

ELECTRICAL POWER SYSTEMSSURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required physically 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 alignment indicating power availability
- b. Demonstrated OPERABLE at least once per 18 months during shutdown by manually transferring the onsite Class 1E power supply from the normal circuit to the alternate circuit.

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:

- a. In accordance with the frequency specified in Table 4.8-1 on a STAGGERED TEST BASIS by:
 1. Verifying the fuel level in the day 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 generator can start** and accelerate to generator voltage and frequency at 4160 ± 420 volts and 60 ± 1.2 Hz in less than or equal to 10 seconds. Subsequently, the generator shall be manually synchronized to its appropriate bus and gradually loaded** to an indicated 5200-5400 kW*** and operates for at least 60 minutes. The diesel generator shall be started for this test**** using one of the following signals on a STAGGERED TEST BASIS:
 - a) Manual
 - b) Simulated loss of offsite power by itself.
 - c) Simulated loss of offsite power in conjunction with an ESF actuation test signal.
 - d) An ESF actuation test signal by itself.
 5. Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.

**This test shall be conducted in accordance with the manufacturer's recommendations regarding engine prelube and warmup procedures, and as applicable regarding loading recommendations.

***This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring of the manufacturer or momentary variations due to changing bus loads shall not invalidate the test.

****Until the first refueling outage, the diesel generator shall be test started only manually.

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ELECTRICAL POWER SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

4.8.1.1.2 (Continued)

- b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank obtained in accordance with ASTM-D4176-82, is within the acceptable limits specified in Table 1 of ASTM D975-81 when checked for viscosity, water and sediment.
- c. At least once per 184 days the diesel generator shall be started** and accelerated to generator voltage and frequency at 4160 ± 420 volts and 60 ± 1.2 Hz in less than or equal to 10 seconds. The generator voltage and frequency shall be 4160 ± 420 volts and 60 ± 1.2 Hz within 10 seconds after the start signal. The generator shall be manually synchronized to its appropriate emergency bus, loaded to an indicated 5200-5400*** kW in less than or equal to 60 seconds, and operate for at least 60 minutes.

This test, if it is performed so it coincides with the testing required by Surveillance Requirement 4.8.1.1.2.a.4, may also serve to concurrently meet those requirements as well.

- d. At least once per 18 months during shutdown 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 single largest load of greater than or equal to 839 kW (Train B AFW pump) for emergency diesel generator B or 696 kW for emergency diesel generator A (Train A HPSI pump) while maintaining voltage at 4160 ± 420 volts and frequency at 60 ± 1.2 Hz.****
 - 3. Verifying that the automatic load sequencers are OPERABLE with the interval between each load block within ± 1 second of its design interval.****
 - 4. Simulating a loss of offsite power by itself, and:
 - a) Verifying deenergization of the emergency busses and load shedding from the emergency busses.****
 - b) Verifying the diesel starts** on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected shutdown loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is

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****Deferred until cycle 3 refueling outage.

of which ever is earlier.

