Table 5.2-1

(Sheet 1)

PRINCIPAL DESIGN PARAMETERS AND CHARACTERISTICS

OF PRIMARY CONTAINMENT

Pressure suppression chamber	
internal design pressure	56 psig
external design pressure	2 psig
Drywell	
internal design pressure	56 psig
external design pressure	2 psig
Drywell free volume	171,000 ft^3 (max)*[1]
Pressure suppression chamber free volume (min.)	119,400 ft^3 *[1]
Pressure suppression pool water volume (max.)	135,000 ft^3 *[1, 2]
Submergence of vent pipe below pressure	
suppression pool surface (low water level)	2.92 ft
suppression pool surface (high water level)	3.83 ft*
Design temperature of drywell	281°F
Design temperature of pressure suppression chamber	281°F
Downcomer vent pressure loss factor	5.32*
Ratio of break area/total vent area	0.012*
Drywell free volume/pressure suppression chamber free volume	1.43*
Primary system volume/pressure suppression pool volume	0.201*
Drywell free volume/primary system volume	6.48*
RHR Heat Exchanger K-value, BTU/sec-ºF/HX	265

*These values did not change as a direct result of increasing power but represent parameters that were reevaluated as part of the power uprate and extended power uprate analyses.

[1]These values are conservative analytical limits used in the analysis which include analysis conservatism and the effect of instrument inaccuracies.

[2]This value is an analytical limit and may not match the value listed in the Technical Specification Bases which lists an operational limit.

Table 5.2-1
(Sheet 2)
PRINCIPAL DESIGN PARAMETERS AND CHARACTERISTICS
OF PRIMARY CONTAINMENT

Calculated maximum pressure after blowdown (no prepurge)	
Drywell	49.1 psig
Pressure suppression chamber	30.2 psig
Initial pressure suppression pool temperature rise	57ºF
Leakage rate at design accident pressure	2.0% per day

Table 5.2-2
(Sheet 1 of 13)

PRINCIPLE PRIMARY CONTAINMENT PENETRATIONS AND ASSOCIATED ISOLATION VALVES

ISLN Group Signal Notes	PEN. No.	Valve UNID (A,B)	Valve Type	Valve Size (In.)	Type of Service	Cntmt. Lctn.	Normal Status	Action on Initiating Signal	Max Opr. Time (Sec.)	Power Open	Power Close	See Notes
1	X-7A	FCV-1-14	AO Globe	26	Main Steam Line A	IBIC	O	GC	3<T<5	Air, AC, DC	Air, Spring	7
1	X-7A	FCV-1-15	AO Globe	26	Main Steam Line A	OBOC	O	GC	3<T<5	Air, AC, DC	Air, Spring	7
1	X-7B	FCV-1-26	AO Globe	26	Main Steam Line B	IBIC	O	GC	3<T<5	Air, AC, DC	Air, Spring	7
1	X-7B	FCV-1-27	AO Globe	26	Main Steam Line B	OBOC	O	GC	3<T<5	Air, AC, DC	Air, Spring	7
1	X-7C	FCV-1-37	AO Globe	26	Main Steam Line C	IBIC	O	GC	3<T<5	Air, AC, DC	Air, Spring	7
1	X-7C	FCV-1-38	AO Globe	26	Main Steam Line C	OBOC	O	GC	3<T<5	Air, AC, DC	Air, Spring	7
1	X-7D	FCV-1-51	AO Globe	26	Main Steam Line D	IBIC	O	GC	3<T<5	Air, AC, DC	Air, Spring	7
1	X-7D	FCV-1-52	AO Globe	26	Main Steam Line D	OBOC	O	GC	3<T<5	Air, AC, DC	Air, Spring	7
1	X-8	FCV-1-55	MOV Gate	3	Main Steam Line Drain	IBIC	C	SC	15	AC	AC	1
1	X-8	FCV-1-56	MOV Gate	3	Main Steam Line Drain	OBOC	C	SC	15	DC	DC	1
N/A	1-X-20	PLUGGED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	2-X-20	PLUGGED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	3-X-20	PLUGGED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	1-X-20	PLUGGED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	2-X-20	PLUGGED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	3-X-20	PLUGGED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	X-9A	3-554	Check	24	Feedwater Line A	0BOC	O	P	N/A	Process	Process	1
N/A	X-9A	3-558	Check	24	Feedwater Line A	IBIC	O	P	N/A	Process	Process	1
N/A	X-9B	3-568	Check	24	Feedwater Line B	OBOC	O	P	N/A	Process	Process	1

Table 5.2-2
(Sheet 2 of 13)

PRINCIPLE PRIMARY CONTAINMENT PENETRATIONS AND ASSOCIATED ISOLATION VALVES

ISLN Group Signal Notes	PEN. No.	Valve UNID (A,B)	Valve Type	Valve Size (In.)	Type of Service	Cntmt. Lctn.	Normal Status	Action on Initiating Signal	Max Opr. Time (Sec.)	Power Open	Power Close	See Notes
N/A	X-9B	3-572	Check	24	Feedwater Line B	IBIC	O	P	N/A	Process	Process	1
N/A	1-X-22	1-32-915	Check	1	Control Air Supply	IBIC	O	P	N/A	Process	Process	1
N/A	2-X-22	2-32-2163	Check	1	Control Air Supply	IBIC	O	P	N/A	Process	Process	1
N/A	3-X-22	3-32-2163	Check	1	Control Air Supply	IBIC	O	P	N/A	Process	Process	1
N/A	X-50B	32-2516	Check	3/4	Control Air Supply	IBIC	O	P	N/A	Process	Process	1
N/A	X-50B	32-2521	Check	3/4	Control Air Supply	OBOC	O	P	N/A	Process	Process	1
N/A	X-22	32-336	Check	1	Control Air Supply	OBOC	O	P	N/A	Process	Process	1
N/A	1-X-48	Flanged	N/A	N/A	ILRT Compressor Connection	N/A	C	N/A	N/A	N/A	N/A	9
N/A	2-X-48	Flanged	N/A	N/A	ILRT Compressor Connection	N/A	C	N/A	N/A	N/A	N/A	9
N/A	3-X-48	Flanged	N/A	N/A	ILRT Compressor Connection	N/A	C	N/A	N/A	N/A	N/A	9
N/A	1-X-21	PLUGGED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	2-X-21	PLUGGED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	3-X-21	PLUGGED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	1-X-21	PLUGGED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	2-X-21	PLUGGED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	3-X-21	PLUGGED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1 Does Not Open on Signal D&P Isolates on B Only	X-41	FCV-43-13	AO Globe	3/4	Reactor Water Sample	IBIC	C	SC	5	Air, AC	Spring	1

Table 5.2-2
(Sheet 3 of 13)

ISLN Group Signal Notes	PEN. No.	Valve UNID (A,B)	Valve Type	Valve Size (In.)	Type of Service	Cntmt. Lctn.	Normal Status	Action on Initiating Signal	Max Opr. Time (Sec.)	Power Open	Power Close	See Notes
1 Isolates on B Only	X-41	FCV-43-14	AO Globe	3/4	Reactor Water Sample	OBOC	C	SC	5	Air, AC	Spring	1
6	X-229J	FSV-43-40*	SOL Globe	1/2	PASS Sample Return	IBOC	C	SC	N/A	AC	Spring	1
6	X-229J	FSV-43-42*	SOL Globe	1/2	PASS Sample Return	OBOC	C	SC	N/A	AC	Spring	1
6	N/A	FSV-43-50	SOL Globe	1/2	PASS Liquid Sample	IBOC	C	SC	N/A	AC	Spring	59
6	N/A	FSV-43-56	SOL Globe	1/2	PASS Liquid Sample	OBOC	C	SC	N/A	AC	Spring	59
N/A	X-42	63-525	Check	1-1/2	SLC To Reactor	OBOC	C	P	N/A	Process	Process	60
N/A	X-42	63-526	Check	1-1/2	SLC To Reactor	IBIC	C	P	N/A	Process	Process	60
N/A	X-205	64-800	Check	20	Torus Vacuum Relief	OBOC	C	P	N/A	Process	Process	1
N/A	X-205	64-801	Check	20	Torus Vacuum Relief	OBOC	C	P	N/A	Process	Process	1
6	X-231	FCV-64-139	AO Globe	3	Drywell/Torus DP Compressor Suction	OBOC	C	SC	10	Air, AC	Spring	1
6	X-26	FCV-64-140	AO Globe	2	Drywell/Torus DP Compressor Discharge	OBOC	C	SC	10	Air, AC	Spring	1
6	X-25	FCV-64-17	AO Butterfly	20	Cooling/Purge Air To Containment	OBOC	C	SC	2.5	Air, AC	Spring	1
6	X-25	FCV-64-18	AO Butterfly	18	Cooling/Purge Air To Drywell	IBOC	C	SC	2.5	Air, AC	Spring	1
6	X-205	FCV-64-19	AO Butterfly	20	Cooling/Purge Air To Pressure Suppression Chamber	IBOC	C	SC	2.5	Air, AC	Spring	1
N/A	X-205	FCV-64-20	AO Butterfly	20	Torus Vacuum Relief	IBOC	C	N/A	N/A	Spring	Air, AC	1
N/A	X-205	FCV-64-21	AO Butterfly	20	Torus Vacuum Relief	IBOC	C	N/A	N/A	Spring	Air, AC	1
6	X-26	FCV-64-29	AO Butterfly	18	Drywell Exhaust	IBOC	C	SC	2.5	Air, AC	Spring	1
6	X-26	FCV-64-30	AO Butterfly	18	Drywell Exhaust	OBOC	C	SC	2.5	Air, AC	Spring	1
6	X-26	FCV-64-31	AO Butterfly	2	Drywell Exhaust Bypass Valve To Standby Gas	IBOC	O	GC	5	Air, AC	Spring	1

Table 5.2-2
(Sheet 4 of 13)

ISLN Group Signal Notes	PEN. No.	Valve UNID (A,B)	Valve Type	Valve Size (In.)	Type of Service	Cntmt. Lctn.	Normal Status	Action on Initiating Signal	Max Opr. Time (Sec.)	Power Open	Power Close	See Notes
6	X-231	FCV-64-32	AO Butterfly	18	Torus Exhaust	IBOC	C	SC	2.5	Air, AC	Spring	1
6	X-231	FCV-64-33	AO Butterfly	18	Torus Exhaust	OBOC	C	SC	2.5	Air, AC	Spring	1
6	X-231	FCV-64-34	AO Butterfly	2	Torus Exhaust Bypass Valve To Standby Gas	IBOC	O	GC	5	Air, AC	Spring	1
N/A	X-205	FCV-64-221	AO Butterfly	14	Hardened Containment Vent	IBOC	C	N/A	N/A	Air, DC	Spring	1, 51
N/A	X-205	FCV-64-222	AO Butterfly	14	Hardened Containment Vent	OBOC	C	N/A	N/A	Air, DC	Spring	1, 51
N/A	X-37C	68-508	Check	3/4	Recirc Pump Seal Water	IBIC	O	P	N/A	Process	Process	1
N/A	X-38C	68-523	Check	3/4	Recirc Pump Seal Water	IBIC	O	P	N/A	Process	Process	1
N/A	X-37C	68-550	Check	3/4	Recirc Pump Seal Water	OBOC	O	P	N/A	Process	Process	1
N/A	X-38C	68-555	Check	3/4	Recirc Pump Seal Water	OBOC	O	P	N/A	Process	Process	1
N/A	1-X-9B	1-69-629	Check	4	RWCU System Return	OBOC	O	P	N/A	Process	Process	1
N/A	2-X-9B	2-69-630	Check	4	RWCU System Return	OBOC	O	P	N/A	Process	Process	1
N/A	3-X-9B	3-69-629	Check	4	RWCU System Return	OBOC	O	P	N/A	Process	Process	1
3	X-14	FCV-69-1	MOV Gate`	6	RWCU Suction	IBIC	O	GC	30	AC	AC	1
3	X-14	FCV-69-2	MOV Gate	6	RWCU Suction	OBOC	O	GC	30	DC	DC	1
N/A	X-23	70-506	Check	8	RBCCW Drywell Supply	OBOC	O	P	N/A	Process	Process	1
N/A	X-24	FCV-70-47	MOV Gate	8	RBCCW Drywell Return	OBOC	O	GC	N/A	AC	AC	1, 4
N/A	X-210A	71-547	Check	2	RCIC Pump Minimum Flow Bypass	OBOC	C	P	N/A	Process	Process	59
N/A	X-212 & X-218	71-580	Check	10	RCIC Turbine Exhaust	OBOC	C	P	N/A	Process	Process	1
N/A	X-221	71-592	Check	2	RCIC Vacuum Pump Discharge	OBOC	C	P	N/A	Process	Process	59
N/A	X-227A	FCV-71-17	MOV Gate	6	RCIC Pump Suction	IBOC	C	SC	N/A	DC	DC	59
N/A	X-227A	FCV-71-18	MOV Gate	6	RCIC Pump Suction	OBOC	C	SC	N/A	DC	DC	59

Table 5.2-2
(Sheet 5 of 13)

ISLN Group Signal Notes	PEN. No.	Valve UNID (A,B)	Valve Type	Valve Size (In.)	Type of Service	Cntmt. Lctn.	Normal Status	Action on Initiating Signal	Max Opr. Time (Sec.)	Power Open	Power Close	See Notes
5	X-10	FCV-71-2	MOV Gate	3	Steam To RCIC	IBIC	O	GC	15	AC	AC	1
5	X-10	FCV-71-3	MOV Gate	3	Steam To RCIC	OBOC	O	GC	15	DC	DC	1
N/A	X-210A	FCV-71-34	MOV Globe	2	RCIC Pump Minimum Flow Bypass	IBOC	C	SC	N/A	DC	DC	59
N/A	X-9B	1-CKV-71-40	Check	6	RCIC Pump Discharge	IBOC	C	P	N/A	Process	Process	1
N/A	X-9B	2-CKV-71-40	Check	6	RCIC Pump Discharge	IBOC	C	P	N/A	Process	Process	1
N/A	X-9B	3-CKV-71-40	Check	6	RCIC Pump Discharge	IBOC	C	P	N/A	Process	Process	1
N/A	X-212 & X-218	71-14	Globe Stop Check	8	RCIC Turbine Exhaust	IBOC	C	P	N/A	Process	Process	1
N/A	X-221	71-32	Globe Stop Check	2	RCIC Vacuum Pump Discharge	IBOC	C	P	N/A	Process	Process	59
N/A	X-210B	CKV-73-559	Check	4	HPCI Miniflow Bypass	OBOC	C	P	N/A	Process	Process	59
N/A	X-214 & X-220	2/3-CKV-73-603	Check	16	HPCI Turbine Exhaust	OBOC	C	P	N/A	Process	Process	1
N/A	X-214 & X-218	1-CKV-73-603	Check	16	HPCI Turbine Exhaust	OBOC	C	P	N/A	Process	Process	1
4	X-11	FCV-73-2	MOV Gate	10	Steam To HPCI	IBIC	O	GC	20	AC	AC	1
4	X-226	FCV-73-26	MOV Gate	16	HPCI Pump Suction	IBOC	C	SC	80	DC	DC	59
4	X-226	FCV-73-27	MOV Gate	16	HPCI Pump Suction	OBOC	C	SC	80	DC	DC	59
4	X-11	FCV-73-3	MOV Gate	10	Steam To HPCI	OBOC	O	GC	20	DC	DC	1
N/A	X-210B	FCV-73-30	MOV Globe	4	HPCI Miniflow Bypass	IBOC	C	SC	N/A	DC	DC	59
N/A	X-9A	1-CKV-73-45	Check	14	HPCI To Feedwater Line A	OBOC	C	P	N/A	Process	Process	1
4	X-11	FCV-73-81	MOV Gate	1	HPCI Warm Up Bypass	OBOC	C	SC	10	AC	AC	1
N/A	X-214 & X-220	2/3-73-23	Globe Stop Check	16	HPCI Turbine Exhaust	IBOC	C	P	N/A	Process	Process	1

Table 5.2-2
(Sheet 6 of 13)

ISLN Group Signal Notes	PEN. No.	Valve UNID (A,B)	Valve Type	Valve Size (In.)	Type of Service	Cntmt. Lctn.	Normal Status	Action on Initiating Signal	Max Opr. Time (Sec.)	Power Open	Power Close	See Notes
N/A	X-214 & X-218	1-73-23	Globe Stop Check	16	HPCI Turbine Exhaust	IBOC	C	P	N/A	Process	Process	1
N/A	X-12	74-661	Check	3/4	RHR Shutdown Cooling Press Relief Bypass	IBIC	C	P	N/A	Process	Process	1
N/A	X-12	74-662	Check	3/4	RHR Shutdown Cooling Press Relief Bypass	IBIC	C	P	N/A	Process	Process	1
N/A	X-213B	74-722	Manual Gate	8	Torus Drain	IBOC	C	SC	N/A	Manual	Manual	59
N/A	N/A	74-792	Check	2	PSC Head Tank To RHR	OBOC	O	P	N/A	Process	Process	59
N/A	N/A	74-802	Check	2	PSC Head Tank To RHR	OBOC	O	P	N/A	Process	Process	59
N/A	N/A	74-803	Check	2	PSC Head Tank To RHR	IBOC	O	P	N/A	Process	Process	59
N/A	N/A	74-804	Check	2	PSC Head Tank To RHR	IBOC	O	P	N/A	Process	Process	59
N/A	1-X-222	CAPPED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	3-X-222	CAPPED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	X-12	FCV-74-47	MOV Gate	20	(RHR) Shutdown Cooling Suction	OBOC	C	SC	40	DC	DC	1
N/A	X-9A	2-CKV-73-45	Check	14	HPCI To Feedwater Line A	OBOC	C	P	N/A	Process	Process	1
N/A	X-9A	3-CKV-73-45	Check	14	HPCI To Feedwater Line A	OBOC	C	P	N/A	Process	Process	1
2	X-12	FCV-74-48	MOV Gate	20	(RHR) Shutdown Cooling Suction	IBIC	C	SC	40	AC	AC	1
2	X-13A	FCV-74-53	MOV Gate	24	RHR-LPCI To Reactor	OBOC	C	SC	40	AC	AC	63
N/A	X-13A	CKV-74-54	Check	24	RHR-LPCI To Reactor	IBIC	C	P	N/A	Process	Process	63
N/A	2-X-222	CAPPED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	X-211A	FCV-74-57	MOV Gate	18	RHR Containment Cooling	OBOC	C	SC	N/A	AC	AC	61
N/A	X-211A	FCV-74-58	MOV Globe	4	RHR Containment Cooling	IBOC	C	SC	N/A	AC	AC	61
N/A	1-X-39A	1-FCV-74-60	MOV Gate	12	RHR Drywell Spray	OBOC	C	P	N/A	AC	AC	62

Table 5.2-2
(Sheet 7 of 13)

ISLN Group Signal Notes	PEN. No.	Valve UNID (A,B)	Valve Type	Valve Size (In.)	Type of Service	Cntmt. Lctn.	Normal Status	Action on Initiating Signal	Max Opr. Time (Sec.)	Power Open	Power Close	See Notes
N/A	2-X-39B	2-FCV-74-60	MOV Gate	12	RHR Drywell Spray	OBOC	C	P	N/A	AC	AC	62
N/A	3-X-39B	3-FCV-74-60	MOV Gate	12	RHR Drywell Spray	OBOC	C	P	N/A	AC	AC	62
N/A	1-X-39A	1-FCV-74-61	MOV Gate	12	RHR Drywell Spray	IBOC	C	P	N/A	AC	AC	62
N/A	2-X-39B	2-FCV-74-61	MOV Gate	12	RHR Drywell Spray	IBOC	C	P	N/A	AC	AC	62
N/A	3-X-39B	3-FCV-74-61	MOV Gate	12	RHR Drywell Spray	IBOC	C	P	N/A	AC	AC	62
2	X-13B	FCV-74-67	MOV Gate	24	RHR-LPCI To Reactor	OBOC	C	SC	40	AC	AC	63
N/A	X-13B	CKV-74-68	Check	24	RHR-LPCI To Reactor	IBIC	C	P	N/A	Process	Process	63
N/A	X-211B	FCV-74-71	MOV Gate	18	RHR Containment Cooling	OBOC	C	SC	N/A	AC	AC	61
N/A	X-211B	FCV-74-72	MOV Globe	4	RHR Containment Cooling	IBOC	C	SC	N/A	AC	AC	61
N/A	X-225A	SMV-74-226	Globe	3/4	RHR PMP Suction Sample Valve	IBOC	C	SC	N/A	Manual	Manual	4
N/A	X-225B	SMV-74-227	Globe	3/4	RHR PMP Suction Sample Valve	IBOC	C	SC	N/A	Manual	Manual	4
N/A	1-X-39B	1-FCV-74-74	MOV Gate	12	RHR Drywell Spray	OBOC	C	P	N/A	AC	AC	62
N/A	2-X-39A	2-FCV-74-74	MOV Gate	12	RHR Drywell Spray	OBOC	C	P	N/A	AC	AC	62
N/A	3-X-39A	3-FCV-74-74	MOV Gate	12	RHR Drywell Spray	OBOC	C	P	N/A	AC	AC	62
N/A	1-X-39B	1-FCV-74-75	MOV Gate	12	RHR Drywell Spray	IBOC	C	P	N/A	AC	AC	62
N/A	2-X-39A	2-FCV-74-75	MOV Gate	12	RHR Drywell Spray	IBOC	C	P	N/A	AC	AC	62
N/A	3-X-39A	3-FCV-74-75	MOV Gate	12	RHR Drywell Spray	IBOC	C	P	N/A	AC	AC	62
N/A	N/A	75-606	Check	2	PSC Head Tank To Core Spray	IBOC	O	P	N/A	Process	Process	59
N/A	N/A	75-607	Check	2	PSC Head Tank To Core Spray	OBOC	O	P	N/A	Process	Process	59
N/A	N/A	75-609	Check	2	PSC Head Tank To Core Spray	IBOC	O	P	N/A	Process	Process	59
N/A	N/A	75-610	Check	2	PSC Head Tank To Core Spray	OBOC	O	P	N/A	Process	Process	59
N/A	X-16A	FCV-75-25	MOV Gate	12	Core Spray To Reactor	OBOC	C	SC	N/A	AC	AC	63

Table 5.2-2
(Sheet 8 of 13)

ISLN Group Signal Notes	PEN. No.	Valve UNID (A,B)	Valve Type	Valve Size (In.)	Type of Service	Cntmt. Lctn.	Normal Status	Action on Initiating Signal	Max Opr. Time (Sec.)	Power Open	Power Close	See Notes
N/A	X-16A	1-CKV-75-26	Check	12	Core Spray To Reactor	IBIC	C	P	N/A	Process	Process	63
N/A	X-16A	2-CKV-75-26	Check	12	Core Spray To Reactor	IBIC	C	P	N/A	Process	Process	63
N/A	X-16A	3-CKV-75-26	Check	12	Core Spray To Reactor	IBIC	C	P	N/A	Process	Process	63
N/A	X-16B	FCV-75-53	MOV Gate	12	Core Spray To Reactor	OBOC	C	SC	N/A	AC	AC	63
N/A	X-16B	1-CKV-75-54	Check	12	Core Spray To Reactor	IBIC	C	P	N/A	Process	Process	63
N/A	X-16B	2-CKV-75-54	Check	12	Core Spray To Reactor	IBIC	C	P	N/A	Process	Process	63
N/A	X-16B	3-CKV-75-54	Check	12	Core Spray To Reactor	IBIC	C	P	N/A	Process	Process	63
2	X-227A	FCV-75-57	AO Globe	3	Pressure Suppression Chamber Drain	IBOC	O	GC	15	Air, AC	Spring	59
2	X-227A	FCV-75-58	AO Globe	3	Pressure Suppression Chamber Drain	OBOC	O	GC	15	Air, AC	Spring	59
N/A	X-35F	1/3-CKV-76-653	Check	3/8	TIP Nitrogen Purge	IBOC	O	C	N/A	Process	Process	1
N/A	X-35F	2-CKV-76-653	Check	1/2	TIP Nitrogen Purge	IBOC	O	C	N/A	Process	Process	1
N/A	X-35F	2-CKV-76-655	Check	1/2	TIP Nitrogen Purge	OBOC	O	C	N/A	Process	Process	1
6	X-25	FCV-76-17	AO Butterfly	2	Containment Inerting N2 Makeup	OBOC	C	SC	5	Air, AC	Spring	1
6	X-25	FCV-76-18	AO Butterfly	2	Containment Inerting Drywell N2 Makeup	IBOC	C	SC	5	Air, AC	Spring	1
6	X-205	FCV-76-19	AO Butterfly	2	Containment Inerting - PSC N2 Makeup	IBOC	C	SC	5	Air, AC	Spring	1
6	X-25	FCV-76-24	AO Butterfly	10	Containment Nitrogen Purge	OBOC	C	SC	5	Air, AC	Spring	1
6	X-27F	FSV-76-49	SOL Globe	1/2	Drywell Analyzer A Sample	IBOC	O/C	GC/SC	N/A	AC	Spring	1

Table 5.2-2
(Sheet 9 of 13)

ISLN Group Signal Notes	PEN. No.	Valve UNID (A,B)	Valve Type	Valve Size (In.)	Type of Service	Cntmt. Lctn.	Normal Status	Action on Initiating Signal	Max Opr. Time (Sec.)	Power Open	Power Close	See Notes
6	X-27F	FSV-76-50	SOL Globe	1/2	Drywell Analyzer A Sample	OBOC	O/C	GC/SC	N/A	AC	Spring	1
6	1-X-229N	1-FSV-76-55	SOL Globe	1/2	Torus Analyzer A Sample	IBOC	O/C	GC/SC	N/A	AC	Spring	1
6	2-X-229D	2-FSV-76-55	SOL Globe	1/2	Torus Analyzer A Sample	IBOC	O/C	GC/SC	N/A	AC	Spring	1
6	3-X-229N	3-FSV-76-55	SOL Globe	1/2	Torus Analyzer A Sample	IBOC	O/C	GC/SC	N/A	AC	Spring	1
6	1-X-229N	1-FSV-76-56	SOL Globe	1/2	Torus Analyzer A Sampler	OBOC	O/C	GC/SC	N/A	AC	Spring	1
6	2-X-229D	2-FSV-76-56	SOL Globe	1/2	Torus Analyzer A Sampler	OBOC	O/C	GC/SC	N/A	AC	Spring	1
6	3-X-229N	3-FSV-76-56	SOL Globe	1/2	Torus Analyzer A Sampler	OBOC	O/C	GC/SC	N/A	AC	Spring	1
6	1-X-229B	1-FSV-76-57	SOL Globe	1/2	Analyzer A Sample Return	IBOC	O	GC	N/A	AC	Spring	1
6	2-X-229B	2-FSV-76-57	SOL Globe	1/2	Analyzer A Sample Return	IBOC	O	GC	N/A	AC	Spring	1
6	3-X-229A	3-FSV-76-57	SOL Globe	1/2	Analyzer A Sample Return	IBOC	O	GC	N/A	AC	Spring	1
6	1-X-229B	1-FSV-76-58	SOL Globe	1/2	Analyzer A Sample Return	OBOC	O	GC	N/A	AC	Spring	1
6	2-X-229B	2-FSV-76-58	SOL Globe	1/2	Analyzer A Sample Return	OBOC	O	GC	N/A	AC	Spring	1
6	3-X-229A	3-FSV-76-58	SOL Globe	1/2	Analyzer A Sample Return	OBOC	O	GC	N/A	AC	Spring	1
2	X-19	1-FCV-77-15A	AO Ball	3	Drywell Equipment Drain Sump Discharge	IBOC	O	GC	15	Air, AC	Spring	1
2	X-19	1-FCV-77-15B	AO Ball	3	Drywell Equipment Drain Sump Discharge	OBOC	C	GC	15	Air, AC	Spring	1
2	X-18	1-FCV-77-2A	AO Ball	3	Drywell Floor Drain Sump Discharge	IBOC	O	GC	15	Air, AC	Spring	1
2	X-18	1-FCV-77-2B	AO Ball	3	Drywell Floor Drain Sump Discharge	OBOC	C	GC	15	Air, AC	Spring	1
2	X-19	2-FCV-77-15A	AO Ball	3	Drywell Equipment Drain Sump Discharge	IBOC	O	GC	15	Air, AC	Spring	1

Table 5.2-2
(Sheet 10 of 13)

ISLN Group Signal Notes	PEN. No.	Valve UNID (A,B)	Valve Type	Valve Size (In.)	Type of Service	Cntmt. Lctn.	Normal Status	Action on Initiating Signal	Max Opr. Time (Sec.)	Power Open	Power Close	See Notes
2	X-19	2-FCV-77-15B	AO Ball	3	Drywell Equipment Drain Sump Discharge	OBOC	C	GC	15	Air, AC	Spring	1
2	X-18	2-FCV-77-2A	AO Ball	3	Drywell Floor Drain Sump Discharge	IBOC	O	GC	15	Air, AC	Spring	1
2	X-18	2-FCV-77-2B	AO Ball	3	Drywell Floor Drain Sump Discharge	OBOC	C	GC	15	Air, AC	Spring	1
2	X-19	3-FCV-77-15A	AO Ball	3	Drywell Equipment Drain Sump Discharge	IBOC	O	GC	15	Air, AC	Spring	1
2	X-19	3-FCV-77-15B	AO Ball	3	Drywell Equipment Drain Sump Discharge	OBOC	C	GC	15	Air, AC	Spring	1
2	X-18	3-FCV-77-2A	AO Ball	3	Drywell Floor Drain Sump Discharge	IBOC	O	GC	15	Air, AC	Spring	1
2	X-18	3-FCV-77-2B	AO Ball	3	Drywell Floor Drain Sump Discharge	OBOC	C	GC	15	Air, AC	Spring	1
N/A	X-25	84-600	Check	2	CAD Admission To Drywell	OBOC	C	P	N/A	Process	Process	1
N/A	X-205	84-601	Check	2	CAD Admission To Torus	OBOC	C	P	N/A	Process	Process	1
N/A	X-25	84-602	Check	2	CAD Admission To Drywell	OBOC	C	P	N/A	Process	Process	1
N/A	X-205	84-603	Check	2	CAD Admission To Torus	OBOC	C	P	N/A	Process	Process	1
N/A	X-50B	1-84-683	Gate	1	CAD Crosstie To Drywell Control Air	OBOC	C	N/A	N/A	Manual	Manual	1
N/A	X-22	1-84-686	Gate	1	CAD Crosstie To Drywell Control Air	OBOC	C	N/A	N/A	Manual	Manual	1
N/A	X-50B	2-84-683	Manual Ball	1	CAD Crosstie To Drywell Control Air	OBOC	C	N/A	N/A	Manual	Manual	1
N/A	X-22	2-84-686	Manual Ball	1	CAD Crosstie To Drywell Control Air	OBOC	C	N/A	N/A	Manual	Manual	1
N/A	X-231	FCV-84-19	AO Globe	2	CAD System Containment Exhaust To Standby Gas (65)	OBOC	C	SC	N/A	Air, AC	Spring	1

Table 5.2-2
(Sheet 11 of 13)

ISLN Group Signal Notes	PEN. No.	Valve UNID (A,B)	Valve Type	Valve Size (In.)	Type of Service	Cntmt. Lctn.	Normal Status	Action on Initiating Signal	Max Opr. Time (Sec.)	Power Open	Power Close	See Notes
6	X-26	FCV-84-20	AO Globe	2	CAD Containment To Standby Gas (65)	OBOC	C	SC	10	Air, AC	Spring	1
N/A	X-50B	3-84-683	Gate	1	CAD Crosstie To Drywell Control Air	OBOC	C	N/A	N/A	Manual	Manual	1
N/A	X-22	3-84-686	Gate	1	CAD Crosstie To Drywell Control Air	OBOC	C	N/A	N/A	Manual	Manual	1
N/A	X-25	FSV-84-8A	SOL Globe	2	CAD Admission To Drywell	IBOC	C	SC	N/A	AC	Spring	1
N/A	X-205	FSV-84-8B	SOL Globe	2	CAD Admission To Torus	IBOC	C	SC	N/A	AC	Spring	1
N/A	X-205	FSV-84-8C	SOL Globe	2	CAD Admission To Torus	IBOC	C	SC	N/A	AC	Spring	1
N/A	X-25	FSV-84-8D	SOL Globe	2	CAD Admission To Drywell	IBOC	C	SC	N/A	AC	Spring	1
N/A	X-50B	FSV-84-48	SOL Globe	1	CAD Crosstie To Drywell Control Air	OBOC	C	N/A	N/A	AC	Spring	1
N/A	X-22	FSV-84-49	SOL Globe	1	CAD Crosstie To Drywell Control Air	OBOC	C	N/A	N/A	AC	Spring	1
6	X-50A	FSV-90-254A	SOL Gate	1	Airborne Radiation Monitoring	IBOC	O	GC	10	AC	AC	1
6	X-50D	FSV-90-254B	SOL Gate	1	Airborne Radiation Monitoring	IBOC	O	GC	10	AC	AC	1
6	X-50A & X-50D	FSV-90-255	SOL Gate	1	Airborne Radiation Monitoring	OBOC	O	GC	10	AC	AC	1
6	X-50C	FSV-90-257A	SOL Gate	1	Airborne Radiation Monitoring	OBOC	O	GC	10	AC	AC	1
6	X-50C	FSV-90-257B	SOL Gate	1	Airborne Radiation Monitoring	IBOC	O	GC	10	AC	AC	1
8	X-35A	FCV-94-501	SOL Ball	3/8	TIP Guide Tube	IBOC	C	GC	N/A	AC	AC	1
8	X-35B	FCV-94-502	SOL Ball	3/8	TIP Guide Tube	IBOC	C	GC	N/A	AC	AC	1
8	X-35C	FCV-94-503	SOL Ball	3/8	TIP Guide Tube	IBOC	C	GC	N/A	AC	AC	1
8	X-35D	FCV-94-504	SOL Ball	3/8	TIP Guide Tube	IBOC	C	GC	N/A	AC	AC	1
8	X-35E	FCV-94-505	SOL Ball	3/8	TIP Guide Tube	IBOC	C	GC	N/A	AC	AC	1

Table 5.2-2
(Sheet 12 of 13)
PRINCIPLE PRIMARY CONTAINMENT PENETRATIONS AND ASSOCIATED ISOLATION VALVES

GENERAL NOTES:

A. Unid Numbers Shown Are Typical For All Three Units Unless Otherwise Noted.

B. This Table Does Not List All Primary Containment Valves, For Example, Instrument Line Root Valves, Excess Flow Check Valves, Vent Valves, Panel Isolation Valves And Panel Valves. This Table Should Not Be Used In Determining The Primary Containment Boundary Or Appendix J Testing Boundary.

NOTES: (Correspond to Containment Leak Rate Program Note Numbers)

1. Primary Containment Isolation Valve(S) Requiring LLRT At Not Less Than 49.1 psig.

3. Primary Containment Isolation Valves That Are In Closed Loop, Seismic Class I Lines That Will Be Water Sealed During A DBA. These Valves Will Be Tested But Not Included In The 60-Percent L_a Tabulation.

4. Primary Containment Isolation Valves That Are Manually Operated.

7. Primary Containment Isolation Valves Requiring LLRT At Not Less Than 25-Psig.

9. These Components Require Local Leak Rate Testing At Not Less Than 49.1 psig.

51. The Maximum Allowable Leak Rate For These Valve Is 10 Scfh.

59. Sealed by water in a pathway that is not a potential Containment Atmospheric Pathway during and following the DBA that produces peak containment pressure; therefore, local leak rate testing is not required by ANSI/ANS 56.8-1994 and NEI 94-01.

60. Primary Containment Isolation Valve that is not a potential Containment Atmospheric Pathway during and following the DBA that produces peak containment pressure; therefore, local leak rate testing is not required by ANSI/ANS 56.8-1994 and NEI 94-01.

61. Torus Spray valve that is sealed by water in a pathway that is not a potential Containment Atmospheric Pathway during and following the DBA that produces peak containment pressure; therefore, local leak rate testing is not reuqired by ANSI/ANS 56.8-1994 and NEI 94-01.

62. Drywell Spray Valve that is sealed by water in a pathway that is not a potential Containment Atmospheric Pathway during and following the DBA that produces peak containment pressure; therefore, local leak rate testing is not required by ANSI/ANS 56.8-1994 and NEI 94-01.

63. Pressure Isolation Valve that is in a pathway that is not a potential Containment Atmospheric Pathway during and following the DBA that produces peak containment pressure; therefore, local leak rate testing is not required by ANSI/ANS 56.8-1994 and NEI 94-01. However, it is required to be leak tested by the In-Service Testing Program.

LEGEND

O	=	Open
C	=	Closed
SC	=	Stays Closed
GC	=	Goes Closed
P	=	Process
IBIC	=	Inboard Inside Containment
OBOC	=	Outboard Outside Containment
IBOC	=	Inboard Outside Containment

ISOLATION GROUP NOTES:

Group 1 = B, D, P

Group 2 = A, F
Group 3 = A, J
Group 4 = L, E
Group 5 = K, G
Group 6 = A, F, Z
Group 7 = (Deleted)
Group 8 = A, F

Table 5.2-2
(Sheet 13 of 13)

SIGNAL DESCRIPTION

A. Reactor Vessel Low Water Level (Level 3)

B. Reactor Vessel Low-Low-Low Water Level (Level 1)

D. Main Steamline Break (Steamline High Space Temperature Or High Steam Flow)

E. High Pressure Between Diaphragm Rupture Discs On HPCI Turbine Exhaust

F. High Drywell Pressure

G. High Pressure Between Diaphragm Rupture Discs On RCIC Turbine Exhaust

J. High Temperature In The Areas Occupied By RWCU Equipment (RWCU Heat Exchanger Room Or RWCU Pump Rooms 2A And 2B), Or High Temperature In The RWCU Pipe Trench Or High Temperature In The Main Steam Valve Vault. Alarm And Close Cleanup System Isolation Valves.

K. Line Break In RCIC System Steamline To Turbine (High Steamline Space Temperature, High Steam Flow, Or Low Steamline Pressure)

L. Line Break In HPCI System Steamline To Turbine (High Steamline Space Temperature, High Steam Flow, Or Low Steamline Pressure)

P. Low Main Steamline Pressure At Inlet To Turbine (Run Mode Only)

Z. Reactor Building Ventilation Exhaust High Radiation

*For Units 2 and 3 only.

Table 5.2-3

(Deleted by Amendment 18)

BFN-27

TABLE 5.2-4

(Deleted by Amendment 17)