LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and
b. Four separate and independent diesel generators, each with:

1. A separate fuel oil day tank containing a minimum of 360 gallons of fuel,
2. A separate fuel storage system consisting of two storage tanks containing a minimum of 44,800 gallons of fuel, and
3. A separate fuel transfer pump for each storage tank.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

a. With one offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. Restore the inoperable offsite circuit to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. With one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the above required A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If the diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining diesel generators by performing Surveillance Requirement 4.8.1.1.2.a.4 separately for each diesel generator within 24 hours* unless the absence of any potential common mode failure for the remaining diesel generators is demonstrated. If continued operation is permitted by LCO 3.7.1.3, restore the inoperable diesel generator to OPERABLE status within 72 hours for diesel generators A or B, or within 14 days for diesel generators C or D, or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

* This test is required to be completed regardless of when the inoperable diesel generator is restored to OPERABILITY.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

c. With one offsite circuit of the above required A.C. sources and one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If a diesel generator became inoperable due to any causes other than an inoperable support system, an independently testable component, or preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generators separately for each diesel generator by performing Surveillance Requirement 4.8.1.1.2.a.4 within 16 hours unless the absence of any potential common mode failure for the remaining diesel generators is demonstrated*. If continued operation is permitted by LCO 3.7.1.3, restore at least two offsite circuits and all four of the above required diesel generators to OPERABLE status within 72 hours from time of the initial loss or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. A successful test(s) of diesel generator OPERABILITY per Surveillance Requirement 4.8.1.1.2.a.4 performed under this ACTION statement for the OPERABLE diesel generators satisfies the diesel generator test requirements of ACTION Statement b.

d. With both of the above required offsite circuits inoperable, restore at least one of the above required offsite circuits to OPERABLE status within 24 hours or be in at least HOT SHUTDOWN within the next 12 hours. With only one offsite circuit restored to OPERABLE status, restore at least two offsite circuits to OPERABLE status within 72 hours from time of initial loss or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

e. With two diesel generators of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the above required A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If either of the diesel generators became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining diesel generators by performing Surveillance Requirement 4.8.1.1.2.a.4 separately for each diesel generator within 8 hours* unless the absence of any potential common mode failure for the remaining diesel generators is demonstrated. Restore at least one of the inoperable diesel generators to OPERABLE status within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

* This test is required to be completed regardless of when the inoperable diesel generator is restored, to OPERABILITY.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

A successful test(s) of diesel generator OPERABILITY per Surveillance Requirement 4.8.1.1.2.a.4 performed under this ACTION statement for the OPERABLE diesel generators satisfies the diesel generator test requirements of ACTION Statement b.

f. With two diesel generators of the above required A.C. electrical power sources inoperable, in addition to ACTION e., above, verify within 2 hours that all required systems, subsystems, trains, components, and devices that depend on the remaining diesel generators as a source of emergency power are also OPERABLE; otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

g. With one offsite circuit and two diesel generators of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If either of the diesel generators became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining diesel generators by performing Surveillance Requirement 4.8.1.1.2.a.4 separately for each diesel generator within 8 hours* unless the absence of any potential common mode failure for the remaining diesel generators is demonstrated. Restore at least one of the above required inoperable A.C. sources to OPERABLE status within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. Restore the inoperable offsite circuit and both of the inoperable diesel generators to OPERABLE status within 72 hours from time of initial loss or be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the following 24 hours.

h. With the buried fuel oil transfer piping's cathodic protection system inoperable for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the system to OPERABLE status.

i. With one fuel oil transfer pump inoperable, realign the flowpath of the affected tank to the tank with the remaining operable fuel oil transfer pump within 48 hours and restore the inoperable transfer pump to OPERABLE status within 14 days, otherwise declare the affected emergency diesel generator (EDG) inoperable. This variance may be applied to only one EDG at a time.

* This test is required to be completed regardless of when the inoperable diesel generator is restored to OPERABILITY.

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability, and

b. Demonstrated OPERABLE at least once per 18 months during shutdown by transferring, manually and automatically, unit power supply from the normal circuit to the alternate circuit.

4.8.1.1.2 Each of the above required diesel generators shall be demonstrated OPERABLE: *

a. At least once per 31 days on a STAGGERED TEST BASIS by:

1. Verifying the fuel level in the fuel oil day tank.

2. Verifying the fuel level in the fuel oil storage tank.

3. Verifying the fuel transfer pump starts and transfers fuel from the storage system to the fuel oil day tank.

4. Verifying each diesel generator starts** from standby conditions and achieves steady state voltage $\geq$ 3828 and $\leq$ 4580 volts and frequency of 60 $\pm$ 1.2 Hz.

5. Verifying the diesel generator is synchronized, loaded to between 4000 and 4400*** kw and operates with this load for at least 60 minutes.

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* All engine starts and loading for the purpose of this surveillance testing may be preceded by an engine prelube period and/or other warmup procedures recommended by the manufacturer so that mechanical stress and wear on the diesel engine is minimized.

** A modified diesel generator start involving idling and gradual acceleration to synchronous speed may be used for this surveillance. When modified start procedures are not used, the time, voltage, and frequency tolerances of Surveillance Requirement 4.8.1.1.2.g must be met.

*** Momentary transients outside the load range do not invalidate this test.

g. At least once per 184 days by verifying each diesel generator starts from standby conditions and achieves ≥ 3950 volts and ≥ 58.8 Hz in ≤ 10 seconds after receipt of the start signal, and subsequently achieves steady state voltage ≥ 3828 and ≤ 4580 volts and frequency of 60 ± 1.2 Hz.

h. At least once per 18 months#, during shutdown, by:

1. Deleted.

2. Verifying the diesel generator capability to reject a load of greater than or equal to that of the RHR pump motor for each diesel generator while maintaining voltage ≥ 3828 and ≤ 4580 volts and frequency at 60 ± 1.2 Hz.

3. Verifying the diesel generator capability to reject a load of 4430 kW without tripping. The generator voltage shall not exceed 4785 volts during and following the load rejection.

4. Simulating a loss of offsite power by itself, and:

a) Verifying loss of power is detected and deenergization of the emergency busses and load shedding from the emergency busses.

b) Verifying the diesel generator starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds after receipt of the start signal, energizes the autoconnected shutdown loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the shutdown loads. After energization, the steady state voltage and frequency of the emergency busses shall be maintained ≥ 3828 and ≤ 4580 volts and 60 ± 1.2 Hz during this test.

For any start of a diesel generator, the diesel may be loaded in accordance with the manufacturer's recommendations.

5. Verifying that on an ECCS actuation test signal, without loss of offsite power, the diesel generator starts on the auto-start signal and operates on standby for greater than or equal to 5 minutes. The diesel generator shall achieve ≥ 3950 volts and ≥ 58.8 Hz in ≤ 10 seconds following receipt of the start signal and subsequently achieve steady state voltage ≥ 3828 and ≤ 4580 volts and frequency of 60 ± 1.2 Hz.

6. Simulating a loss of offsite power in conjunction with an ECCS actuation test signal, and:

   a) Verifying loss of power is detected and deenergization of the emergency busses and load shedding from the emergency busses.

   b) Verifying the diesel generator starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds after receipt of the start signal, energizes the autoconnected shutdown loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady state voltage and frequency of the emergency busses shall be maintained ≥ 3828 and ≤ 4580 volts and 60 ± 1.2 Hz during this test.

7. Verifying that all automatic diesel generator trips, except engine overspeed, generator differential current, generator overcurrent, bus differential current and low lube oil pressure are automatically bypassed upon loss of voltage on the emergency bus concurrent with an ECCS actuation signal.#

8. Deleted.

9. Verifying that the auto-connected loads to each diesel generator do not exceed the continuous rating of 4430 kW.

Generator differential current, generator overcurrent, and bus differential current is two-out-of-three logic and low lube oil pressure is two-out-of-four logic.

2. Performing a pressure test of those portions of the diesel fuel oil system designed to Section III, subsection ND of the ASME Code in accordance with ASME Code Section XI Article IWD-5000.

k. At least once per refueling cycle# by:

1. Verifying the diesel generator operates for at least 24 hours. During the first 22 hours of this test, the diesel generator shall be loaded to between 4000 and 4400 kW## and during the remaining 2 hours of this test, the diesel generator shall be loaded to between 4652 and 4873 kW. The diesel generator shall achieve ≥ 3950 volts and ≥ 58.8 Hz in ≤ 10 seconds following receipt of the start signal and subsequently achieve steady state voltage ≥ 3828 and ≤ 4580 volts and frequency of 60 ± 1.2 Hz.

2. Within 5 minutes after completing 4.8.1.1.2.k.1, verify each diesel generator starts and achieves ≥ 3950 volts and ≥ 58.8 Hz in ≤ 10 seconds after receipt of the start signal, and subsequently achieves steady state voltage ≥ 3828 and ≤ 4580 volts and frequency of 60 ± 1.2 Hz.

- OR -

Operate the diesel generator between 4000 kW and 4400 kW for two hours. Within 5 minutes of shutting down the diesel generator, verify each diesel generator starts and achieves ≥ 3950 volts and ≥ 58.8 Hz in ≤ 10 seconds after receipt of the start signal, and subsequently achieves steady state voltage ≥ 3828 and ≤ 4580 volts and frequency of 60 ± 1.2 Hz. This test shall continue for at least five minutes.

4.8.1.1.3 Reports - Not used.

4.8.1.1.4 The buried fuel oil transfer piping's cathodic protection system shall be demonstrated OPERABLE at least once per 2 months and at least once per year by subjecting the cathodic protection system to a performance test.

For any start of a diesel generator, the diesel may be loaded in accordance with manufacturer's recommendations.

Momentary transients outside the load range do not invalidate this test.