

ATTACHMENT FOUR

PROPOSED TECHNICAL SPECIFICATION CHANGES

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TABLE 3.3-3 (continued)

ACTION STATEMENTS (continued)

- ACTION 18 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- ACTION 19 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
- a. The inoperable channel is placed in the tripped condition within 1 hour, and
 - b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 2 hours for surveillance testing of other channels per Specification 4.3.2.1.
- For Functional Unit 8.b. (Loss of Power - grid degraded voltage) tie breaker 52 NG0116 between busses NG01 and NG03 or the tie breaker 52 NG0216 between busses NG02 and NG04 may be closed for up to 8 hours. Closing an NG bus tie breaker makes the 4 bus degraded voltage channels for the respective NB bus inoperable. When the 8 hour time is exceeded apply Specification 3.0.3.
- ACTION 20 - With less than the Minimum Channels OPERABLE, within 1 hour determine by observation of the associated permissive annunciator window(s) that the interlock is in its required state for the existing plant condition, or apply Specification 3.0.3.
- ACTION 21 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1 provided the other channel is OPERABLE.
- ACTION 22 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours.
- ACTION 23 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or declare the associated valve inoperable and take the ACTION required by Specification 3.7.1.5.
- ACTION 24 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, declare the affected auxiliary feedwater pump inoperable and take the ACTION required by Specification 3.7.1.2.

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MASTER RELAY TEST</u>	<u>SLAVE RELAY TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
6. Auxiliary Feedwater (Continued)								
f. Loss-of-Offsite Power	N.A.	R	N.A.	M	N.A.	N.A.	N.A.	1, 2, 3
g. Trip of All Main Feedwater Pumps	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2
h. Auxiliary Feedwater Pump Suction Pressure-Low	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
7. Automatic Switchover to Containment Sump								
a. Automatic Actuation Logic and Actuation Relays (SSPS)	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q(3)	1, 2, 3, 4
b. RWST Level - Low-Low Coincident With Safety Injection	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3, 4
	See Item 1 above for all Safety Injection Surveillance Requirements.							
8. Loss of Power								
a. 4 kV Undervoltage-Loss of Voltage	N.A.	R	N.A.	M	N.A.	N.A.	N.A.	1, 2, 3, 4, 5++, 6++
b. 4 kV Undervoltage-Grid Degraded Voltage	N.A. ↑ { W(4) }	R	N.A.	M	N.A.	N.A.	N.A.	1, 2, 3, 4, 5++, 6++

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MASTER RELAY TEST</u>	<u>SLAVE RELAY TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
9. Control Room Isolation								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	All
b. Automatic Actuation Logic and Actuation Relays (SSPS)	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q(3)	1, 2, 3, 4
c. Automatic Actuation Logic and Actuation Relays (BOP ESFAS)	N.A.	N.A.	N.A.	N.A.	M(1)(2)	N.A.	N.A.	All
d. Phase "A" Isolation	See Item 3.a. above for all Phase "A" Isolation Surveillance Requirements.							
10. Load Shedder Emergency Load Sequencer	N.A.	N.A.	N.A.	N.A.	M(1)(2)	N.A.	N.A.	1, 2, 3, 4, 5+, 6+
11. Engineered Safety Features Actuation System Interlocks								
a. Pressurizer Pressure, P-11	N.A.	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
b. Reactor Trip, P-4	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3

TABLE NOTATIONS

- (1) Each train shall be tested at least every 62 days on a STAGGERED TEST BASIS.
- (2) Continuity check may be excluded from the ACTUATION LOGIC TEST.
- (3) Except Relays K602, K620, K622, K624, K630, K740, and K741, which shall be tested at least once per 18 months during refueling and during each COLD SHUTDOWN exceeding 24 hours unless they have been tested within the previous 90 days.
- **{(4) Tie breakers 52 NG0116 and 52 NG0216 shall be verified open}**
- # The specified 18 month frequency may be waived for Cycle 1 provided the surveillance is performed prior to restart following the first refueling outage or June 1, 1986, whichever occurs first. The provisions of Specification 4.0.2 are rest from performance of this surveillance.
- + Only the shutdown portion of one sequencer is required to be OPERABLE in Modes 5 and 6 which corresponds to the OPERABLE Emergency Diesel Generator.
- ++ Operability is only required for associated OPERABLE bus in Modes 5 and 6.

ELECTRICAL POWER SYSTEMS

3/4.8.2 D.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 As a minimum, the following D.C. electrical sources shall be OPERABLE:

- a. ~~125-Volt Battery Bank NK11 and NK13, and its associated Full-Capacity Chargers NK21 and NK23, and~~
- b. ~~125-Volt Battery Bank NK12 and NK14, and its associated Full-Capacity Chargers NK22 and NK24.~~

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

ACTION:

With one of the required ~~battery banks and/or full-capacity chargers~~ inoperable, restore the inoperable ~~battery bank and/or full-capacity charger~~ to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.1 Each ~~125-volt battery bank and charger~~ shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying that:
 - 1) The parameters in Table 4.8-2 meet the Category A limits, and
 - 2) The total battery terminal voltage is greater than or equal to 130.2 volts on float charge.

↓ INSERT ↓

- 3) The specified busses shall be determined energized in the required manner by verifying correct breaker alignment and indicated voltage on the busses.

- ← a. 125-volt D.C. Busses NK01 and NK03 energized from Batteries NK11 and NK13 and associated Full-Capacity Chargers NK21, NK23 or installed swing Charger NK25 powered from NG01, and
- ← b. 125-volt D.C. Busses NK02 and NK04 energized from Batteries NK12 and NK14 and associated Full-Capacity Chargers NK22, NK24 or installed swing Charger NK26 powered from NG04.

- ⇨ D.C. electrical sources
- ⇨ D.C. electrical source

- ⇨ required D.C. electrical source

ELECTRICAL POWER SYSTEMS

D.C. SOURCES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.2 As a minimum, {one of} the following D.C. electrical sources shall be OPERABLE:

- a. ~~125-Volt Battery Bank NK11 and NK13, and its associated Full-Capacity Chargers NK21 and NK23, or~~
- b. ~~125-Volt Battery Bank NK12 and NK14, and its associated Full-Capacity Chargers NK22 and NK24.~~

APPLICABILITY: MODES 5 and 6.

ACTION:

With the required ~~battery banks and/or full-capacity charger~~ inoperable, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes or movement of irradiated fuel; initiate corrective action to restore the required ~~battery bank and/or full-capacity charger~~ to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.8.2.2 The above required ~~125-volt battery banks and associated chargers~~ shall be demonstrated OPERABLE in accordance with Specification 4.8.2.1.

- a. 125-volt D.C. Busses NK01 and NK03 energized from Batteries NK11 and NK13 and associated Full-Capacity Chargers NK21, NK23 or installed swing Charger NK25 powered from NG01, or
- b. 125-volt D.C. Busses NK02 and NK04 energized from Batteries NK12 and NK14 and associated Full-Capacity Chargers NK22, NK24 or installed swing Charger NK26 powered from NG04.

⇐ D.C. electrical source

⇐ D.C. electrical source

⇐ D.C. electrical source

ELECTRICAL POWER SYSTEMS

3/4.8.3 ONSITE POWER DISTRIBUTION

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.3.1 The following 120 Volt A.C. Vital electrical busses shall be energized in the specified manner: ~~with tie breakers open between redundant busses within the unit:~~

- ~~a. Division #1 A.C. Emergency Busses consisting of:~~
 - ~~1) 4160 Volt Emergency Bus #NB01, and~~
 - ~~2) 480 Volt Emergency Busses #NG01, NG03 and NG05E.~~
- ~~b. Division #2 A.C. Emergency Busses consisting of:~~
 - ~~1) 4160 Volt Emergency Bus #NB02, and~~
 - ~~2) 480 Volt Emergency Busses #NG02, NG04 and NG06E.~~
- {a} ~~e. 120 Volt A.C. Vital Bus #NN01 energized from its associated inverter connected to D.C. Bus #NK01,~~
- {b} ~~d. 120 Volt A.C. Vital Bus #NN02 energized from its associated inverter connected to D.C. Bus #NK02,~~
- {c} ~~e. 120 Volt A.C. Vital Bus #NN03 energized from its associated inverter connected to D.C. Bus #NK03,~~
- {d} ~~f. 120 Volt A.C. Vital Bus #NN04 energized from its associated inverter connected to D.C. Bus #NK04,~~
- ~~g. 125 Volt D.C. Bus #NK01 energized from Battery #NK11 and Charger #NK21,~~
- ~~h. 125 Volt D.C. Bus #NK02 energized from Battery #NK12 and Charger #NK22,~~
- ~~i. 125 Volt D.C. Bus #NK03 energized from Battery #NK13 and Charger #NK23, and~~
- ~~j. 125 Volt D.C. Bus #NK04 energized from Battery #NK14 and Charger #NK24.~~

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

ACTION:

- ~~a. With one of the required divisions of A.C. emergency busses not fully energized, reenergize the division within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~
- b. With one A.C. vital bus either not energized from its associated inverter, or with the inverter not connected to its associated D.C. bus: (1) reenergize the A.C. vital bus within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours, and (2) reenergize the A.C. vital bus from its associated inverter connected to its associated D.C. bus within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION

ACTION (Continued)

- e. ~~With one D.C. bus not energized from its associated battery bank or charger, reenergize the D.C. bus from its associated battery bank and charger within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~

SURVEILLANCE REQUIREMENTS

4.8.3.1 The specified busses shall be determined energized in the required manner at least once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.

ELECTRICAL POWER SYSTEMS

ONSITE POWER DISTRIBUTION

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.3.2 As a minimum, one of the following ~~divisions of~~ electrical busses \Rightarrow 120 VAC Vital shall be energized in the specified manner:

a. Division 1, consisting of:

- 1) ~~4160-volt Emergency Bus #NB01, and~~
- 2) ~~480-volt Emergency Busses #NG01, NG03, and NG05E, and~~
- 3) ~~120-volt A.C. Vital Busses #NN01 and NN03 energized from their associated inverter connected to D.C. Busses #NK01 and NK03, and {or}~~
- 4) ~~125-volt D.C. Busses #NK01 and NK03 energized from Batteries #NK11 and NK13 and Chargers #NK21 and NK23, or~~

b. Division 2, consisting of:

- 1) ~~4160-volt Emergency Bus #NB02, and~~
- 2) ~~480-volt Emergency Busses #NG02, NG04 and NG06E, and~~
- 3) ~~120-volt A.C. Vital Busses #NN02 and NN04 energized from their associated inverter connected to D.C. Busses #NK02 and NK04, and {or}~~
- 4) ~~125-volt D.C. Busses #NK02 and NK04 energized from Batteries #NK12 and NK14 and Chargers #NK22 and NK24.~~

APPLICABILITY: MODES 5 and 6.

ACTION:

Without one of the above required ~~divisions of~~ electrical busses energized \Rightarrow 120 Volt A.C. Vital in the required manner, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, or movement of irradiated fuel; initiate corrective action to energize at least one division of the required 120 Volt A.C. Vital busses in the specified manner.

SURVEILLANCE REQUIREMENTS

4.8.3.2 The specified busses shall be determined energized in the required manner at least once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.

3/4.8 ELECTRICAL POWER SYSTEMS

BASES

3/4.8.1, 3/4.8.2, AND 3/4.8.3 A.C. SOURCES, D.C. SOURCES, AND ONSITE POWER DISTRIBUTION

The OPERABILITY of the A.C. and D.C. power sources and associated distribution systems during operation ensures that sufficient power will be available to supply the safety-related equipment required for: (1) the safe shutdown of the facility, and (2) the mitigation and control of accident conditions within the facility. The minimum specified independent and redundant A.C. and D.C. power sources and distribution systems satisfy the requirements of General Design Criterion 17 of Appendix A to 10 CFR Part 50.

The ACTION requirements specified for the levels of degradation of the power sources provide restriction upon continued facility operation commensurate with the level of degradation. The OPERABILITY of the power sources are consistent with the initial condition assumptions of the safety analyses and are based upon maintaining at least one redundant set of onsite A.C. and D.C. power sources and associated distribution systems OPERABLE during accident conditions coincident with an assumed loss-of-offsite power and single failure of the other onsite A.C. source. The A.C. and D.C. source allowable out-of-service times are based on Regulatory Guide 1.93, "Availability of Electrical Power Sources," December 1974. When one diesel generator is inoperable, there is an additional ACTION requirement to verify that all required systems, subsystems, trains, components and devices, that depend on the remaining OPERABLE diesel generator as a source of emergency power, are also OPERABLE, and that the steam-driven auxiliary feedwater pump is OPERABLE. This requirement is intended to provide assurance that a loss-of-offsite power event will not result in a complete loss of safety function of critical systems during the period one of the diesel generators is inoperable. The term verify as used in this context means to administratively check by examining logs or other information to determine if certain components are out-of-service for maintenance or other reasons. It does not mean to perform the Surveillance Requirements needed to demonstrate the OPERABILITY of the component.

The OPERABILITY of the minimum specified A.C. and D.C. power sources and associated distribution systems during shutdown and refueling ensures that: (1) the facility can be maintained in the shutdown or refueling condition for extended time periods, and (2) sufficient instrumentation and control capability are available for monitoring and maintaining the unit status.

✎ INSERT #1 - ATTACHED

The Surveillance Requirements for demonstrating the OPERABILITY of the diesel generators are in accordance with the recommendations of Regulatory Guides 1.9, "Selection of Diesel Generator Set Capacity for Standby Power Supplies," Revision 1, November 1978; 1.108, "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants," Revision 1, August 1977 as modified by Amendment No. 21, issued May 1, 1987; and 1.137, "Fuel-Oil Systems for Standby Diesel Generators," Revision 1, October 1979. Each diesel generator (DG) is provided with an

-- INSERT #1 --

A D.C. electrical source consists of the battery banks, associated full capacity chargers and the D.C. busses. The associated full capacity chargers may be the charger designated for that bus or the installed swing charger.

TABLE 3.3-3 (continued)

ACTION STATEMENTS (continued)

- ACTION 18 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- ACTION 19 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
- a. The inoperable channel is placed in the tripped condition within 1 hour, and
 - b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 2 hours for surveillance testing of other channels per Specification 4.3.2.1.
- For Functional Unit 8.b. (Loss of Power - grid degraded voltage) tie breaker 52 NG0116 between busses NG01 and NG03 or the tie breaker 52 NG0216 between busses NG02 and NG04 may be closed for up to 8 hours. Closing an NG bus tie breaker makes the 4 bus degraded voltage channels for the respective NB bus inoperable. When the 8 hour time is exceeded apply Specification 3.0.3.
- ACTION 20 - With less than the Minimum Channels OPERABLE, within 1 hour determine by observation of the associated permissive annunciator window(s) that the interlock is in its required state for the existing plant condition, or apply Specification 3.0.3.
- ACTION 21 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1 provided the other channel is OPERABLE.
- ACTION 22 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours.
- ACTION 23 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or declare the associated valve inoperable and take the ACTION required by Specification 3.7.1.5.
- ACTION 24 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, declare the affected auxiliary feedwater pump inoperable and take the ACTION required by Specification 3.7.1.2.

TABLE 4.3-2. (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MASTER RELAY TEST</u>	<u>SLAVE RELAY TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
6. Auxiliary Feedwater (Continued)								
f. Loss-of-Offsite Power	N.A.	R	N.A.	M	N.A.	N.A.	N.A.	1, 2, 3
g. Trip of All Main Feedwater Pumps	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2
h. Auxiliary Feedwater Pump Suction Pressure-Low	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
7. Automatic Switchover to Containment Sump								
a. Automatic Actuation Logic and Actuation Relays (SSPS)	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q(3)	1, 2, 3, 4
b. RWST Level - Low-Low Coincident With Safety Injection	S	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3, 4
	See Item 1 above for all Safety Injection Surveillance Requirements.							
8. Loss of Power								
a. 4 kV Undervoltage-Loss of Voltage	N.A.	R	N.A.	M	N.A.	N.A.	N.A.	1, 2, 3, 4, 5++, 6++
b. 4 kV Undervoltage-Grid Degraded Voltage	W(4)	R	N.A.	M	N.A.	N.A.	N.A.	1, 2, 3, 4, 5++, 6++

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MASTER RELAY TEST</u>	<u>SLAVE RELAY TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
9. Control Room Isolation								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	All
b. Automatic Actuation Logic and Actuation Relays (SSPS)	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q(3)	1, 2, 3, 4
c. Automatic Actuation Logic and Actuation Relays (BOP ESFAS)	N.A.	N.A.	N.A.	N.A.	M(1)(2)	N.A.	N.A.	All
d. Phase "A" Isolation	See Item 3.a. above for all Phase "A" Isolation Surveillance Requirements.							
10. Load Shedder Emergency Load Sequencer	N.A.	N.A.	N.A.	N.A.	M(1)(2)	N.A.	N.A.	1, 2, 3, 4, 5+, 6+
11. Engineered Safety Features Actuation System Interlocks								
a. Pressurizer Pressure, P-11	N.A.	R	Q	N.A.	N.A.	N.A.	N.A.	1, 2, 3
b. Reactor Trip, P-4	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3

TABLE NOTATIONS

- (1) Each train shall be tested at least every 62 days on a STAGGERED TEST BASIS.
 (2) Continuity check may be excluded from the ACTUATION LOGIC TEST.
 (3) Except Relays K602, K620, K622, K624, K630, K740, and K741, which shall be tested at least once per 18 months during refueling and during each COLD SHUTDOWN exceeding 24 hours unless they have been tested within the previous 90 days.
 (4) Tie breakers 52 NG0116 and 52 NG0216 shall be verified open.
 # The specified 18 month frequency may be waived for Cycle 1 provided the surveillance is performed prior to restart following the first refueling outage or June 1, 1986, whichever occurs first. The provisions of Specification 4.0.2 are rest from performance of this surveillance.
 + Only the shutdown portion of one sequencer is required to be OPERABLE in Modes 5 and 6 which corresponds to the OPERABLE Emergency Diesel Generator.
 ++ Operability is only required for associated OPERABLE bus in Modes 5 and 6.

ELECTRICAL POWER SYSTEMS

3/4.8.2 D.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 As a minimum, the following D.C. electrical sources shall be OPERABLE:

- a. 125-Volt D.C. Busses NK01 and NK03 energized from Batteries NK11 and NK13 and associated Full-Capacity Chargers NK21, NK23 or installed swing Charger NK25 powered from NG01, and
- b. 125-Volt D.C. Busses NK02 and NK04 energized from Batteries NK12 and NK14 and associated Full-Capacity Chargers NK22, NK24 or installed swing Charger NK26 powered from NG04.

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

ACTION:

With one of the required D.C. electrical sources inoperable, restore the inoperable D.C. electrical source to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.1 Each required D.C. electrical source shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying that:
 - 1) The parameters in Table 4.8-2 meet the Category A limits, and
 - 2) The total battery terminal voltage is greater than or equal to 130.2 volts on float charge.
 - 3) The specified busses shall be determined energized in the required manner by verifying correct breaker alignment and indicated voltage on the busses.

ELECTRICAL POWER SYSTEMS

D.C. SOURCES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.2 As a minimum, one of the following D.C. electrical sources shall be OPERABLE:

- a. 125-Volt D.C. Busses NK01 and NK03 energized from Batteries NK11 and NK13 and associated Full-Capacity Chargers NK21, NK23 or installed swing Charger NK25 powered from NG01, or
- b. 125-Volt D.C. Busses NK02 and NK04 energized from Batteries NK12 and NK14 and associated Full-Capacity Chargers NK22, NK24 or installed swing Charger NK26 powered from NG04.

APPLICABILITY: MODES 5 and 6.

ACTION:

With the required D.C. electrical source inoperable, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes or movement of irradiated fuel; initiate corrective action to restore the required D.C. electrical source to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.8.2.2 The above required D.C. electrical source shall be demonstrated OPERABLE in accordance with Specification 4.8.2.1.

ELECTRICAL POWER SYSTEMS

3/4.8.3 ONSITE POWER DISTRIBUTION

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.3.1 The following 120 Volt A.C. Vital electrical busses shall be energized in the specified manner:

- a. Bus NN01 energized from its associated inverter connected to D.C. Bus NK01,
- b. Bus NN02 energized from its associated inverter connected to D.C. Bus NK02,
- c. Bus NN03 energized from its associated inverter connected to D.C. Bus NK03,
- d. Bus NN04 energized from its associated inverter connected to D.C. Bus NK04,

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

ACTION:

With one A.C. vital bus either not energized from its associated inverter, or with the inverter not connected to its associated D.C. bus: (1) reenergize the A.C. vital bus within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours, and (2) reenergize the A.C. vital bus from its associated inverter connected to its associated D.C. bus within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION

ACTION (Continued)

SURVEILLANCE REQUIREMENTS

4.8.3.1 The specified busses shall be determined energized in the required manner at least once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.

ELECTRICAL POWER SYSTEMS

ONSITE POWER DISTRIBUTION

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.3.2 As a minimum, one of the following 120 VAC Vital electrical busses shall be energized in the specified manner:

- a. Division 1, consisting of:

Busses NN01 and NN03 energized from their associated inverter connected to D.C. Busses NK01 and NK03, or

- b. Division 2, consisting of:

Busses NN02 and NN04 energized from their associated inverter connected to D.C. Busses NK02 and NK04.

APPLICABILITY: MODES 5 and 6.

ACTION:

Without one of the above required 120 Volt A.C. Vital electrical busses energized in the required manner, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, or movement of irradiated fuel; initiate corrective action to energize at least one division of the required 120 Volt A.C. Vital busses in the specified manner.

SURVEILLANCE REQUIREMENTS

4.8.3.2 The specified busses shall be determined energized in the required manner at least once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.

3/4.8 ELECTRICAL POWER SYSTEMS

BASES

3/4.8.1, 3/4.8.2, AND 3/4.8.3 A.C. SOURCES, D.C. SOURCES, AND ONSITE POWER DISTRIBUTION

The OPERABILITY of the A.C. and D.C. power sources and associated distribution systems during operation ensures that sufficient power will be available to supply the safety-related equipment required for: (1) the safe shutdown of the facility, and (2) the mitigation and control of accident conditions within the facility. The minimum specified independent and redundant A.C. and D.C. power sources and distribution systems satisfy the requirements of General Design Criterion 17 of Appendix A to 10 CFR Part 50.

The ACTION requirements specified for the levels of degradation of the power sources provide restriction upon continued facility operation commensurate with the level of degradation. The OPERABILITY of the power sources are consistent with the initial condition assumptions of the safety analyses and are based upon maintaining at least one redundant set of onsite A.C. and D.C. power sources and associated distribution systems OPERABLE during accident conditions coincident with an assumed loss-of-offsite power and single failure of the other onsite A.C. source. The A.C. and D.C. source allowable out-of-service times are based on Regulatory Guide 1.93, "Availability of Electrical Power Sources," December 1974. When one diesel generator is inoperable, there is an additional ACTION requirement to verify that all required systems, subsystems, trains, components and devices, that depend on the remaining OPERABLE diesel generator as a source of emergency power, are also OPERABLE, and that the steam-driven auxiliary feedwater pump is OPERABLE. This requirement is intended to provide assurance that a loss-of-offsite power event will not result in a complete loss of safety function of critical systems during the period one of the diesel generators is inoperable. The term verify as used in this context means to administratively check by examining logs or other information to determine if certain components are out-of-service for maintenance or other reasons. It does not mean to perform the Surveillance Requirements needed to demonstrate the OPERABILITY of the component.

The OPERABILITY of the minimum specified A.C. and D.C. power sources and associated distribution systems during shutdown and refueling ensures that: (1) the facility can be maintained in the shutdown or refueling condition for extended time periods, and (2) sufficient instrumentation and control capability are available for monitoring and maintaining the unit status. A D.C. electrical source consists of the battery banks, associated full capacity chargers and the D.C. busses. The associated full capacity chargers may be the charger designated for that bus or the installed swing charger.

The Surveillance Requirements for demonstrating the OPERABILITY of the diesel generators are in accordance with the recommendations of Regulatory Guides 1.9, "Selection of Diesel Generator Set Capacity for Standby Power Supplies," Revision 1, November 1978; 1.108, "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants," Revision 1, August 1977 as modified by Amendment No. 21, issued May 1, 1987; and 1.137, "Fuel-Oil Systems for Standby Diesel Generators," Revision 1, October 1979. Each diesel generator (DG) is provided with an

bcc: D. Shafer/A160.761
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Nuclear Date

E210.01

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