TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

TRIP FUNCTION	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM(a)	APPLICABLE OPERATIONAL CONDITIONS	ACTION
C. DIVISION 3 TRIP SYSTEM			
1. HPCS SYSTEM			
a. Reactor Vessel Water Level - Low, Low, Level 2	2(b)	1, 2, 3, 4*, 5*	30
b. Drywell Pressure - High	2(b)	1, 2, 3	30
c. Reactor Vessel Water Level-High, Level 8	2(c)	1, 2, 3, 4*, 5*	32
d. Condensate Storage Tanks Level-Low	2(d)	1, 2, 3, 4*, 5*	36
e. Suppression Pool Water Level-High	2(d)	1, 2, 3, 4*, 5*	36
f. HPCS System Flow Rate-Low (Minimum Flow)	1	1, 2, 3, 4*, 5*	31
g. Manual Initiation	1/division	1, 2, 3, 4*, 5*	34

	TOTAL NO. OF CHANNELS	~~CHANNELS TO TRIP~~	~~MINIMUM CHANNELS OPERABLE~~	APPLICABLE OPERATIONAL CONDITIONS	ACTION
D. LOSS OF POWER					
1. 4.16 kV Emergency Bus Undervoltage (Loss of Voltage)	2/bus	1/bus	2/bus	1, 2, 3, 4**, 5**	~~37~~ 37
2. 4.16 kV Emergency Bus Undervoltage (Degraded Voltage Division 1 and 2)	3/bus	2/bus	2/bus	1, 2, 3, 4**, 5**	~~38~~ 37
3. 4.16 kV Emergency Bus Undervoltage (Degraded Voltage Division 3)	2/bus	~~2/bus~~	~~2/bus~~	1, 2, 3, 4**, 5**	~~38~~ 37

TABLE NOTATIONS

(a) A channel may be placed in an inoperable status for up to 6 hours during periods of required surveillance without placing the trip system in the tripped condition provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.

(b) Also activates the associated division diesel generator.

(c) Provides signal to close HPCS pump discharge valve only on 2-out-of-2 logic.

(d) Provides signal to HPCS pump suction valves only.

* When the system is required to be OPERABLE per Specification 3.5.2 or 3.5.3.

** Required when ESF equipment is required to be OPERABLE.

\# Not required to be OPERABLE when reactor steam dome pressure is less than or equal to 128 psig.

(e) When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 2 hours provided the associated Function maintains DG initiation capability.

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REVISED BY NRC LETTER DATED JUNE 2, 1992

3/4.3.3 EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3 The emergency core cooling system (ECCS) actuation instrumentation channels shown in Table 3.3.3-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the ~~Trip Setpoint~~ Allowable Value column of Table 3.3.3-2 and with EMERGENCY CORE COOLING SYSTEM RESPONSE TIME as shown in Table 3.3.3-3.

APPLICABILITY: As shown in Table 3.3.3-1.

ACTION:

a. With an ECCS actuation instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.3-2, declare the channel inoperable until the channel is restored to OPERABLE status with its trip setpoint adjusted consistent with the ~~Trip Setpoint~~ Allowable Value value.

b. With one or more ECCS actuation instrumentation channels inoperable, within 24 hours take the ACTION required by Table 3.3.3-1. However for Loss of Power Instrumentation proceed immediately with the action required by Action Statement 37.

c. With either ADS trip system "A" or "B" inoperable, restore the inoperable trip system to OPERABLE status:

   1. Within 7 days, provided that the HPCS and RCIC systems are OPERABLE; otherwise,

   2. Within 72 hours.

   Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and reduce reactor steam dome pressure to less than or equal to 128 psig within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each ECCS actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST, and CHANNEL CALIBRATION operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.3.1-1.

4.3.3.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.

4.3.3.3 The ECCS RESPONSE TIME of each ECCS trip function shown in Table 3.3.3-3 shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one channel per trip system such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific ECCS trip system.

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TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

ACTION STATEMENTS

ACTION 30 — With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement:

a. For one trip system, place the inoperable channel(s) and/or that trip system in the tripped condition within 1 hour* or declare the associated system inoperable.
b. For both trip systems, declare the associated system inoperable.

ACTION 31 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, place the inoperable channel in the tripped condition within 1 hour; restore the inoperable channel to OPERABLE status within 7 days or declare the associated system inoperable.

ACTION 32 — With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, declare the associated system inoperable.

ACTION 33 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, place the inoperable channel in the tripped condition within 1 hour.

ACTION 34 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, restore the inoperable channel to OPERABLE status within 8 hours or declare the associated ECCS inoperable.

ACTION 35 — With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, restore the inoperable channel to OPERABLE status within 24 hours or declare the associated ADS division inoperable.

ACTION 36 — With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, place the inoperable channel in the tripped condition within 1 hour* or declare the HPCS system inoperable.

ACTION 37 - ~~With the number of OPERABLE channels less than the Total Number of Channels, declare the associated emergency diesel generator inoperable and take the ACTION required by Specification 3.8.1.1 or 3.8.1.2, as appropriate.~~

~~ACTION 38 - With the number of OPERABLE channels one less than the Total Number of Channels, place the inoperable channel in the tripped condition within 1 hour*; operation may then continue until performance of the next required CHANNEL FUNCTIONAL TEST.~~

*The provisions of Specification 3.0.4 are not applicable.

With one or more channels inoperable place the channel(s) in the tripped condition within one hour or declare the associated diesel generator inoperable. Where placing the inoperable channel(s) in trip would cause initiation of the associated DG do not trip the channel(s) but do enter the Action Statement for inoperability of the DG. Note: separate Action Statement entry is allowed for each channel.

TABLE 3.3.3-2 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
C. DIVISION 3 TRIP SYSTEM		
1. HPCS SYSTEM		
a. Reactor Vessel Water Level - Low Low, Level 2	≥ -50 inches*	≥ -57 inches
b. Drywell Pressure - High	≤ 1.65 psig	≤ 1.85 psig
c. Reactor Vessel Water Level - High, Level 8	≤ 54.5 inches*	≤ 56.0 inches
d. Condensate Storage Tank Level - Low	≥ 448 ft 3 in. elevation	≥ 448 ft 0 in. elevation
e. Suppression Pool Water Level - High	≤ 466 ft 8 in. elevation	≤ 466 ft 10 in. elevation
f. HPCS System Flow Rate - Low (Minimum Flow)	> 1250 gpm	> 1200 gpm
g. Manual Intiation	N.A.	N.A.

		TRIP SETPOINT	ALLOWABLE VALUE
D. LOSS OF POWER			
1. 4.16 kV Emergency Bus Undervoltage Loss of Voltage ~~##~~ (Divisions 1, 2 and 3)	~~#.~~ 4.16 kV Basis - ~~2870 ± 86 volts~~		2870 ± 172 volts
	~~#.~~ 120 V Basis - ~~82 ± 2.5 volts~~		82 ± 5 volts
~~a. Divisions 1 and 2~~	~~a. 4.16 kV Basis - 3016 ± 90 volts~~		~~3016 ± 180 volts~~
~~b. Division 3~~	~~b. 120 V Basis - 87 ± 2.5 volts~~		~~87 ± 5 volts~~
			≥ 3684.8, ≤ 3756.2 Volts
2. 4.16 kV Emergency Bus Undervoltage Degraded Voltage ~~(Divisions 1, 2, and 3~~	b. ~~#.~~ 4.16 kV Basis - ~~3632 ± 108 volts~~		~~3632 ± 216 volts~~
	~~#.~~ 120 V Basis - ~~104.0 ± 3.0 volts~~		~~103.0 ± 6.0 volts~~ ≥ 105.28, ≤ 107.32 Volts
	~~#.~~ ~~0 ± 0.4 sec~~ time delay		~~0 ± 0.8 sec time delay~~
a. Divisions 1 and 2			≥ 7.36, ≤ 8.34 sec.
b. Division 3			

TABLE NOTATIONS

*See Bases Figure B 3/4 3-1.

~~##Those are inverse time delay voltage relays or instantaneous voltage relays with a time delay. The voltages shown are the maximum that will not result in a trip. Lower voltage conditions will result in decreased trip times.~~

a.	4.16 kV Basis	≥ 3684.8, ≤ 3756.2 Volts
	120 V Basis	≥ 105.28, ≤ 107.32 VOLTS
	time delay	≥ 7.63, ≤ 8.69 sec.

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