3.8 ELECTRICAL POWER SYSTEMS

3.8.1 AC Sources - Operating

LCO 3.8.1 The following AC Power Sources shall be OPERABLE:

a. Two circuits between the offsite transmission network and the onsite Class 1E Power Distribution System, and

b. Two diesel generators.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One required offsite circuit inoperable.	A.1	Perform SR 3.8.1.1 for remaining required offsite circuit.	1 hour AND Once per 8 hours thereafter
	AND		
	A.2	Restore offsite circuit to OPERABLE status.	72 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
----------Note---------- Required Action B.2.1 OR B.2.2 MUST be completed if condition B is entered due to equipment failure. ----------			
B. One diesel generator inoperable.	B.1	Perform SR 3.8.1.1 for required offsite circuits.	1 hour AND Once per 8 hours thereafter
	AND		
	B.2.1	Determine remaining diesel generator is not inoperable due to common cause failure. OR	24 hours
	B.2.2	Perform SR 3.8.1.2 for remaining diesel generator.	24 hours
	AND		
	B.3	Restore diesel generator to OPERABLE status.	72 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
----------Note---------- Required Action C.2.1 OR C.2.2 MUST be completed if condition C is entered due to equipment failure. ----------			
C. One diesel generator inoperable. AND Any REQUIRED FEATURE powered from the OPERABLE diesel generator inoperable, OR Turbine driven auxiliary feedwater pump inoperable.	C.1	Perform SR 3.8.1.1 for required offsite circuits.	1 hour AND Once per 8 hours thereafter
	AND		
	C.2.1	Determine remaining diesel generator is not inoperable due to common cause failure.	24 hours
		OR	
	C.2.2	Perform SR 3.8.1.2 for remaining diesel generator.	24 hours
	AND		
	C.3.1	Restore diesel generator to OPERABLE status.	24 hours
		OR	
	C.3.2.1	Restore REQUIRED FEATURE to OPERABLE status.	24 hours
		AND	
	C.3.2.2	Restore turbine driven auxiliary feedwater pump to OPERABLE status.	24 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
----------Note---------- Required Action D.2.1 OR D.2.2 MUST be completed if condition D is entered due to equipment failure. ----------			
D. One of the required offsite circuits inoperable. AND One diesel generator inoperable.	D.1	Perform SR 3.8.1.1 for remaining required offsite circuit.	1 hour AND Once per 8 hours thereafter
	AND		
	D.2.1	Determine remaining diesel generator is not inoperable due to common cause failure. OR	24 hours
	D.2.2	Perform SR 3.8.1.2 for remaining diesel generator.	24 hours
	AND		
	D.3.1	Restore required offsite circuit to OPERABLE status. OR	12 hours
	D.3.2	Restore diesel generator to OPERABLE status.	12 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One of the required offsite circuits inoperable. AND One diesel generator inoperable. AND Any REQUIRED FEATURE powered from the OPERABLE diesel generator inoperable, OR Turbine driven auxiliary feedwater pump inoperable.	E.1 Perform SR 3.8.1.1 for remaining required offsite circuit. AND E.2.1 Restore diesel generator to OPERABLE status. OR E.2.2 Restore required offsite circuit to OPERABLE status. OR E.2.3.1 Restore REQUIRED FEATURE to OPERABLE status. AND E.2.3.2 Restore turbine driven auxiliary feedwater pump to OPERABLE status.	1 hour 8 hours 8 hours 8 hours 8 hours
F. Two diesel generators inoperable.	F.1 Perform SR 3.8.1.1 for required offsite circuits. AND F.2 Restore at least one diesel generator to OPERABLE status.	1 hour 2 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
G. Two required offsite circuits inoperable.	G.1 Restore one required circuit to OPERABLE status.	24 hours
H. Required Actions and associated Completion Times not met.	H.1 Be in MODE 3. AND Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.1.1	Verify correct breaker alignment and indicated power availability for each required offsite circuit.	7 days
SR 3.8.1.2	----------NOTES---------- 1. Performance of SR 3.8.1.5 satisfies this Surveillance Requirement. 2. All diesel generator starts may be preceded by prelube procedures as recommended by the manufacturer. 3. Following diesel generator start, warmup procedures such as idling and gradual acceleration may be used as recommended by the manufacturer. When such procedures are not used, the time, voltage and frequency tolerances of SR 3.8.1.5 must be met. ---------- Demonstrate diesel generator starts and achieves the following steady state voltage and frequency: a. Voltage $\geq$ 3924 Volts and $\leq$ 4796 Volts. b. Frequency $\geq$ 58.8 Hz and $\leq$ 61.2 Hz.	As specified by Table 3.8.1-1
SR 3.8.1.3	----------NOTES---------- 1. The diesel generator may be gradually loaded as recommended by the manufacturer. 2. Momentary transients outside the load range do not invalidate this test. 3. This surveillance shall be conducted on one diesel generator at a time. ---------- Demonstrate diesel generator is synchronized, loaded, and operates $\geq$ 60 minutes at a load of $\geq$ 4700 kW.	As specified by Table 3.8.1-1

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.8.1.4	Verify pressure in required air start motor receivers ≥ 195 psig.	31 days
SR 3.8.1.5	----------NOTE---------- 1. All diesel generator starts may be preceded by engine prelube procedures as recommended by the manufacturer. 2. Perform SR 3.8.1.3 after completing this surveillance. ---------- Demonstrate each diesel generator starts from standby and achieves the following voltage and frequency in ≤ 10 seconds: a. Voltage ≥ 3924 Volts and ≤ 4796 Volts. b. Frequency ≥ 58.8 Hz and ≤ 61.2 Hz.	184 days
SR 3.8.1.6	Demonstrate automatic and manual transfer of safety related power supply from the normal circuit to each required offsite circuit, and between the required offsite circuits.	24 months
SR 3.8.1.7	Demonstrate the diesel generator rejects a load of ≥ 655.7 kW and: a. Following load rejection, frequency is ≤ 66 Hz, b. Within 3 seconds following load rejection frequency is ≥ 58.8 Hz and ≤ 61.2 Hz. c. Within 3 seconds following load rejection voltage is ≥ 3924 Volts ≤ 4796 Volts	24 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.8.1.8	Demonstrate diesel generator does not trip and voltage is maintained ≤ 5450 Volts during and following a load rejection of ≥ 4700 kW.	24 months
SR 3.8.1.9	----------NOTE---------- All diesel generator starts may be preceded by engine prelube procedures as recommended by the manufacturer. ---------- Demonstrate on an actual or simulated loss of offsite power signal: a. Deenergization of emergency buses, b. Load shedding from emergency buses, c. diesel generator auto-starts from stand-by condition, and: 1. Energizes permanently connected loads in ≤ 10 seconds, 2. Energizes auto-connected shutdown loads through the load sequencer, 3. Supplies permanently and auto-connected loads for ≥ 5 minutes, 4. Achieves and maintains steady state voltage ≥ 3924 Volts and ≤ 4796 Volts, 5. Achieves and maintains steady state frequency ≥ 59.7 Hz and ≤ 61.2 Hz.	24 months during shutdown

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.10	----------NOTE---------- All diesel generator starts may be preceded by engine prelube procedures as recommended by the manufacturer. ---------- Demonstrate on an actual or simulated ESF actuation signal, without loss of offsite power, the diesel generator auto-starts, and: a. Achieves and maintains voltage $\geq$ 3924 Volts and $\leq$ 4796 Volts in $\leq$ 10 seconds after auto-start and during the test, b. Achieves and maintains frequency $\geq$ 58.8 Hz and $\leq$ 61.2 Hz in $\leq$ 10 seconds after auto-start and during the test, c. Operates on standby for $\geq$ 5 minutes, d. Permanently connected loads remain energized from the offsite power system, e. Emergency loads are energized or auto-connected through the load sequencer from the offsite power system.	24 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.11	----------NOTE---------- All diesel generator starts may be preceded by engine prelube procedures as recommended by the manufacturer. ---------- Demonstrate on an actual or simulated loss of offsite power signal, in conjunction with an actual or simulated ESF signal: a. Deenergization of emergency buses, b. Load shedding from emergency buses c. diesel generator auto-starts, and: 1. Energizes permanently connected connected loads in $\leq$ 10 seconds, 2. Energizes auto-connected emergency loads through the load sequencer, 3. Supplies permanently and auto-connected loads for $\geq$ 5 minutes, 4. Achieves and maintains steady state voltage of $\geq$ 3924 Volts and $\geq$ 4796 Volts, 5. Achieves and maintains steady state frequency $\geq$ 59.7 Hz and $\leq$ 61.2 Hz.	24 months during shutdown

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.8.1.12	Demonstrate diesel generator automatic trips are bypassed upon an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ESF actuation signal except: a. Engine overspeed b. generator differential current c. Low-low lube oil pressure	24 months during shutdown
SR 3.8.1.13	----------NOTE---------- Momentary transients outside of the load range do not invalidate this test. ---------- Demonstrate the diesel generator operates for $\geq$ 24 hours: a. loaded $\geq$ 5170 kW for the first 2 hours, and b. loaded $\geq$ 4700 kW for the remaining 22 hours.	24 months
SR 3.8.1.14	----------NOTES---------- 1. All diesel generator starts may be preceded by engine prelube procedures as recommended by the manufacturer. 2. Momentary transients outside of the load range do not invalidate this test. ---------- Within 5 minutes of shutting down after operating for $\geq$ 2 hours loaded at $\geq$ 4700 kW, demonstrate each diesel generator starts and achieves the following in $\leq$ 10 seconds: a. Voltage $\geq$ 3924 Volts and $\leq$ 4796 Volts, b. Frequency $\geq$ 58.8 Hz and $\leq$ 61.2 Hz.	24 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.8.1.15	Demonstrate each diesel generator, upon a simulated or actual restoration of offsite power: a. Synchronizes with offsite power source while loaded with emergency loads, b. Transfers loads to the offsite power source, and c. Returns to ready-to-load operation.	24 months during shutdown
SR 3.8.1.16	Demonstrate that, with diesel generator operating in the test mode and connected to its bus, a simulated ESF actuation signal overrides the test mode by: a. Returning the diesel generator to ready-to-load operation, b. Automatically energizing the emergency loads from offsite power.	24 months during shutdown
SR 3.8.1.17	Demonstrate the interval between each load is within 10% of design interval for each emergency and shutdown load sequencer.	24 months
SR 3.8.1.18	----------NOTE---------- All diesel generator starts may be preceded by engine prelube procedures as recommended by the manufacturer. ---------- Demonstrate both diesel generators achieve the following voltage and frequency in $\leq$ 10 seconds when started simultaneously from standby condition: a. Voltage $\geq$ 3924 Volts and $\leq$ 4796 Volts, b. Frequency $\geq$ 58.8 Hz and $\leq$ 61.2 Hz.	10 years

CROSS REFERENCES

TITLE	NUMBER
ECCS Trains - Operating	3.5.2

Table 3.8.1-1 (Page 1 of 1)

Diesel Generator Test Schedule

NUMBER OF FAILURES IN LAST 20 VALID TESTS[1]	FREQUENCY
≤ 1	31 days
≥ 2	7 days[2]

NOTES

(1) Criteria for determining number of failures and number of valid tests shall be in accordance with Regulatory Position C.2.e of Regulatory Guide 1.108 Revision 1, August 1977, but determined on a per diesel generator basis.

(2) The specified frequency shall be maintained until 7 consecutive failure free tests have been performed and the number of valid failures in the last 20 valid tests has been reduced to one.

3.8 ELECTRICAL POWER SYSTEMS

3.8.2 AC Sources - Shutdown

LCO 3.8.2 The following AC Power Sources shall be OPERABLE:

a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and

b. One diesel generator.

APPLICABILITY: MODES 5 and 6, and
when handling irradiated fuel or during movement of heavy loads over irradiated fuel.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Less than the required AC sources OPERABLE.	----------NOTE---------- Performance of Required Actions A.1, A.2 or A.3 shall not preclude completion of actions to establish a safe conservative condition. ----------	
	A.1 Suspend CORE ALTERATIONS.	Immediately
	AND	
	A.2 Suspend handling of irradiated fuel.	Immediately
	AND	
	A.3 Suspend movements of heavy loads over irradiated fuel assemblies.	Immediately
	AND	

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. (continued)	A.4	Suspend operations with a potential for draining the reactor vessel or fuel pool.	Immediately
	AND		
	A.5	Suspend operations involving positive reactivity additions.	Immediately
	AND		
	A.6	Initiate action to restore the AC Power Sources to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.2.1	Perform: SR 3.8.1.1 through SR 3.8.1.8, SR 3.8.1.10, 3.8.1.13, SR 3.8.1.14, 3.8.1.17 and 3.8.1.18.	According to applicable SRs.

CROSS REFERENCES

TITLE	NUMBER
ECCS Trains - Shutdown	3.5.3

3.8 ELECTRICAL POWER SYSTEMS

3.8.3 Diesel Fuel and Lubricating Oil

LCO 3.8.3 The Diesel fuel oil subsystem shall be OPERABLE and lubricating oil inventory shall be sufficient for each required Diesel Generator.

APPLICABILITY: When associated Diesel Generator is required to be OPERABLE.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Fuel level low in one or more day tanks.	A.1 Restore fuel level in day fuel tank(s).	1 hour
B. Fuel transfer capability inoperable for one or more Diesel Generators.	B.1 Restore fuel transfer capability to OPERABLE status.	4 hours
C. Fuel level low in one or more storage tanks.	C.1 Restore fuel level in storage tank(s).	24 hours
D. Lubricating oil inventory insufficient.	D.1 Restore lubricating oil inventory.	24 hours
E. Fuel total particulate contamination is > 10 mg/liter.	E.1 Restore fuel particulate contamination to within limits.	72 hours
F. Fuel storage tank sample does not meet requirements of Table 1 of ASTM D975-1981.	F.1 Restore fuel to within limits.	72 hours
G. Required Actions and associated Completion Times not met.	G.1 Declare associated Diesel Generator inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.3.1	Verify each fuel day tank contains ≥ 325 gallons of fuel.	31 days
SR 3.8.3.2	Verify each fuel storage tank contains ≥ 55,000 gallons of fuel.	31 days
SR 3.8.3.3	Demonstrate the fuel transfer system operates to transfer fuel from the storage tanks to the day tanks.	92 days
SR 3.8.3.4	Verify lubricating oil inventory is sufficient.	31 days
SR 3.8.3.5	Check for and remove accumulated water from each day tank.	Within 24 hours after ≥ 1 hour of diesel operation
SR 3.8.3.6	Verify the following properties from Table 1 of ASTM D975-1981 are within limits for a new fuel sample: a. API Gravity b. Kinematic viscosity c. Flash point d. Appearance	Within 31 days prior to addition of new fuel to storage tanks
SR 3.8.3.7	----------NOTE---------- New fuel may be added to storage tank prior to receipt of analysis results. ---------- Verify properties from Table 1 of ASTM D975-1981 not verified by SR 3.8.3.6 are within limits for a new fuel sample.	Within 7 days of performance of SR 3.8.3.6

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.3.8	Verify total particulate contamination of sample from fuel tank is < 10 mg/liter.	31 days
SR 3.8.3.9	Check for and remove accumulated water from each fuel storage tank.	92 days
SR 3.8.3.10	Demonstrate properties of fuel storage tank sample are within limits of Table 1 of ASTM D975-1981.	92 days
SR 3.8.3.11	For the fuel subsystem: a. Drain each fuel storage tank. b. Remove sediment from the storage tank. c. Clean the storage tank.	10 years

CROSS REFERENCES

TITLE	NUMBER
A.C. Sources - Operating	3.8.1
A.C. Sources - Shutdown	3.8.2

3.8 ELECTRICAL POWER SYSTEMS

3.8.4 DC Sources - Operating

LCO 3.8.4 Division 1 and Division 2 DC Power Sources shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One DC Power Source Division inoperable.	A.1 Restore DC Power Source Division to OPERABLE status.	2 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.4.1	Verify the battery terminal voltage ≥ 129 Volts on float charge.	7 days
SR 3.8.4.2	Verify no visible corrosion at terminals or connectors. OR Verify the connection resistance of these items is < 150 E-6 ohms.	92 days 92 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.8.4.3	Verify the cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration.	24 months
SR 3.8.4.4	Verify the cell-to-cell and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.	24 months
SR 3.8.4.5	Verify the resistance of each cell-to-cell and terminal connection is $\leq$ 150 E-6 ohms.	24 months
SR 3.8.4.6	Demonstrate each battery charger will supply $\geq$ 300 amperes at $\geq$ 125 volts for $\geq$ 8 hours.	24 months during shutdown
SR 3.8.4.7	----------NOTE---------- SR 3.8.4.8 may be performed in lieu of this surveillance up to once per 60 months. ---------- Demonstrate battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test.	24 months during shutdown

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.8	Demonstrate the battery capacity is $\geq$ 80% of the manufacturer's rating when subjected to a performance discharge test.	60 months during shutdown OR -----NOTE----- Applicable only when battery shows degradation OR has reached 85% of expected life. ---------- 24 months during shutdown

CROSS REFERENCES

TITLE	NUMBER
1. ECCS Trains - Operating	3.5.2
2. AC Sources - Operating	3.8.1

3.8 ELECTRICAL POWER SYSTEMS

3.8.5 DC Sources - Shutdown

LCO 3.8.5 Division 1 OR Division 2 DC Power Source shall be OPERABLE.

APPLICABILITY: MODES 5 and 6, and
when handling irradiated fuel or during movement of heavy loads over irradiated fuel.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required DC Power Source inoperable.	----------NOTE---------- Performance of Required Actions A.1, A.2 or A.3 shall not preclude completion of actions to establish a safe conservative condition. ----------	
	A.1 Suspend CORE ALTERATIONS.	Immediately
	AND	
	A.2 Suspend handling of irradiated fuel.	Immediately
	AND	
	A.3 Suspend movement of heavy loads over irradiated fuel assemblies.	Immediately
	AND	

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	A.4 Suspend operations with a potential for draining the reactor vessel. AND	Immediately
	A.5 Suspend operations involving positive reactivity additions. AND	Immediately
	A.6 Initiate action to restore the DC Power Sources to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.5.1	Perform SR 3.8.4.1 through SR 3.8.4.8.	According to applicable SR.

CROSS REFERENCES

TITLE	NUMBER
1. ECCS Trains - Shutdown	3.5.3
2. A.C. Sources - Shutdown	3.8.2

3.8 ELECTRICAL POWER SYSTEMS

3.8.6 Battery Electrolyte

LCO 3.8.6 DC Power Sources battery electrolyte shall be within the limits of Table 3.8-6

APPLICABILITY: When associated DC Power Sources are required to be OPERABLE.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more cells in one or more batteries not within limits.	A.1 Demonstrate the pilot cells' electrolyte level and float voltage meet Category C allowable values. AND A.2 Demonstrate the parameters in Table 3.8.6-1 meet Category C allowable values. AND A.3 Restore the parameters to Category A and B limits of Table 3.8.6-1.	1 hour 24 hours 31 days
B. Required Actions and associated Completion Times not met OR Average electrolyte temperature of the pilot cells is $\leq$ 60 °F	B.1 Declare associated DC Power Source inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.6.1	Verify the parameters in Table 3.8.6-1 meet Category A limits.	7 days
SR 3.8.6.2	Verify the parameters in Table 3.8.6-1 meet the Category B limits.	92 days AND Within 7 days after a battery discharge to < 110 Volts AND Within 7 days after a battery overcharge to > 150 Volts
SR 3.8.6.3	Verify the average electrolyte temperature of the pilot cells is > 60 °F.	92 days

CROSS REFERENCES

TITLE	NUMBER
ECCS Trains - Operating	3.8.4
D.C. Sources - Shutdown	3.8.5

Table 3.8.6-1 (Page 1 of 1)

Battery Electrolyte Requirements

Parameter	CATEGORY A Limits for Each Designated Pilot Cell	CATEGORY B Limits for Each Connected Cell	CATEGORY C Allowable Value For Each Connected Cell
Electrolyte Level	> Minimum level indication mark, and ≤ 1/4" above maximum indication mark	> Minimum level indication mark, and ≤ 1/4" above maximum indication mark	Above top of plates, and not overflowing
Float Voltage [a]	≥ 2.13 Volts	≥ 2.13 Volts	> 2.07 Volts
Specific [b]	≥ 1.200	≥ 1.195 AND Average of all connected cells > 1.205	Not more than 0.020 below the average of all connected calls AND Average of all connected cells ≥ 1.195 [c]

----------NOTES----------

a. May be corrected for average electrolyte temperature.

b. Corrected for electrolyte temperature and level.

c. Or battery charging current is < 2 amperes when on float charge.

3.8 ELECTRICAL POWER SYSTEMS

3.8.7 Distribution Systems - Operating

LCO 3.8.7 Division 1 and Division 2 Power Distribution Systems shall OPERABLE.

---------- NOTE ----------
Two inverters may be disconnected from their associated DC buses for ≤ 24 hours to perform an equalizing charge on associated battery banks, providing:

a. Associated AC Vital buses are energized from their Class 1E constant voltage source transformer, and

b. AC Vital buses for the other battery banks are energized from their associated inverters connected to their DC buses.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One or more required buses, except AC Vital buses, in one Division inoperable.	A.1	Restore required DC buses to OPERABLE status.	2 hours
	AND		
	A.2	Restore required AC buses to OPERABLE status	8 hours
B. One AC Vital bus inoperable.	B.1	Power AC Vital bus from its alternate Class 1E power source.	2 hours
	AND		
	B.2	Restore AC Vital bus to OPERABLE status.	24 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Actions and associated Completion Times not met.	C.1 Be in MODE 3 AND C.2 Be in MODE 5	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify the following for the required AC and DC Power Distribution Systems: a. Correct breaker alignments b. Correct AC source voltage c. Correct DC source voltage d. Correct AC vital source voltage e. Correct AC Vital source frequency	7 days

CROSS REFERENCES

TITLE	NUMBER
1. ECCS Trains - Operating	3.5.2
2. AC Sources - Operating	3.8.1
3. DC Sources - Operating	3.8.4

3.8 ELECTRICAL POWER SYSTEMS

3.8.8 Distribution Systems - Shutdown

LCO 3.8.8 Division 1 or Division 2 Power Distribution System shall be OPERABLE.

APPLICABILITY: MODES 5 and 6, and
when handling irradiated fuel or during movement of heavy loads over irradiated fuel.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. Required Power Distribution System inoperable.	----------NOTE---------- Performance or Required Actions A.1, A.2 or A.3 shall not preclude completion of actions to establish a safe conservative condition. ----------		
	A.1	Suspend CORE ALTERATIONS.	Immediately
	AND		
	A.2	Suspend handling of irradiated fuel.	Immediately
	AND		
	A.3	Suspend movement of heavy loads over irradiated fuel assemblies.	Immediately
	AND		

(continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. (continued)	A.4	Suspend operations with a potential for draining the reactor vessel	Immediately
	AND		
	A.5	Suspend operations involving positive reactivity additions.	Immediately
	AND		
	A.6	Initiate action to restore Power Distribution system to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.8.1	Perform SR 3.8.7.1.	7 days

CROSS REFERENCES

TITLE	NUMBER
ECCS Trains - Shutdown	3.5.3

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify the following for the required AC and DC Power Distribution Systems: a. Correct breaker alignments b. Correct AC source voltage c. Correct DC source voltage d. Correct AC vital source voltage e. Correct AC Vital source frequency	7 days

CROSS REFERENCES

TITLE	NUMBER
1. ECCS Trains - Operating	3.5.2
2. AC Sources - Operating	3.8.1
3. DC Sources - Operating	3.8.4

3.8 ELECTRICAL POWER SYSTEMS

3.8.8 Distribution Systems - Shutdown

LCO 3.8.8 Division 1 or Division 2 Power Distribution System shall be OPERABLE.

APPLICABILITY: MODES 5 and 6, and
when handling irradiated fuel or during movement of heavy loads over irradiated fuel.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. Required Power Distribution System inoperable.	----------NOTE---------- Performance or Required Actions A.1, A.2 or A.3 shall not preclude completion of actions to establish a safe conservative condition. ----------		
	A.1	Suspend CORE ALTERATIONS.	Immediately
	AND		
	A.2	Suspend handling of irradiated fuel.	Immediately
	AND		
	A.3	Suspend movement of heavy loads over irradiated fuel assemblies.	Immediately
	AND		

(continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.4 Suspend operations with a potential for draining the reactor vessel	Immediately
	AND	
	A.5 Suspend operations involving positive reactivity additions.	Immediately
	AND	
	A.6 Initiate action to restore Power Distribution system to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.8.1	Perform SR 3.8.7.1.	7 days

CROSS REFERENCES

TITLE	NUMBER
ECCS Trains - Shutdown	3.5.3