3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A. C. SOURCES

OPERATING

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 consisting of either:

1. Two 500 Kv offsite power circuits, or as necessary
2. The 69 Kv SMECO offsite power circuit described in the January 14, 1977 Safety Evaluation and one 500 KV offsite power circuit, and

b. Two separate and independent diesel generators (one of which may be a swing diesel generator capable of serving either Unit 1 or Unit 2) each with:

1. Separate day fuel tanks containing a minimum volume of 375 gallons of fuel,
2. A common fuel storage system consisting of two independent storage tanks each containing a minimum volume of 18,250 gallons of fuel*, and
3. A separate fuel transfer pump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

and 4.8.1.1.2 a.4 within 24 hours, unless the diesel generators are already operating

a. With ~~one 500 Kv~~ two offsite circuits ~~or diesel generator of the above required A.C. electrical power sources~~ inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirements 4.8.1.1.1.a ~~and 4.8.1.1.2.a.4~~ within one hour and at least once per 8 hours thereafter; restore at least two offsite circuits ~~and two diesel generators~~ to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b.

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~~*For the duration of the April 1984 Unit 2 refueling outage, with Unit 2 in MODE 5 or 6, Technical Specification 3.8.1.1.b(2) will be satisfied by:~~

~~A common fuel oil storage system consisting of one seismic class 1 fuel oil storage tank with a minimum volume of 36,500 gallons of fuel and an alternate fuel source with 8,000 gallons of fuel connected in such a manner as not to degrade system integrity in the event of a rupture of the alternate fuel source or its connecting piping. The tornado-missile protected fuel source shall not be made inoperable until May 15, 1984.~~

b. With one diesel generator inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.a within one hour and at least once per eight hours thereafter, and Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours; restore two diesel generators to OPERABLE status within seven days, or be in at least HOT STANDBY within the next six hours and in COLD SHUTDOWN within the following 30 hours.

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

b. With ~~one 500 Kv~~ offsite circuits 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 Requirements 4.8.1.1.1.a ~~and 4.8.1.1.2.a.4~~ within one hour and at least once per 8 hours thereafter; restore at least one of the inoperable sources to OPERABLE status within 12 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore at least two offsite circuits ~~and two diesel generators~~ to OPERABLE status within 72 hours from the time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With ~~two of the 500 Kv above required~~ offsite A.C. circuits inoperable, demonstrate the OPERABILITY of two diesel generators by performing Surveillance Requirement 4.8.1.1.2.a.4 within one hour, ~~and at least once per 8 hours thereafter~~ unless the diesel generators are already operating; restore at least one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. With only one offsite source restored, restore at least two offsite circuits to OPERABLE status within 72 hours from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

d. With two ~~of the above required~~ diesel generators inoperable, demonstrate the OPERABILITY of two offsite A.C. circuits by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter; restore at least one of the inoperable diesel generators 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. ~~Restore at least two diesel generators to OPERABLE status within 72 hours~~ 7 days from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

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

SURVEILLANCE REQUIREMENTS (Continued)

a. Demonstrated OPERABLE, as follows:

1. For each 500 Kv offsite circuit, at least once per 7 days by verifying correct breaker alignments and indicated power availability,

2. For the 69 Kv SMECO offsite power circuit, within one hour of substitution for a 500 Kv offsite power circuit, and at least once per 8 hours thereafter during use by verifying correct breaker alignments and indicated power availability, and,

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

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:

SURVEILLANCE REQUIREMENTS (Continued)

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

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

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

3. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the day tank.

4. Verifying the diesel starts* ~~from ambient condition~~ and accelerates to at least 900 rpm in ≤ 10 seconds.

5. Verifying the generator is synchronized, loaded to ≥ 1250 kw, and operates for ≥ 60 minutes.

6. Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.

7. Verifying that the automatic load sequence timer is OPERABLE with the interval between each load block within ± 10% of its design interval.

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank is within the acceptable limits specified in Table 1 of ASTM D975-~~68~~ when checked for viscosity, water and sediment.

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Over

c

d. At least once per 18 months by:

1. Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.

2. Verifying the generator capability to reject a load of ≥ 450 hp without tripping.

3. Simulating a loss of offsite power in conjunction with a safety injection actuation test signal, and:

a) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

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

C. At least once per 184 days by verifying the diesel starts from ambient condition and accelerates to at least 900 rpm in ≤ 10 seconds.

SURVEILLANCE REQUIREMENTS (Continued)

b) Verifying the diesel starts from ambient condition on the auto-start signal, energizes the emergency busses with permanently connected loads, energizes the auto-connected emergency loads through the load sequencer and operates for ≥ 5 minutes while its generator is loaded with the emergency loads.

c) Verifying that ~~all diesel generator trips, except engine overspeed, crankcase pressure high, lube oil pressure low, generator ground overcurrent, and generator differential~~ the high jacket coolant temperature and low jacket coolant pressure trips are automatically bypassed on a Safety Injection Actuation Signal.

4. Verifying the diesel generator operates for ≥ 60 minutes while loaded to ≥ 2500 kw.

5. Verifying that the auto-connected loads to each diesel generator do not exceed the 2000 hour rating of 2700 kw.