

Table 4.2-2

Check, Functional Test, and Calibration Minimum Frequency for Instrumentation
Which Initiates or Controls HPCI

Ref. No. (a)	Instrument	Instrument Check Minimum Frequency	Instrument Functional Test Minimum Frequency (b)	Instrument Calibration Minimum Frequency (c)
1	Reactor Vessel Water Level (Level 2)	Once/shift	Once/month	Once/operating cycle
2	Drywell Pressure	Once/shift	Once/month	Once/operating cycle
3	HPCI Turbine Overspeed	None	N/A	Once/operating cycle
4	HPCI Turbine Exhaust Pressure	Once/shift	Once/month	Once/operating cycle
5	HPCI Pump Suction Pressure	Once/shift	Once/month	Once/operating cycle
6	Reactor Vessel Water Level (Level 8)	Once/shift	Once/month	Once/operating cycle
7	HPCI Pump Discharge Flow	Once/shift	Once/month	Once/operating cycle
8	HPCI Emergency Area Cooler Ambient Temperature	Once/shift	Once/month	Once/operating cycle
9	HPCI Steam Supply Pressure	Once/shift	Once/month	Once/operating cycle

HATCH - UNIT 1
9008280308
PDR ADOCK 05000321
900820
PDC

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Proposed TS/0352q/138-121

TABLE 3.3.2-1

ISOLATION ACTUATION INSTRUMENTATION

TRIP FUNCTION	VALVE GROUPS OPERATED BY SIGNAL(a)	MINIMUM NUMBER OPERABLE CHANNELS PER TRIP SYSTEM(b)(c)	APPLICABLE OPERATIONAL CONDITION	ACTION
1. PRIMARY CONTAINMENT ISOLATION				
a. Reactor Vessel Water Level				
1. Low (Level 3) (2B21-N680 A, B, C, D)	2, 6, 10, 11, 12	2	1, 2, 3	20
2. Low-Low (Level 2) (2B21-N682 A, B, C, D)	5, *	2	1, 2, 3	20
3. Low-Low-Low (Level 1) (2B21-N681 A, B, C, D)	1	2	1, 2, 3	20
b. Drywell Pressure - High (2C71-N650 A, B, C, D)	2, 6, 7, 10, 12, *	2	1, 2, 3	20
c. Main Steam Line				
1. Radiation - High (2D11-K603 A, B, C, D)	1, 12, (d)	2	1, 2, 3, (e)	21
2. Pressure - Low (2B21-N015 A, B, C, D)	1	2	1	22
3. Flow - High (2B21-N686 A, B, C, D) (2B21-N687 A, B, C, D) (2B21-N688 A, B, C, D) (2B21-N689 A, B, C, D)	1,	2/line	1, 2, 3	21
d. Main Steam Line Tunnel Temperature - High (2B21-N623 A, B, C, D) (2B21-N624 A, B, C, D) (2B21-N625 A, B, C, D) (2B21-N626 A, B, C, D)	1	2/line*	1, 2, 3	21
e. Condenser Vacuum - Low (2B21-N056 A, B, C, D)	1	2	1, 2, 3 ^f	23
f. Turbine Building Area Temperature - High (2U61-P001, 2U61-P002, 2U61-P003, 2U61-P004)	1	2 ^e	1, 2, 3	21
g. Drywell Radiation - High (2D11-K621 A, B)	(j)	1	1, 2, 3	29

HATCH - UNIT 2

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Proposed TS/0355q/138-88

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

TRIP FUNCTION	VALVE GROUPS OPERATED BY SIGNAL(a)	MINIMUM NUMBER OPERABLE CHANNELS PER TRIP SYSTEM(b)(c)	APPLICABLE OPERATIONAL CONDITION	ACTION
4. <u>HIGH PRESSURE COOLANT INJECTION SYSTEM ISOLATION</u>				
a. HPCI Steam Line Flow - High (2E41-N657 A,B)	3	1	1, 2, 3	26
b. HPCI Steam Supply Pressure - Low (2E41-N658 A,B,C,D)	3, 8	2	1, 2, 3	26
c. HPCI Turbine Exhaust Diaphragm Pressure - High (2E41-N655 A,B,C,D)	3	2	1, 2, 3	26
d. HPCI Pipe Penetration Room Temperature - High (2E41-N671 A, B)	3	1	1, 2, 3	26
e. Suppression Pool Area Ambient Temperature-High (2E51-N666 C, D)	3	1	1, 2, 3	26
f. Suppression Pool Area W Temp.-High (2E51-N665 C, D; 2E51-N663 C, D; 2E51-N664 C, D)	3	1	1, 2, 3	26
g. Suppression Pool Area Temperature Timer Relays (2E51-M605 A, B)	3	1	1, 2, 3	26
h. Emergency Area Cooler Temperature- High (2E41-N670 A, B)	3 ⁽¹⁾	1	1, 2, 3	26
i. Drywell Pressure-High (2F11-N694 C, D)	8	1	1, 2, 3	26
j. Logic Power Monitor (2E41-K1)	NA ⁽²⁾	1	1, 2, 3	27

TABLE 3.3.6.1-1

RADIATION MONITORING INSITU/MENTATION

INSITU/MENTATION	MINIMUM CHANNELS OPERABLE	APPLICABLE OPERATIONAL CONDITIONS	ALARM/TRIP SETPOINT	MEASUREMENT RANGE	ACTION
1. Off-Gas Post-Treatment Monitors (2011-K615 A, B)	2	1, 2	(a)	10^{-1} to 10^4 cps	50
2. Control Room Intake Monitors (1241-R615 A, B)	2	1, 2, 3, 4, 5	1 m/hr	0.01 to 100 m/hr	51

(a) Value not to exceed the equivalent of the stack release limit indicated in the Environmental Technical Specifications.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

3. Verifying a system flow rate of $4000 \pm 0, -1000$ cfm during system operation when tested in accordance with ANSI N510-1975.
- c. After every 720 hours of charcoal adsorber operation by verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 1, July 1976, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 1, July 1976.
- d. At least once per 18 months by:
 1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is < 6 inches Water Gauge while operating the filter train at a flow rate of $4000 \pm 0, -1000$ cfm.
 2. Verifying that the filter train starts and isolation dampers open on each of the following test signals:
 - a. Drywell pressure-high,
 - b. High radiation on the:
 - 1) Refueling floor,
 - 2) Reactor building.
 - c. Reactor Vessel Water Level-Low Low (Level 2).
 3. Verifying that the heaters dissipate 18.5 ± 1.5 KW when tested in accordance with ANSI N510-1975.

ELECTRICAL POWER SYSTEMS

A.C. CIRCUITS INSIDE PRIMARY CONTAINMENT

LIMITING CONDITIONS FOR OPERATION

3.8.2.5 The following A.C. circuits inside primary containment shall be de-energized*:

- a. Breaker Numbers 2, 4, 6, 8, 10, 12, 14, 40 and 42 in panel 2151-S003,
- b. Breaker Numbers 2, 4, 6, 8, 10, 12, 40 and 42 in panel 2T51-S004,
- c. Breaker Numbers 28 and 34 in panel 2R25-S105, and
- d. Frame 1EL on MCC 2R24-S014.

APPLICABILITY: CONDITIONS 1, 2 and 3.

ACTION:

With any of the above required circuits energized, trip the associated circuit breaker(s) in the specified panel within 1 hour.

SURVEILLANCE REQUIREMENTS

4.8.2.5 Each of the above required A.C. circuits shall be determined to be de-energized at least once per 24 hours by verifying that the associated circuit breakers in the specified panels are in the tripped condition.

*Except during entry into the drywell.

TABLE 3.8.2.6-1

PRIMARY CONTAINMENT PENETRATION CONDUCTOR
OVERCURRENT PROTECTIVE DEVICES

<u>DEVICE NUMBER AND LOCATION*</u>	<u>SYSTEM/COMPONENT POWERED</u>
a. Type 1:	
1. 4KV CKT BRKR 2R22-S001, FR 5	REACTOR RECIRC WTR PUMP MG SET 2A DRIVE MOTOR 2B31-S001A
2. 4KV CKT BRKR 2R22-S008, FR 2	RECIRC A PUMP MOTOR 2B31-C001A
3. 4KV CKT BRKR 2R22-S002, FR 5	REACTOR RECIRC WTR PUMP MG SET 2B DRIVE MOTOR 2B31-S001B
4. 4KV CKT BRKR 2R22-S009, FR 2	RECIRC B PUMP MOTOR 2B31-C001B
b. Type 2:	
1. 600 VAC, MCB, TM 2R24-S012, FR 2DL	DRYWELL AREA COOLING UNIT 2T47-B009B
2. 600 VAC, MCB, TM 2R24-S012, FR 2DR	DRYWELL AREA COOLING UNIT 2T47-B009B
3. 600 VAC, MCB, TM 2R24-S012, FR 3FL	DRYWELL AREA COOLING UNIT 2T47-B008B
4. 600 VAC, MCB, TM 2R24-S012, FR 3FR	DRYWELL AREA COOLING UNIT 2T47-B008B
5. 600 VAC, MCB, TM 2R24-S011, FR 1DL	DRYWELL AREA COOLING UNIT 2T47-B008A
6. 600 VAC, MCB, TM 2R24-S011, FR 1DR	DRYWELL AREA COOLING UNIT 2T47-B008A
7. 600 VAC, MCB, TM 2R24-S011, FR 20AR	DRYWELL AREA COOLING UNIT 2T47-B009A
8. 600 VAC, MCB, TM 2R24-S011, FR 20E	DRYWELL AREA COOLING UNIT 2T47-B009A

*MCB - molded case circuit breaker

MO - magnetic only

TM - thermal magnetic

TABLE 3.8.2.6-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR
OVERCURRENT PROTECTIVE DEVICES

<u>DEVICE NUMBER AND LOCATION*</u>	<u>SYSTEM/COMPONENT POWERED</u>
c. Type 3:	
1. 600 VAC, MCB, TM 2R24-S014, FR 5E	RECIRC PUMP MOTOR HEATER 2B31-C001B
2. 600 VAC, MCB, TM 2R24-S013, FR 5B	RECIRC PUMP MOTOR HEATER 2B31-C001A
d. Type 4:	
1. 120 VAC, MCB, TM 2R25-S102, BRKR 10	CABLES BHE808M01 AND BHE808M02
2. 120 VAC, MCB, TM 2R25-S101, BRKR 10	CABLES BGE708M01 AND BGE708M02
e. Type 5:	
1. 600 VAC, MCB, MO 2R24-S014, FR 2A	DRYWELL EQUIP DR SUMP PUMP DISCH MOV 2G11-F018
2. 600 VAC, MCB, MO 2R24-S014, FR 6C	DRYWELL EQUIP DR SUMP PUMP DISCH MOV 2G11-F015
3. 600 VAC, MCB, MO 2R24-S012B, FR 4A	RCIC STEAM SUPPLY ISOLATION MOV 2E51-F007
4. 600 VAC, MCB, MO 2R24-S011, FR 9A	REACTOR HEAD SPRAY VALVE MOV 2E11-F022
5. 600 VAC, MCB, MO 2R24-S011A, FR 4A	HPCI INBOARD STEAM ISOLATION MOV 2E41-F002
6. 600 VAC, MCB, MO 2R24-S011, FR 14C	RWCU INBOARD ISOLATION VALVE MOV 2G31-F001
7. 600 VAC, MCB, MO 2R24-S011, FR 15B	MAIN STEAM LINE DRAIN VALVE MOV 2B21-F016

*MCE - molded case circuit breaker

MO - magnetic only

TM - thermal magnetic

TABLE 3.8.2.6-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR
OVERCURRENT PROTECTIVE DEVICES

<u>DEVICE NUMBER AND LOCATION*</u>	<u>SYSTEM/COMPONENT POWERED</u>
f. Type 6:	
1. 600 VAC, MCB, MO 2R24-S018A, FR 2A	RECIRC PUMP SUCTION VALVE MOV 2B31-F023A
2. 600 VAC, MCB, MO 2R24-S018A, FR 2B	RECIRC PUMP DISCHARGE VALVE MOV 2B31-F031A
3. 600 VAC, MCB, MO 2R24-S018B, FR 3A	RECIRC PUMP SUCTION VALVE MOV 2B31-F023B
4. 600 VAC, MCB, MO 2R24-S018B, FR 3B	RECIRC PUMP DISCHARGE VALVE MOV 2B31-F031B
5. 600 VAC, MCB, MO 2R24-S014, FR 1B	DRYWELL EQUIP DRAIN SUMP PUMP B 2G11-C001B
6. 600 VAC, MCB, MO 2R24-S014, FR 7D	DRYWELL FLOOR DRAIN SUMP PUMP B 2G11-C001B
7. 600 VAC, MCB, MO 2R24-S011, FR 4A	DRYWELL FLOOR DRAIN SUMP PUMP 1A 2G11-C001A
8. 600 VAC, MCB, MO 2R24-S013, FR 4B	DRYWELL EQUIP DRAIN SUMP PUMP A 2G11-C006A
9. 600 VAC, MCB, MO 2R24-S012, FR 18B	DRYWELL AREA COOLING UNIT 2T47-B007B
10. 600 VAC, MCB, MO 2R24-S012, FR 19A	DRYWELL RETURN AIR FAN 2T47-C001B
11. 600 VAC, MCB, MO 2R24-S011, FR 6C	RHR SHUTDOWN COOLING SUCTION VALVE MOV 2E11-F009
12. 600 VAC, MCB, MO 2R24-S011, FR 18A	DRYWELL AREA COOLING UNIT 2T47-B007A

*MCB - molded case circuit breaker

MO - magnetic only

TM - thermal magnetic

TABLE 3.8.2.6-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR
OVERCURRENT PROTECTIVE DEVICES

<u>DEVICE NUMBER</u> <u>AND LOCATION*</u>	<u>SYSTEM/COMPONENT</u> <u>POWERED</u>
13. 600 VAC, MCB, MO 2R24-S011, FR 18C	DRYWELL RETURN AIR FAN 2T47-C001A
14. 600 VAC, MCB, MO 2R24-S013, FR 3B	DRYWELL COOLING UNIT 2T47-B010A
15. 600 VAC, MCB, MO 2R24-S014, FR 8A	DRYWELL COOLING UNIT 2T47-B010B
16. 600 VAC, MCB, TM 2R24-S013, FR 3B	DRYWELL COOLING UNIT 2T47-B010A
17. 600 VAC, MCB, TM 2R24-S014, FR 8A	DRYWELL COOLING UNIT 2T47-B010B
g. Type 7:	
1. 208 VAC, MCB, MO 2R24-S013, FR 11D	DRYWELL CHEMICAL DRAIN SUMP PUMP 2G11-C101
2. 208 VAC, MCB, MO 2R24-S012, FR 23C	DRYWELL RETURN AIR FAN 2T47-C002B
3. 208 VAC, MCB, MO 2R24-S011, FR 22C	DRYWELL RETURN AIR FAN 2T47-C002A

*MCB - molded case circuit breaker
MO - magnetic only
TM - thermal magnetic