TABLE 3.3.3-2 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

D. LOSS OF POWER 1. Division 1 and 2 a. 4.16 kV Bus Undervoltage (Loss of Voltage) 1. 4.16 kV Basis (Loss of Voltage) 2. 1. 4.16 kV Bus Undervoltage (BOP Load Shed) 1. 4.16 kV Bus Undervoltage (BOP Load Shed) 1. 4.16 kV Bus Undervoltage (BOP Load Shed) 1. 4.16 kV Bus Undervoltage (Degraded Voltage) 1. 4.16 kV Basis 107 +2.7, -0 volt 107 volts 3. Time Delay 0.5 seconds 4. 1.	TRIP FUNCTION		TRIP SETPOINT	ALLOWABLE VALUE
 <u>Division 1 and 2</u> <u>4.16 kV Bus Undervoltage</u>	D. LOSS	5 OF POWER		
 2. 120 volt Basis 83.2 +0, -8.3 vol 83.2 volts 3. Time Delay 0.5 +0.5, -0.1 set 0.5 seconds 4.16 kV Bus Undervoltage 1. 4.16 kV Basis 3328 +0, -167 vol 3328 volts 2. 120 volt Basis 95.1 +0, -4.8 vol 95.1 volts 3. Time delay 0.5 +0.5, -0.1 set 0.5 seconds c. 4.16 kV Bus Undervoltage 1. 4.16 kV Basis 3744 +93.6, -0 vol 95.1 volts c. 4.16 kV Bus Undervoltage 1. 4.16 kV Basis 3744 +93.6, -0 vol 3744 volts 2. 120 volt Basis 107 +2.7, -0 volt 107 volts 3. Time Delay 9.0 ± 0.5 seconds 	1.	a. 4.16 kV Bus Undervoltage (Loss of Voltage)	 4.16 kV Basis 2912 volts 	2912 +0, -291 volts
b. 4.16 kV Bus Undervoltage (BOP Load Shed) 3. Time Delay 0.5 seconds 0.5 +0.5, -0.1 seconds b. 4.16 kV Basis (BOP Load Shed) 3328 volts 3328 volts c. 4.16 kV Bus Undervoltage (Degraded Voltage) 0.5 +0.5, -0.1 seconds c. 4.16 kV Bus Undervoltage (Degraded Voltage) 0.5 seconds c. 4.16 kV Bus Undervoltage (Degraded Voltage) 1. 4.16 kV Basis 3744 volts 3744 +93.6, -0 volt 3744 volts 2. Division 3 9.0 ± 0.5 seconds 9.0 ± 0.5 seconds		전 김씨는 일감을 물고 있는	2. 120 volt Basis 83.2 volts	83.2 +0, -8.3 volts
 b. 4.16 kV Bus Undervoltage (BOP Load Shed) c. 4.16 kV Bus Undervoltage (Degraded Voltage) c. 4.16 kV Bus Undervoltage (Degraded Voltage) d. 16 kV Basis (Degraded Voltage) d. 4.16 kV Basis (Degraded Voltage) d. 5 seconds d. 4.16 kV Basis (Degraded Voltage) d. 4.16 kV Basis (Degraded Voltage) d. 5 seconds d. 107 volts d. 107 volts<td></td><td></td><td> Time Delay 0.5 seconds </td><td>0.5 +0.5, -0.1 seconds</td>			 Time Delay 0.5 seconds 	0.5 +0.5, -0.1 seconds
 2. 120 volt Basis 95.1 +0, -4.8 vol 95.1 volts 3. Time delay 0.5 +0.5, -0.1 se 0.5 seconds c. 4.16 kV Bus Undervoltage (Degraded Voltage) 2. 120 volt Basis 3744 +93.6, -0 vol 3744 volts 2. 120 volt Basis 107 +2.7, -0 volt 107 volts 3. Time Delay 9.0 ± 0.5 seconds 		 b. 4.16 kV Bus Undervoltage (BOP Load Shed) 	1. 4.16 kV Basis 3328 volts	3328 +0, -167 volts
2. Division 3 2. Division 3 3. Time delay 0.5 +0.5, -0.1 se 0.5 seconds 3. Time delay 0.5 seconds 3. Time delay 0.5 seconds 1. 4.16 kV Basis 3744 +93.6, -0 vol 3744 volts 2. 120 volt Basis 107 +2.7, -0 volt 107 volts 3. Time Delay 9.0 ± 0.5 seconds			2. 120 volt Basis 95.1 volts	95.1 +0, -4.8 volts
 c. 4.16 kV Bus Undervoltage (Degraded Voltage) 1. 4.16 kV Basis 3744 volts 2. 120 volt Basis 107 +2.7, -0 volt 107 volts 3. Time Delay 9.0 ± 0.5 seconds 2. Division 3 			 Time delay 0.5 seconds 	0.5 +0.5, -0.1 seconds
2. 120 volt Basis 107 +2.7, -0 volt 107 volts 3. Time Delay 9.0 ± 0.5 seconds 2. <u>Division 3</u>		 c. 4.16 kV Bus Undervoltage (Degraded Voltage) 	1. 4.16 kV Basis 3744 volts	3744 +93.6, -0 volts
3. Time Delay 9.0 ± 0.5 seconds 9.0 seconds			2. 120 volt Basis 107 volts	107 +2.7, -0 volts
2. Division 3			 Time Delay 9.0 seconds 	9.0 ± 0.5 seconds
	2.	Division 3		
a. 4.16 kV Bus Undervoltage 1. 4.16 kV Basis 3045 ± 61 volts (Loss of Voltage) 3045 volts		a. 4.16 kV Bus Undervoltage (Loss of Voltage)	1. 4.16 kV Basis 3045 volts	3045 ± 61 volts
2. 120 volt Basis 87 ± 1.7 volts 87 volts			2. 120 volt Basis 87 volts	87 ± 1.7 volts
3. Time Delay 0.5 + 0.5, -0.1 s 0.5 seconds			 Time Delay 0.5 seconds 	0.5 + 0.5, -0.1 seconds

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

#These 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.

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November 18, 1982

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- 3. By verifying the OPERABILITY of the vacuum breaker isolation valve differential pressure actuation instrumentation with the opening setpoint 1.0 psid by performance of a:
 - a) CHANNEL CHECK at least once per 24 hours.
 - b) CHANNEL FUNCTIONAL TEST at least once per 31 days, and
 - c) CHANNEL CALIBRATION at least once per 18 months.
- Note 1: Until restart after the first refueling outage, the following requirements shall apply:

3.6.5

c. With the position indicator of an OPERABLE drywell post-LOCA isolation valve for a vacuum breaker inoperable, verify the isolation valve to be closed at least once per 24 hours by local indication. Otherwise declare the isolation valve inoperable.

4.6.5.b.1

b. Verifying the position indicator for the vacuum breaker isolation valve OPERABLE by observing expected valve movement during the cycling test.

4.6.5.b.2

At least once per 18 months by:

- Verifying the pressure differential required to open the vacuum breaker, from the closed position, to be less than or equal to 1.0 psid by use of an equivalent test weight and lever arm on the vacuum breaker, and
- b) Verifying the position indicator for the vacuum breaker isolation valve OPERABLE by performance of a CHANNEL CALIBRATION.

GRAND GULF-UNIT 1

Amendment No. 4 November 18, 1982

ELECTRICAL POWER SYSTEMS

3/4.8.4 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

LIMITING CONDITION FOR OPERATION

3.8.4.1 All primary containment penetration conductor overcurrent protective devices shown in Table 3.8.4.1-1 shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

- a. With one or more of the primary containment penetration conductor overcurrent protective devices shown in Table 3.8.4.1-1 inoperable, declare the affected system or component inoperable and apply the appropriate ACTION statement for the affected system, and:
 - For 6.9 kV circuit breakers, de-energize the 6.9 kV circuit(s) by tripping the associated redundant circuit breaker(s) within 72 hours and verify the redundant circuit breaker to be tripped at least once per 7 days thereafter.
 - For 480 volt circuit breakers, remove the inoperable circuit breaker(s) from service by racking out the breaker within 72 hours and verify the inoperable breaker(s) to be racked out at least once per 7 days thereafter.

Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. The provisions of Specification 3.0.4 are not applicable to overcurrent devices in 6.9 kV circuits which have their redundant circuit breakers tripped or to 480 volt circuits which have the inoperable circuit breaker racked out.

SURVEILLANCE REQUIREMENTS

4.8.4.1 Each of the primary containment penetration conductor overcurrent protective devices shown in Table 3.8.4.1-1 shall be demonstrated OPERABLE:

- a. At least once per 18 months:
 - By verifying that the medium voltage 6.9 kV circuit breakers are OPERABLE by selecting, on a rotating basis, at least 10% of the circuit breakers and performing:
 - a) A CHANNEL CALIBRATION of the associated protective relays, and
 - b) An integrated system functional test which includes simulated automatic actuation of the system and verifying that each relay and associated circuit breakers and overcurrent control circuits function as designed and as specified in Table 3.8.4.1-1.
 - c) For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been -functionally tested.

Grand Gulf

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Grand Gulf

cc: (continued)

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