Notes for Table 4.2-1 (Cont'd)

from other BWR's for which the same design instrument operates in an environment similar to that of HNP-1. The failure rate data must be reviewed and approved by the AEC prior to any change in the once-a-month frequency.

e. This instrumentation is exempted from the instrument functional test definition. This instrument functional test will consist of injecting a simulated electrical signal into the measurement channels.

f. Standard current source used which provides an instrument channel alignment. Calibration using a radiation source shall be made once per operating cycle.

Logic system functional tests and simulated automatic actuation shall be performed once each operating cycle for the following:

1. Main Steam Line Isolation Valves
2. Main Steam Line Drain Valves
3. Reactor Water Sample Valves
4. RHR - Isolation Valve Control
5. Shutdown Cooling Valves
6. Deleted
7. Drywell Equipment Sump Discharge to Radwaste
8. Reactor Water Cleanup Isolation
9. Drywell Isolation Valves
10. TIP Withdrawal
11. Atmospheric Control Valves
12. Sump Drain Valves
13. Standby Gas Treatment
14. Reactor Building Isolation

The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

TABLE 3.7-1 (Cont'd)

PRIMARY CONTAINMENT ISOLATION VALVES WHICH
RECEIVE A PRIMARY CONTAINMENT ISOLATION SIGNAL

Isolation Group (b)	Valve Identification (d)	Number of Power Operated Valves Inside	Outside	Maximum Operating Time (sec)	Normal Position (a)	Action on Initiating Signal (a)
6	RHR reactor sh_tdown cooling suction (supply) (E11-F008, E11-F009)	1	1	24	C	SC
3	HPCI - turbine steam (E41-F002, E41-F003)	1	1	50	O	GC
4	RCIC - turbine steam (E51-F007, E51-F008)	1	1	20	O	GC
5	Reactor water cleanup from recirculation loop (G31-F001, G31-F004)	1	1	30	O	GC
2	Post-accident sampling system supply (B21-F111, B21-F112)		2	5	C	SC
2	Post-accident sampling system return (E41-F122, E41-F121)		2	5	C	SC
2	Core spray test line to suppression pool (E21-F015A,B)		1 each line	57	C	SC

Table 3.7-3

Testable Penetrations with Testable Bellows

Penetration Number	Penetration Description	Notes
X-7A	Primary Steamline 'A'	(1) (2) (4) (6)
X-7B	Primary Steamline 'B'	(1) (2) (4) (6)
X-7C	Primary Steamline 'C'	(1) (2) (4) (6)
X-7D	Primary Steamline 'D'	(1) (2) (4) (6)
X-8	Steamline Condensate Drain	(1) (2) (4) (6)
X-9A	Feedwater Line 'A'	(1) (2) (4) (6)
X-9B	Feedwater Line 'B'	(1) (2) (4) (6)
X-10	Steam to RCIC Turbine	(1) (2) (4) (6)
X-11	Steam Line to HPCI Turbine	(1) (2) (4) (6)
X-12	RHRS Shutdown Cooling Suction	(1) (2) (4) (6)
X-13A	RHR LPCI to Reactor	(1) (2) (4) (6)
X-13B	RHR LPCI to Reactor	(1) (2) (4) (6)
X-14	Reactor Water Cleanup Line	(1) (2) (4) (6)
X-16A	Core Spray to Reactor	(1) (2) (4) (6)
X-16B	Core Spray to Reactor	(1) (2) (4) (6)
X-17	Spare	(1) (2) (4) (6) |
X-201A through X-201H	Drywell Suppression Chamber to Vent Line	(1) (2) (4) (6)

Table 3.7-4

Primary Containment Testable Isolation Valves

Penetration Number	Valve Designation	Notes
X-7A	B21-F022A & F028A Main Steam Isolation Valves	(1) (2) (3) (5) (9)
X-7B	B21-F022B & F028B Main Steam Isolation Valves	(1) (2) (3) (5) (9)
X-7C	B21-F022C & F028C Main Steam Isolation Valves	(1) (2) (3) (5) (9)
X-7D	B21-F022D & F028D Main Steam Isolation Valves	(1) (2) (3) (5) (9)
X-8	B21-F016 & F019	(1) (2) (4) (5) (9)
X-9A	B21-F010B	(1) (2) (3) (5) (10)
X-9A	B21-F032B	(1) (2) (3) (5) (10)
X-9A	E41-F006	(1) (2) (4) (5) (9)
X-9A	G31-F203	(1) (2) (4) (5) (10)
X-9B	B21-F010A	(1) (2) (3) (5) (10)
X-9B	B21-F032A	(1) (2) (3) (5) (10)
X-9B	E51-F013	(1) (2) (4) (5) (9)
X-9B	G31-F039	(1) (2) (4) (5) (10)
X-10	E51-F007, F008	(1) (2) (4) (5) (9)
X-11	E41-F002 & F003	(1) (2) (4) (5) (9)
X-12	E11-F008 & F009	(1) (2) (4) (5) (9)
X-13A	E11-F015A	(1) (2) (4) (5) (9)
X-13B	E11-F015B	(1) (2) (4) (5) (9)
X-14	G31-F001 & F004	(1) (2) (4) (5) (9)
X-16A	E21-F005A	(1) (2) (4) (5) (9)
X-16B	E21-F005B	(1) (2) (4) (5) (9)

Unit 1

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from other BWR's for which the same design instrument operates in an environment similar to that of HNP-1. The failure rate data must be reviewed and approved by the AEC prior to any change in the once-a-month frequency.

e. This instrumentation is exempted from the instrument functional test definition. This instrument functional test will consist of injecting a simulated electrical signal into the measurement channels.

f. Standard current source used which provides an instrument channel alignment. Calibration using a radiation source shall be made once per operating cycle.

Logic system functional tests and simulated automatic actuation shall be performed once each operating cycle for the following:

1. Main Steam Line Isolation Valves
2. Main Steam Line Drain Valves
3. Reactor Water Sample Valves
4. RHR - Isolation Valve Control
5. Shutdown Cooling Valves
6. ~~Head Spray~~ DELETED
7. Drywell Equipment Sump Discharge to Radwaste
8. Reactor Water Cleanup Isolation
9. Drywell Isolation Valves
10. TIP Withdrawal
11. Atmospheric Control Valves
12. Sump Drain Valves
13. Standby Gas Treatment
14. Reactor Building Isolation

The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

TABLE 3.7-1 (Cont'd)

PRIMARY CONTAINMENT ISOLATION VALVES WHICH
RECEIVE A PRIMARY CONTAINMENT ISOLATION SIGNAL

Isolation Group (b)	Valve Identification (d)	Number of Power Operated Valves Inside	Outside	Maximum Operating Time (sec)	Normal Position (a)	Action on Initiating Signal (a)
6	RHR reactor shutdown cooling suction (supply) (E11-F008, E11-F009)	1	1	24	C	SC
6	RHR reactor head spray (E11-F022, E11-F023)	1	1	20/12	C	SC
3	HPCI - turbine steam (E41-F002, E41-F003)	1	1	50	O	GC
4	RCIC - turbine steam (E51-F007, E51-F008)	1	1	20	O	GC
5	Reactor water cleanup from recirculation loop (G31-F001, G31-F004)	1	1	30	O	GC
2	Post-accident sampling system supply (B21-F111, B21-F112)		2	5	C	SC
2	Post-accident sampling system return (E41-F122, E41-F121)		2	5	C	SC
2	Core spray test line to suppression pool (E21-F015A,B)		1 each line	57	C	SC

Table 3.7-3

Testable Penetrations with Testable Bellows

Penetration Number	Penetration Description	Notes
X-7A	Primary Steamline 'A'	(1) (2) (4) (6)
X-7B	Primary Steamline 'B'	(1) (2) (4) (6)
X-7C	Primary Steamline 'C'	(1) (2) (4) (6)
X-7D	Primary Steamline 'D'	(1) (2) (4) (6)
X-8	Steamline Condensate Drain	(1) (2) (4) (6)
X-9A	Feedwater Line 'A'	(1) (2) (4) (6)
X-9B	Feedwater Line 'B'	(1) (2) (4) (6)
X-10	Steam to RCIC Turbine	(1) (2) (4) (6)
X-11	Steam Line to HPCI Turbine	(1) (2) (4) (6)
X-12	RHRS Shutdown Cooling Suction	(1) (2) (4) (6)
X-13A	RHR LPCI to Reactor	(1) (2) (4) (6)
X-13B	RHR LPCI to Reactor	(1) (2) (4) (6)
	Reactor Water Cleanup Line	(1) (2) (4) (6)
X-16A	Core Spray to Reactor	(1) (2) (4) (6)
X-16B	Core Spray to Reactor	(1) (2) (4) (6)
X-17	SPARE ~~RPV Head Spray~~	(1) (2) (4) (6)
X-201A through X-201H	Drywell Suppression Chamber to Vent Line	(1) (2) (4) (6)

Table 3.7-4

Primary Containment Testable Isolation Valves

Penetration Number	Valve Designation	Notes
X-7A	B21-F022A & F028A Main Steam Isolation Valves	(1) (2) (3) (5) (9)
X-7B	B21-F022B & F028B Main Steam Isolation Valves	(1) (2) (3) (5) (9)
X-7C	B21-F022C & F028C Main Steam Isolation Valves	(1) (2) (3) (5) (9)
X-7D	B21-F022D & F028D Main Steam Isolation Valves	(1) (2) (3) (5) (9)
X-8	B21-F016 & F019	(1) (2) (4) (5) (9)
X-9A	B21-F010B	(1) (2) (3) (5) (10)
X-9A	B21-F032B	(1) (2) (3) (5) (10)
X-9A	E41-F006	(1) (2) (4) (5) (9)
X-9A	G31-F203	(1) (2) (4) (5) (10)
X-9B	B21-F010A	(1) (2) (3) (5) (10)
X-9B	B21-F032A	(1) (2) (3) (5) (10)
X-9B	E51-F013	(1) (2) (4) (5) (9)
X-9B	G31-F039	(1) (2) (4) (5) (10)
X-10	E51-F007, F008	(1) (2) (4) (5) (9)
X-11	E41-F002 & F003	(1) (2) (4) (5) (9)
X-12	E11-F008 & F009	(1) (2) (4) (5) (9)
X-13A	E11-F015A	(1) (2) (4) (5) (9)
X-13B	E11-F015B	(1) (2) (4) (5) (9)
X-14	G31-F001 & F004	(1) (2) (4) (5) (9)
X-16A	E21-F005A	(1) (2) (4) (5) (9)
X-16B	E21-F005B	(1) (2) (4) (5) (9)
X-17	E11-F022 & F023	(1) (2) (4) (5) (9)