			WATER	4	YES	E	SGTS	6.2-64	1E12-MOV F064B	OUTSIDE	A,C	W	98'-6"	GATE	MOV	ELECT.	MANUAL	CLOSED	CLOSED	CLOSED	F.A.I.	INJ	4.4	B
1XJB-HZ24C	56	RHR RETURN 'C' MINIMUM BYPASS, TEST RETURN TO SUPPRESSION POOL	WATER	14	YES	N	SGTS	6.2-64	1E12-MOV F021	OUTSIDE	A,C	W	16'-9 13/16"	GLOBE	MOV	ELECT.	MANUAL	CLOSED	CLOSED	CLOSED	F.A.I.	A,K,INJ	97.9	B
			WATER	4	YES	E	SGTS	6.2-64	1E12-MOV F064C	OUTSIDE	A,C	W	103'-11 13/16"	GATE	MOV	ELECT.	MANUAL	CLOSED	CLOSED	CLOSED	F.A.I.	INJ	6	B

RBS FSAR
TABLE 6.2-40 (CONT)

CONT. PEN. NUMBER	GENERAL DESIGN CRITERIA OR REGULATORY GUIDE	SYSTEM NAME	FLUID	LINE SIZE (INCH)	ESF SYSTEM	ESSEN./ NON-ESS. CLASS. (2,2,)	THROUGH LINE LEAKAGE CLASSIFICATION	FSAR ARRG'T. FIGURE	ISOLATION VALVE NUMBER	LOC. OF VALVE INSIDE/ OUTSIDE CONT	TYPE TEST	TYPE C TEST MEDIUM	LENGTH OF PIPE FROM CONT. TO OUTERMOST ISOLATION VALVE	VALVE								ISOLATION SIGNAL	CLOSURE TIME (SEC.)	POWER SOURCE
														TYPE	OPERATOR	ACTUATION MODE		POSITION						
																PRIMARY	SECONDARY	NORMAL	SHUTDOWN	POST ACCIDENT	POWER FAILURE			
1XJB-HZ131	56	VENTILATION CHILLED WATER RETURN (14)	WATER	8	NO	N	PVLCS.	6.2-65	1HVN-MOV102	INSIDE	A,C	A-N	N/A	GATE	MOV	ELECT.	MANUAL	OPEN	OPEN	CLOSED	F.A.I.	B,K,RW	31.9	B
			WATER	8	NO	N	PVLCS.	6.2-65	1HVN-MOV126	OUTSIDE	C	A-N	10'-9 3/4"	GATE	MOV	ELECT.	MANUAL	OPEN	OPEN	CLOSED	F.A.I.	B,K,RW	28.8	A
			WATER	3/4	NO	N	PVLCS.	6.2-65	1HVN-V1318	INSIDE	A,C	A-N	N/A	CHECK	PROCESS	PROCESS	N/A	CLOSED	CLOSED	CLOSED	N/A	N/A	N/A	N/A
1XJB-HZ132	56	VENTILATION CHILLED WATER SUPPLY (14)	WATER	8	NO	N	PVLCS.	6.2-65	1HVN-MOV127	OUTSIDE	C	A-N	11'-0 3/4"	GATE	MOV	ELECT.	MANUAL	OPEN	OPEN	CLOSED	F.A.I.	B,K,RW	27.5	A
			WATER	8	NO	N	PVLCS.	6.2-65	1HVN-V541	INSIDE	A,C	A-N	N/A	CHECK	PROCESS	PROCESS	N/A	OPEN	OPEN	CLOSED	N/A	N/A	N/A	N/A
1XJB-HZ134	56	CONDENSATE MAKEUP SUPPLY (14)	WATER	4	NO	N	PVLCS.	6.2-65	1CNS-MOV125	OUTSIDE	C	A-N	10'-8"	GATE	MOV	ELECT.	MANUAL	OPEN	OPEN	CLOSED	F.A.I.	B,K,RW	22	A
			WATER	4	NO	N	PVLCS.	6.2-65	1CNS-V186	INSIDE	A,C	A-N	N/A	CHECK	PROCESS	PROCESS	N/A	CLOSED	CLOSED	CLOSED	N/A	N/A	N/A	N/A
1XJB-HZ601A	———	SPARE	———	———	—	———	———	———	———	———	———	———	———	———	———	———	———	———	———	———	———	———	———	———
1XJB-HZ601B	56	REACTOR PLANT SAMPLING	WATER	1/2	NO	N	SGTS	6.2-65	1SSR-SOV130	INSIDE	A,C	A-N	N/A	GLOBE	SOV	ELECT.	MANUAL	CLOSED	CLOSED	CLOSED	CLOSED	A (2) B,K,RW	3	B
			WATER	1/2	NO	N	SGTS	6.2-65	1SSR-SOV131	INSIDE	A,C	A-N	LTR	GLOBE	SOV	ELECT.	MANUAL	CLOSED	CLOSED	CLOSED	CLOSED	A (2) B,K,RW	3	B
1XJB-HZ601C	———	SPARE	———	———	—	———	———	———	———	———	———	———	———	———	———	———	———	———	———	———	———	———	———	———
1XJB-HZ601D	———	SPARE	———	———	—	———	———	———	———	———	———	———	———	———	———	———	———	———	———	———	———	———	———	———

Drywell Pen. No.	System	Fluid	Line Size (in.)	ESF System	Valve Type	Position				Isolation Signal	Closure Time (Sec)	Power Source
						Normal	Shutdown	Post-Accident	Power Failure			
		Inj Soln (13)	1 1/2	No	(	Closed	Closed	Open (Actuated)	N/A	N/A	N/A	N/A
		Inj Soln (13)	1 1/2	No	(	Closed	Closed	Process	N/A	N/A	N/A	N/A
		Inj Soln (13)	1 1/2	No	(	Closed	Closed	Process	N/A	N/A	N/A	N/A
1DRB*Z57A	Hydrogen mixing system	Air	6	Yes	(	Closed	Closed	Open	FAI	B,K,RM	33	A
		Air	6	Yes	(	Closed	Closed	Open	FAI	B,K,RM	33	A
1DRB*Z57B	Hydrogen mixing system	Air	6	Yes	(	Closed	Closed	Open	FAI	B,K,RM	33	B
		Air	6	Yes		Closed	Closed	Open	FAI	B,K,RM	33	B
1DRB*Z58A	Hydrogen mixing system	Air	6	Yes		Closed	Closed	Open	FAI	B,K,RM	33	A
		Air	6	Yes		Closed	Closed	Open	FAI	B,K,RM	33	A
1DRB*Z58B	Hydrogen mixing system	Air	6	Yes		Closed	Closed	Open	FAI	B,K,RM	33	B
		Air	6	Yes		Closed	Closed	Open	FAI	B,K,RM	33	B
1DRB*Z67A	Tip drives	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A
1DRB*Z67B		N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A
1DRB*Z67C		N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A
1DRB*Z67D		N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A
1DRB*Z107	Air supply for main steam safety and relief valves system	Air	1 1/2	No		Open	Open	Open	N/A	N/A	N/A	N/A
		Air	1 1/2	No		Closed	Closed	Closed	N/A	N/A	N/A	N/A
		Air	1 1/2	No		Closed	Closed	Closed	N/A	N/A	N/A	N/A
		Air	1 1/2	No		Closed	Closed	Closed	N/A	N/A	N/A	N/A

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TABLE 6.2-51 (CONT)

Valve										
		Actuation Mode		Position					Closure Time	
Type	Operator	Primary	Secondary	Normal	Shutdown	Post-Accident	Power Failure	Isolation Signal	(Sec)	Power Source
Globe	MOV	Elect	Manual	Open	Open	Closed	FAI	B,K,RM	11	A
~~Gate~~	~~MV~~	~~Manual~~	~~N/A~~	~~Open~~	~~Open~~	~~Closed~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
Globe	MOV	Elect	Manual	Open	Open	Closed	FAI	B,K,RM	10.6	A
~~Gate~~	~~MV~~	~~Manual~~	~~N/A~~	~~Open~~	~~Open~~	~~Closed~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
Globe	MOV	Elect	Manual	Open	Open	Closed	FAI	B,K,RM	6.3	A
~~Gate~~	~~MV~~	~~Manual~~	~~N/A~~	~~Open~~	~~Open~~	~~Closed~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
Globe	MOV	Elect	Manual	Open	Open	Closed	FAI	B,K,RM	8.6	A
~~Gate~~	~~MV~~	~~Manual~~	~~N/A~~	~~Open~~	~~Open~~	~~Closed~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
Globe	MOV	Elect	Manual	Open	Open	Closed	FAI	B,K,RM	10.6	B
~~Gate~~	~~MV~~	~~Manual~~	~~N/A~~	~~Open~~	~~Open~~	~~Closed~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
Globe	MOV	Elect	Manual	Open	Open	Closed	FAI	B,K,RM	10.8	B
~~Gate~~	~~MV~~	~~Manual~~	~~N/A~~	~~Open~~	~~Open~~	~~Closed~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
Globe	MOV	Elect	Manual	Open	Open	Closed	FAI	B,K,RM	6.38	B
~~Gate~~	~~MV~~	~~Manual~~	~~N/A~~	~~Open~~	~~Open~~	~~Closed~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
Globe	MOV	Elect	Manual	Open	Open	Closed	FAI	B,K,RM	8.9	B
~~Gate~~	~~MV~~	~~Manual~~	~~N/A~~	~~Open~~	~~Open~~	~~Closed~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Drywell Pen. No.	System	Fluid	Line Size (in.)	ESP System	Through Line Leakage Classification	FSAR Arrg't. Fig. No.	Isolation Valve No.	Location of Valve Inside Drywell	Location of Valve Outside Drywell
1DRB*Z152	Recirculation flow control hydraulics	Hyd	1	Yes	Cont	N/A	1RCS*MOV58A	X	X
		~~Hyd~~	~~1~~	~~Yes~~	~~Cont~~	~~N/A~~	~~1RCS*V132~~		~~X~~
1DRB*Z153	Recirculation flow control hydraulics	Hyd	1	Yes	Cont	N/A	1RCS*MOV59A	X	X
		~~Hyd~~	~~1~~	~~Yes~~	~~Cont~~	~~N/A~~	~~1RCS*V131~~		~~X~~
1DRB*Z154	Recirculation flow control hydraulics	Hyd	1/2	Yes	Cont	N/A	1RCS*MOV60A	X	X
		~~Hyd~~	~~1/2~~	~~Yes~~	~~Cont~~	~~N/A~~	~~1RCS*V162~~		~~X~~
1DRB*Z155	Recirculation flow control hydraulics	Hyd	3/4	Yes	Cont	N/A	1RCS*MOV61A	X	X
		~~Hyd~~	~~3/4~~	~~Yes~~	~~Cont~~	~~N/A~~	~~1RCS*V156~~		~~X~~
1DRB*Z156	Recirculation flow control hydraulics	Hyd	1	No	Cont	N/A	1RCS*MOV58B	X	X
		~~Hyd~~	~~1~~	~~No~~	~~Cont~~	~~N/A~~	~~1RCS*V187~~		~~X~~
1DRB*Z157	Recirculation flow control hydraulics	Hyd	1	No	Cont	N/A	1RCS*MOV59B	X	X
		~~Hyd~~	~~1~~	~~No~~	~~Cont~~	~~N/A~~	~~1RCS*V186~~		~~X~~
1DRB*Z158	Recirculation flow control hydraulics	Hyd	1/2	No	Cont	N/A	1RCS*MOV60B	X	X
		~~Hyd~~	~~1/2~~	~~No~~	~~Cont~~	~~N/A~~	~~1RCS*V217~~		~~X~~
1DRB*Z159	Recirculation flow control hydraulics	Hyd	3/4	No	Cont	N/A	1RCS*MOV61B	X	X
		~~Hyd~~	~~3/4~~	~~No~~	~~Cont~~	~~N/A~~	~~1RCS*V211~~		~~X~~
1DRB*Z160 (Type seal support)	Wide range level control	Water	1	No	Cont	N/A	N/A		N/A
1DRB*Z161 (Type seal support)	Vent line	N/A	N/A	N/A	N/A	N/A	N/A		N/A

NOTES

(1) Testable check valves are designed for remote opening with zero differential pressure across the seat. The valves close on reverse flow even though the test switches may be positioned for open. The valves open when pump pressure exceeds reactor pressure even though test switch may be positioned for close.

(2) The ac motor-operated valves are powered from the designated ac standby bus. Dc motor-operated isolation valves are powered from the designated plant battery.

(3) All motor-operated isolation valves remain in the last position upon failure of valve power. All air-operated valves close on motive air failure. All air-operated valves close on power failure to the solenoid pilots.

(4) Normal status position of valve (open or close) is the position during normal power operation of the reactor (see Position-Normal column.)

(5) Closing time is based upon valve closure rate and line size.

(6) These are instrument isolation valves that are required to remain open during a LOCA.

(7) Some valves located within the drywell serve as containment isolation valves. These valves are located in Table 6.2-40, Containment Isolation Provisions for Fluid Lines.

(8) Injection solution is sodium pentaborate.

Isolation Signal Codes

B - Reactor Vessel Low Water Level 2
K - High Drywell Pressure
RM - Remote Manual Operation as Appropriate
E - Main Steam Line Radiation High
A - Reactor Vessel Low Water Level 1

SGTS - Standby Gas Treatment System
Cont - Containment
AOV - Air-Operated Valve
MOV - Motor-Operated Valve
FC - Fail Close
FAI - Fail As Is
MV - Manual Valve
SOV - Solenoid-Operated Valve
LO - Locked Open
LC - Locked Close

ENCLOSURE 2

Changes to Technical Specification 3/4.6.4
Primary Containment and Drywell Isolation Valves

Table 3.6.4-1

Valves 1SSR*SOV130, 131, and 1CPM*MOV1A, 1B, 2A, 2B, 3A, 3B, 4A, and 4B close on low level 1 and not low level 2. Thus, this valve group should be 10 instead of 1. Reference the attached approved FSAR change which will be incorporated in a future FSAR amendment.

RCS valves V131, V132, V156, V162, V186, V187, V211, and V217 should be deleted from Table 3.6.4-1. See the attached approved FSAR Change Notice to be incorporated in a future FSAR amendment.

Footnote f has been moved from the column heading SECONDARY CONTAINMENT BYPASS PATH to the listings in the column for which it applies.

Valves 1FWS*MOV7A and B are manual isolation valves and are not considered to be closed during the first twenty minutes of an accident. Thus, these valves should not have their leakage included in the 170,000 cc/hr secondary containment bypass leakage total. Table 3.6.4-1 has been revised to reflect this.

Footnote f has been revised to indicate that the combined leakage from valves sealed by PVLCS is not included in the 0.60 La Type B and C test total. This is consistent with surveillance requirement 4.6.1.3.h and LCO 3.6.1.3.e.

Footnote g has been revised to indicate that these valves are tested in accordance with Specifications 3.6.1.3.c and 4.6.1.3.f and the leakage is not included in the 0.60 La. Type B and C test total.

Footnote j has been revised to indicate that per 3.6.1.3.f and 4.6.1.3.d.4 valves to be hydrostatically tested will be tested at a pressure of 1.1 Pa and that the leakage is not to be included in the 0.60 La. type B and C test total.

Footnote j should be applied to valve 1SSR*SOV139. This valve belongs to penetration 1KJB*Z23B and should be hydrostatically tested as per the other valves associated with this penetration. Reference the attached approved FSAR change which will be incorporated in a future FSAR amendment.

Footnote j should also be applied to valves 1DFR*V191 and 1DFR*V182. Per FSAR Table 6.2-40, Amendment 20, these valves should be hydrostatically tested.

Footnote k has been added to valves which are required to remain open during a LOCA. These valves, along with the drywell isolation valves, do not receive a type A, B or C leak rate test. Also, footnote k has been revised to reflect this.

Footnote a is applied to all primary containment isolation valves. However, per footnotes j and k, not all of these valves should have footnote a. Thus footnote a has been revised to reflect the requirements of footnotes j and k where applicable.

Footnote l has been added to the columns labeled VALVE GROUP in order to reference Table 3.3.2-1. Table 3.3.2-1 provides the signals actuating the various valve groups.

On page 3/4 6-44, penetration 1DRB*z147 has been corrected to 1DBR*Z147.

On page 3/4 6-42, the name of 1DFR*V181 and 1DRF*V182 has been provided.

Also, various editorial changes to the valve names have been made.

ENCLOSURE 3

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

SYSTEM	VALVE NUMBER	PENETRATION NUMBER	VALVE GROUP(2)	MAXIMUM ISOLATION TIME (Seconds)	SECONDARY CONTAINMENT BYPASS PATH (Yes/No)
a. Automatic Isolation Valves					
1. Primary Containment(a) (Continued)					
RWCU Disch. to Condenser	1G33*MOVF028	1KJB*Z4	15	20.9	Yes(f)
RWCU Return to FW	1G33*MOVF040(b)	1KJB*Z6	15	24.2	No
RWCU Pump Suction	1G33*MOVF001	1KJB*Z7	16	19.8	No
RWCU Pump Disch.	1G33*MOVF053	1KJB*Z129	15	5.5	No
RWCU Disch. to Condenser	1G33*MOVF034	1KJB*Z4	15	20.9	Yes(f)
RWCU Return to FW	1G33*MOVF039	1KJB*Z6	15	24.2	No
RWCU Pump Suction	1G33*MOVF004	1KJB*Z7	7	6.6	No
RWCU Pump Disch.	1G33*MOVF054	1KJB*Z129	15	5.5	No
RWCU Backwash Disch.	1WCS*MOV178	1KJB*Z5	1	12.1	Yes(f)
RWCU Backwash Disch.	1WCS*MOV172	1KJB*Z5	1	12.6	Yes(f)
HPCS Test Return-Supp. Pool	1E22*MOVF023(j)	1KJB*Z11	1	50	No
RHR A Return-Supp. Pool	1E12*MOVF024A(j)	1KJB*Z24A	10	63.8	No
RHR A Hx Dump-Supp. Pool	1E12*MOVF011A(j)	1KJB*Z24A	10	34.1	No
LPCS Test Return-Supp. Pool	1E21*MOVF012(j)	1KJB*Z24A	10	57.2	No
RHR B Return-Supp. Pool	1E12*MOVF024B(j)	1KJB*Z24B	10	63.8	No
RHR B Hx Dump-Supp. Pool	1E12*MOVF011B(j)	1KJB*Z24B	10	30.8	No
RHR C Return-Supp. Pool	1E12*MOVF021(j)	1KJB*Z24C	10	97.9	No
Fuel Pool C&C Disch.	1SFC*MOV119	1KJB*Z26	1	68	No
Fuel Pool C&C Suction	1SFC*MOV120	1KJB*Z27	1	62.7	No
Fuel Pool C&C Suction	1SFC*MOV122	1KJB*Z27	1	63.8	No
Fuel Pool Purif. Suction	1SFC*MOV139	1KJB*Z28	1	39.6	No
Fuel Pool Purif. Suction	1SFC*MOV121	1KJB*Z28	1	39.6	No

C & C

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

SYSTEM	VALVE NUMBER	PENETRATION NUMBER	VALVE GROUP(g)	MAXIMUM ISOLATION TIME (Seconds)	SECONDARY CONTAINMENT BYPASS PATH ~~(f)~~ (Yes/No)
a. Automatic Isolation Valves					
1. Primary Containment[a] (Continued)					
Floor Drain Disch.	1DFR*AOV102[b]	1KJB*Z35, 1DRB*Z36	1	N/A	No
Floor Drain Disch.	1DFR*AOV101[b]	1KJB*Z35, 1DRB*Z36	1	N/A	No
Equip. Drain Disch.	1DER*AOV127[b]	1KJB*Z38, 1DRB*Z39	1	N/A	No
Equip. Drain Disch.	1DER*AOV126[b]	1KJB*Z38, 1DRB*Z39	1	N/A	No
Fire Protection Hdr.	1FPW*MOV121	1KJB*Z41	1	34.1	Yes (f)
Service Air Supply	1SAS*MOV102	1KJB*Z44	1	22.0	Yes (f)
Instr. Air Supply	1IAS*MOV106	1KJB*Z46	1	18.7	Yes (f)
RPCCW Supply	1CCP*MOV138	1KJB*Z48	1	22.0	No
RPCCW Return	1CCP*MOV158	1KJB*Z49	1	23.1	No
RPCCW Return	1CCP*MOV159	1KJB*Z49	1	24.2	No
Service Water Return	1SWP*MOV5A	1KJB*Z53A	1	50.6	No
Service Water Return	1SWP*MOV5B	1KJB*Z53B	1	53.9	No
Vent. Chilled Water Rtn.	1HVN*MOV102	1KJB*Z131	1	31.9	Yes (f)
Vent. Chilled Water Rtn.	1HVN*MOV128	1KJB*Z131	1	28.6	Yes (f)
Vent. Chilled Water Sup.	1HVN*MOV127	1KJB*Z132	1	27.5	Yes (f)
Condensate Makeup Supply	1CNS*MOV125	1KJB*Z134	1	22.0	Yes (f)

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

SYSTEM	VALVE NUMBER	PENETRATION NUMBER	VALVE GROUP(k)	MAXIMUM ISOLATION TIME (Seconds)	SECONDARY CONTAINMENT BYPASS PATH~~(f)~~ (Yes/No)
a. Automatic Isolation Valves					
1. Primary Containment[a] (Continued)					
RHR & RCIC Steam Sup.	1E51*MOVF063[b]	1KJB*Z15	2	9.9	No
RHR & RCIC Steam Sup.	1E51*MOVF076[b]	1KJB*Z15	2	13.4	No
RHR & RCIC Steam Sup.	1E51*MOVF064	1KJB*Z15	2	9.9	No
RCIC Pump Suc.-Supp. Pool	1E51*MOVF031[j]	1KJB*Z16	2	30.5	No
RCIC Turbine Exh.-Supp. Pool	1E51*MOVF077	1KJB*Z17	3	14.2	No
RCIC Turbine Exh. Vac. Bkrs.	1E51*MOVF078	1KJB*Z18B,C	3	16.5	No
Cont./Drywell Purge Sup.	1HVR*AOV165	1KJB*Z31	8	3	No
Cont./Drywell Purge Sup.	1HVR*AOV123	1KJB*Z31	8	3	No
Cont./Drywell Purge Outlet	1HVR*AOV128	1KJB*Z33	8	3	No
Cont./Drywell Purge Outlet	1HVR*AOV166	1KJB*Z33	8	3	No
Post-Accident Samp. Sup.	1SSR*SOV130	1KJB*Z601B	10	3	No
Post-Accident Samp. Sup.	1SSR*SOV131	1KJB*Z601B	10	3	No

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

SYSTEM	VALVE NUMBER	PENETRATION NUMBER	VALVE GROUP(k)	MAXIMUM ISOLATION TIME (Seconds)	SECONDARY CONTAINMENT BYPASS PATH~~(f)~~ (Yes/No)
a. Automatic Isolation Valves					
2. Drywell[k] (Continued)			< "0" added > V		
Hydrogen Mixing Line Inlet	1CPM*MOV2A	1DRB*Z57A	10	33	No
Hydrogen Mixing Line Inlet	1CPM*MOV4A	1DRB*Z57A	10	33	No
Hydrogen Mixing Line Inlet	1CPM*MOV2B	1DRB*Z57B	10	33	No
Hydrogen Mixing Line Inlet	1CPM*MOV4B	1DRB*Z57B	10	33	No
Hydrogen Mixing Line Exhaust	1CPM*MOV3A	1DRB*Z58A	10	33	No
Hydrogen Mixing Line Exhaust	1CPM*MOV1A	1DRB*Z58A	10	33	No
Hydrogen Mixing Line Exhaust	1CPM*MOV3B	1DRB*Z58B	10	33	No
Hydrogen Mixing Line Exhaust	1CPM*MOV1B	1DRB*Z58B	10	33	No
Reactor Plant Sampling	1B33*AOVF019	1DRB*Z449	9 ^	5	No
Reactor Plant Sampling	1B33*AOVF020	1DRB*Z449	9	5	No

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

SYSTEM	VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH ~~(f)~~ (Yes/No)
b. Manual Isolation Valves			
1. Primary Containment[a] (Continued)			
Feedwater Line	1FWS*MOV7A[e]	1KJB*Z3A	No ~~Yes~~ (f)
Feedwater Line	1FWS*MOV7B[e]	1KJB*Z3B	No ~~Yes~~ (f)
HPCS Pump Suction from Supp. Pool	1E22*MOVF015[e][j]	1KJB*Z8	No
HPCS to Reactor	1E22*MOVF004[b][e]	1KJB*Z9, 1DRB*Z10	No
HPCS Min. Flow Bypass	1E22*MOVF012[e][j]	1KJB*Z11	No
Supp. Pool Pumpback Rtn.	1DFR*MOV146[e][j]	1KJB*Z11	No
LPCS Suction from Supp. Pool	1E21*MOVF001[e][j]	1KJB*Z12	No
LPCS to Reactor	1E21*MOVF005[b][e]	1KJB*Z13, 1DRB*Z14	No
RCIC Turbine Exh. to Supp. Pool	1E51*MOVF068[e]	1KJB*Z17	No
RCIC Min. Flow Bypass	1E51*MOVF019[e][j]	1KJB*Z18A	No
RHR/RCIC Head Spray	1E51*MOVF013[b][e]	1KJB*Z19, 1DRB*Z130	No
LPCI A to Reactor	1E12*MOVF027A[e]	1KJB*Z21A	No
LPCI A to Reactor	1E12*MOVF042A[e]	1KJB*Z21A	No
LPCI B to Reactor	1E12*MOVF027B[e]	1KJB*Z21B	No
LPCI B to Reactor	1E12*MOVF042B[e]	1KJB*Z21B	No
LPCI C to Reactor	1E12*MOVF042C[e]	1KJB*Z21C	No
RHR A Hx V&R to Supp. Pool	1E12*MOVF073A[e][j]	1KJB*Z23A	No
RHR B Hx V&R to Supp. Pool	1E12*MOVF073B[e][j]	1KJB*Z23B	No
RHR A Min. Flow Bypass	1E12*MOVF064A[e][j]	1KJB*Z24A	No
LPCS Min. Flow Bypass	1E21*MOVF011[e][j]	1KJB*Z24A	No
Post-Acc. Sample Return	1SSR*SOV139[e][j]	1KJB*Z23B	No
RHR B Min. Flow Bypass	1E12*MOVF064B[e][j]	1KJB*Z24B	No
RHR C Min. Flow Bypass	1E12*MOVF064C[e][j]	1KJB*Z24C	No
RHR A Suction-Supp. Pool	1E12*MOVF004A[e][j]	1KJB*Z25A	No
RHR B Suction-Supp. Pool	1E12*MOVF004B[e][j]	1KJB*Z25B	No
RHR C Suction-Supp. Pool	1E12*MOVF105[e][j]	1KJB*Z25C	No

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

SYSTEM	VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH ~~(f)~~ (Yes/No)
b. Manual Isolation Valves			
2. Drywell[k]			
Service Air Supply	1SAS*V489	1DRB*Z45	No
Instrument Air Supply	1IAS*V79	1DRB*Z47	No
Service Water Supply	1HVN*V542	1DRB*Z54	No
Service Water Supply	1SWP*V205	1DRB*Z54	No
Service Water Supply	1SWP*V206	1DRB*Z55	No
Air Sup. for Main Steam SRV	1SVV*V50	1DRB*Z107	No
Air Sup. for Main Steam SRV	1SVV*V53	1DRB*Z112	No
~~Recirc. Flow Control Hydr.~~	~~1RCS*V132~~	~~1DRB*Z152~~	~~No~~
~~Recirc. Flow Control Hydr.~~	~~1RCS*V131~~	~~1DRB*Z153~~	~~No~~
~~Recirc. Flow Control Hydr.~~	~~1RCS*V162~~	~~1DRB*Z154~~	~~No~~
~~Recirc. Flow Control Hydr.~~	~~1RCS*V156~~	~~1DRB*Z155~~	~~No~~
~~Recirc. Flow Control Hydr.~~	~~1RCS*V187~~	~~1DRB*Z156~~	~~No~~
~~Recirc. Flow Control Hydr.~~	~~1RCS*V186~~	~~1DRB*Z157~~	~~No~~
~~Recirc. Flow Control Hydr.~~	~~1RCS*V217~~	~~1DRB*Z158~~	~~No~~
~~Recirc. Flow Control Hydr.~~	~~1RCS*V211~~	~~1DRB*Z159~~	~~No~~
Cont Atmos. Monitor Probe	1CMS*SOV34A[e]	1DRB*Z500	No
Cont Atmos. Monitor Probe	1CMS*SOV34B[e]	1DRB*Z430	No
Cont Atmos. Monitor Probe	1CMS*SOV34C[e]	1DRB*Z499	No
Cont Atmos. Monitor Probe	1CMS*SOV34D[e]	1DRB*Z428	No
Cont Atmos. Monitor Probe	1CMS*SOV32A[e]	1DRB*Z333	No
Cont Atmos. Monitor Probe	1CMS*SOV32G[e]	1DRB*Z335	No

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

SYSTEM	VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH ~~(f)~~ (Yes/No)
c. Other Isolation Valves			
1. Primary Containment[a]			
Feedwater Line	1B21*AOVF032A[c]	1KJB*Z3A	Yes(f)
Feedwater Line	1B21*VF010A[b]	1KJB*Z3A	Yes(f)
Feedwater Line	1B21*AOVF032B[c]	1KJB*Z3B	Yes(f)
Feedwater Line	1B21*VF010B[b]	1KJB*Z3B	Yes(f)
RWCU Disch. to Condenser	1WCS*RV144	1KJB*Z4	Yes(f)
RWCU Backwash Disch.	1WCS*RV154	1KJB*Z5	Yes(f)
HPCS to Reactor	1E22*AOVF005[b][c]	1KJB*Z9,1DRB*Z10	No
Supp. Pool Pump Back Return Line	1DFR*V181(J)	1KJB*Z11	No
Supp. Pool Pump Back Return Line	1DFR*V182(J)	1KJB*Z11	No
HPCS Th. Relief to Supp. Pool	1E22*RVF014[h]	1KJB*Z11	No
HPCS Th. Relief to Supp. Pool	1E22*RVF035[h]	1KJB*Z11	No
HPCS Th. Relief to Supp. Pool	1E22*RVF039[h]	1KJB*Z11	No
LPCS to Reactor	1E21*AOVF006[b][c]	1KJB*Z13,1DRB*Z14	No
RHR/RCIC Head Spray	1E51*AOVF065[b][c]	1KJB*Z19,1DRB*Z130	No
RHR/RCIC Head Spray	1E51*AOVF066[b][c]	1KJB*Z19,1DRB*Z130	No
RHR Shutdown Cooling Sup.	1RHS*V240	1KJB*Z20	No
LPCI C to Reactor	1E12*AOVF041C[b][c]	1KJB*Z21C,1DRB*Z22C	No
RHR A Hx V&R to Supp. Pool	1RHS*RV3A[h]	1KJB*Z23A	No
RHR A Hx V&R to Supp. Pool	1E12*RVF055A[h]	1KJB*Z23A	No
RHR A Hx V&R to Supp. Pool	1E12*RVF025A[h]	1KJB*Z23A	No
RHR A Hx V&R to Supp. Pool	1E12*RVF017A[h]	1KJB*Z23A	No
RHR A Hx V&R to Supp. Pool	1E12*RVF005[h]	1KJB*Z23A	No
LPCS Th. Relief to Supp. Pool	1E21*RVF018[h]	1KJB*Z23A	No
LPCS Th. Relief to Supp. Pool	1E21*RVF031[h]	1KJB*Z23A	No
LPCS Th. Relief to Supp. Pool	1E12*RVF036[h]	1KJB*Z23A	No
RHR B Hx V&R to Supp. Pool	1RHS*RV3B[h]	1KJB*Z23B	No
RHR B Hx V&R to Supp. Pool	1E12*RVF055B[h]	1KJB*Z23B	No
RHR B Hx V&R to Supp. Pool	1E12*RVF025C[h]	1KJB*Z23B	No

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

SYSTEM	VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH ~~(f)~~ (Yes/No)
c. Other Isolation Valves			
1. Primary Containment[a] (Continued)			
RHR B Hx V&R to Supp. Pool	1E12*RVF025B[h]	1KJB*Z23B	No
RHR B Hx V&R to Supp. Pool	1E12*RVF030[h]	1KJB*Z23B	No
RHR B Hx V&R to Supp. Pool	1E12*RVF101[h]	1KJB*Z23B	No
RHR B Hx V&R to Supp. Pool	1E12*RVF017B[h]	1KJB*Z23B	No
Fuel Pool C&C Disch.	1SFC*V101	1KJB*Z26	No
Fuel Pool C&C Suction	1SFC*V350	1KJB*Z27	No
Fuel Pool Purif. Suction	1SFC*V351	1KJB*Z28	No
CRD Hyd. Sys. Sup.	1C11*VF122	1KJB*Z29	No
Equip. Drain Disch.	1DER*V4	1KJB*Z38	No
Floor Drain Disch.	1DFR*V180	1KJB*Z35	No
Fire Protection Hdr.	1FPW*V263	1KJB*Z41	Yes (f)
Service Air Supply	1SAS*V486	1KJB*Z44	Yes (f)
Instr. Air Supply	1IAS*V80	1KJB*Z46	Yes (f)
RPCCW Supply	1CCP*V118	1KJB*Z48	No
RPCCW Return	1CCP*V160	1KJB*Z49	No
Service Water Supply	1SWP*V174	1KJB*Z52A	No
Service Water Supply	1SWP*V175	1KJB*Z52B	No
Air Sup. for Main Steam SRV	1SVV*V9	1KJB*Z102	No
Air Sup. for Main Steam SRV	1SVV*V31	1KJB*Z103	No
Vent. Chilled Water Rtn.	1HVN*V1316	1KJB*Z131	Yes (f)
Vent. Chilled Water Sup.	IHVN*V541	1KJB*Z132	Yes (f)
Condensate Makeup Sup.	1CNS*V86	1KJB*Z134	Yes (f)

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

SYSTEM	VALVE NUMBER	PENETRATION NUMBER	SECONDARY CONTAINMENT BYPASS PATH ~~(f)~~ (Yes/No)
c. Other Isolation Valves			
2. Drywell[k]			
Main Steam SRV Disch.	1B21*RVF047A	1DRB*Z135	No
Main Steam SRV Disch.	1B21*RVF041A	1DRB*Z137	No
Main Steam SRV Disch.	1B21*RVF051G	1DRB*Z138	No
Main Steam SRV Disch.	1B21*RVF041L	1DRB*Z139	No
Main Steam SRV Disch.	1B21*RVF047C	1DRB*Z140	No
Main Steam SRV Disch.	1B21*RVF041G	1DRB*Z141	No
Main Steam SRV Disch.	1B21*RVF051C	1DRB*Z142	No
Main Steam SRV Disch.	1B21*RVF041C	1DRB*Z143	No
Main Steam SRV Disch.	1B21*RVF047B	1DRB*Z144	No
Main Steam SRV Disch.	1B21*RVF041B	1DRB*Z145	No
Main Steam SRV Disch.	1B21*RVF051B	1DRB*Z146	No
Main Steam SRV Disch.	1B21*RVF041F	1DRB*Z147	No
Main Steam SRV Disch.	1B21*RVF047F	1DRB*Z148	No
Main Steam SRV Disch.	1B21*RVF041D	1DRB*Z149	No
Main Steam SRV Disch.	1B21*RVF047D	1DRB*Z150	No
Main Steam SRV Disch.	1B21*RVF051D	1DRB*Z151	No
LPCI A to Reactor	1E12*AOVF041A[c]	1DRB*Z22A	No
LPCI B to Reactor	1E12*AOVF041B[c]	1DRB*Z22B	No

TABLE 3.6.4-1 (Continued)

CONTAINMENT AND DRYWELL ISOLATION VALVES

NOTES

(a) Subject to a Type C leak rate test at a test pressure of 7.6 psig except as otherwise noted.

(b) Also isolates the drywell.

(c) Testable check valve.

(d) Isolates on MS-PLCS air line high flow or MS-PLCS air line header to Main Steam Line low differential pressure.

(e) Receives a remote manual isolation signal.

(f) This line is sealed by the penetration valve leakage control system (PVLCS). The combined leakage from valves sealed by the PVLCS is not included in 0.60 La Type B and C test total.

(g) This valve sealed by the main steam positive leakage control system (MS-PLCS). INSERT A

(h) Not subject to Type C leakage tests. Valve(s) will be included in the Type A test.

(j) Valve is hydrostatically leak tested at a test pressure of 8.36 psig (1.1 Pa). The leakage from hydrostatically tested valves is not included in the 0.60 La Type B and C test total.

(k) ~~Test pressure not applicable to these valves.~~ Not subject to a Type A, B or C leak rate test.

(l) Valve groups listed are designated in Table 3.3.2-1.

INSERT A

Valves sealed by the MS-PLCS are tested in accordance with surveillance requirement 4.6.1.3.f to verify that leakage does not exceed the limit specified in Section 3.6.1.3.c. This leakage is not included in the 0.60 La Type B and C test total.