4.8 EMERGENCY POWER SYSTEM PERIODIC TESTS

Applicability: Applies to periodic testing and surveillance requirements for the emergency power system.

Objective: To verify that the emergency power system will respond promptly and properly.

Specification: The following tests and surveillance shall be performed as stated:

1. Diesel Generator

   Each diesel generator shall be demonstrated OPERABLE:

   a. On a staggered test basis (nonconcurrently) at the frequency specified by Table 4.8-1 by:

      1. Verifying fuel level in the day tank and in the engine-mounted fuel tank.

      2. Verifying fuel level in the fuel storage tank.

      3. Verifying that a fuel transfer pump can be started and transfers fuel from the Diesel Oil Storage Tank to the Day Tank.

      4. Verifying that the diesel generator starts from ambient conditions and accelerated to provide 60±1.2 Hz frequency and 4160±624 volts in ≤15 seconds.

      5. Verifying that the generator is synchronized, loaded to ≥2500 kw within 10 minutes and operates for ≥60 minutes.

      6. Verifying that the diesel generator cooling system functions within design limits during the 1-hour full load test required by Specification 4.8.1.a.5.

   b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank is within acceptable limits when checked for viscosity, water, and sediment.

   c. During each Unit 3 refueling outage by:

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

   d. At least once per 18 months by:

      1. Verifying the diesel generator's capability to:

(a) Reject a load of 200 kw without exceeding 4160±624 volts and 60±1.2 Hz.

(b) Reject complete load without exceeding 4160±624 volts, and without exceeding overspeed limits.

2. Verifying that diesel generator trips which are operable during the test mode of diesel operation are inoperable when the diesel is not in the test mode of operation.

3. Alternately initiating one of the following two diesel startup tests:

   (a) Simulate a safety injection signal, and allow the diesel generator to achieve nominal rated voltage and speed. Then simulate a loss of offsite power, and allow the diesel generator to load and stabilize.

   (b) Simulate a loss of offsite power, and allow the diesel generator to load and stabilize. Then simulate a safety injection signal, and allow the diesel generator to sequence safety loads and stabilize.

4. Monitoring the tests specified in 4.8.1.c.4 to:

   (a) Verify proper deenergization and load shedding from the 4160 volt busses.

   (b) Verify that the diesel generator starts from ambient conditions and accelerates to provide 60±1.2 Hz frequency and 4160±624 volts in ≤15 seconds.

5. Verifying that the diesel generator operates for at least 8 hours by performing the following tests:

   (a) Load the diesel generator to ≥2750 kw during the first 2 hours of the 8 hour test.

   (b) Load the diesel generator to ≥2500 kw during the last 6 hours of the 8 hour test.

   (c) Verify that voltage, frequency, and cooling system functions are within design limits during the 8 hour full-load test.

6. Demonstrating the ability to sequentially:

(a) Synchronize the diesel generator with offsite power while the generator is supplying emergency loads;

(b) Transfer the emergency load to offsite power;

(c) Isolate the diesel generator; and

(d) Return the diesel generator to standby status.

7. Verifying that auto - connected loads to each diesel generator do not exceed 2750 kw.

e. At least once per 10 years, or after any modification that could affect diesel generator independence, start both diesel generators simultaneously at a time when both reactors are shutdown and verify that both diesel generators provide 60±1.2 Hz frequency and 4160±624 volts in ≤15 seconds.

2. STATION BATTERIES

a. Pilot cell specific gravities shall be read and recorded daily. The pilot cell shall be rotated on a monthly basis.

b. Monthly each battery shall be given an equalizing charge, and afterwards specific gravity and voltage readings shall be taken and recorded for each cell. Water shall be added to restore normal level and total water use shall be recorded. Complete visual inspection of batteries shall be made monthly.

c. Quarterly detailed visual inspection shall be made of chargers.

d. Annually connections shall be checked for tightness and anti-corrosion coating shall be applied to interconnections.

e. Perform load test annually.

SAFETY AND NO SIGNIFICANT HAZARDS CONSIDERATION EVALUATION

Description of Amendment Request:

Pages 4.8-1 through 4.8-3

The surveillance requirements contained in Technical Specification 4.8, Emergency Power Systems Periodic Tests, are designed to assure that the quality of the equipment and components is maintained, that the facility operation will be within the safety limits and that the limiting conditions for operation of the system will be met. The inspection and test frequencies specified are often enough to identify and correct any mechanical or electrical failure before it can result in a system failure.

Technical Specification 4.8.1.C.1 requires that each diesel generator be subjected to an inspection in accordance with the manufacturers recommendations at least once each eighteen months. Technical specification 4.0.1 states that interval may be adjusted plus or minus 25% to accomodate normal test schedules. This inspection was last completed on the "A" and "B" diesel generators on December 23, 1984 and January 13, 1985 respectively. This would require the next inspections to be performed no later than November 11, 1986 and November 27, 1986.

Prior to the startup of Turkey Point Unit 4 from the last refueling outage, Region II requested that FPL defer performing the eighteen month inspections until the Unit 3 refueling outage, scheduled to begin March 1987. The Region wants the inspections to be done with only one unit at power, although the current technical specifications would allow a diesel to be taken out of service for the inspection with both units at power.

The proposed change would defer the required inspections until the next Unit 3 refueling outage. Subsequent inspections would then be performed during each succeeding Unit 3 refueling outage.

The eighteen month preventive maintenance inspection performed in December 1984 and January 1986 indicated no excessive wear of engine internals (after approximately 550 hours of operation on each diesel generator). Also a review of the "A" and "B" diesel generator operating and maintenance history since that time has indicated no existence of problems. Because the diesel generators are operated infrequently for short periods of time, excessive wear of the engine internals which could affect operability would not be expected to occur. Therefore deferral of the inspections on a one time basis, until the Unit 3 refueling outage, would be acceptable. Operability of the diesel generators would continue to be verified by performance of the other surveillance requirements which remain unchanged. In addition, discussions with the diesel generator engine manufacturer indicate that deferral of the required inspections until the next Unit 3 refueling outage would not adversely affect diesel generator engine operability.

Basis for No Significant Hazards Consideration Determination

The commission has provided standards for determining whether a significant hazards consideration exists (10 CFR 50.92(c)). A proposed amendment to an operating license for the facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated, or (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety.

Operation of Turkey Point Units 3 and 4 in accordance with the proposed amendments would not:

(1) & (2) Involve a significant increase in the probability or consequences of an accident previously evaluated, or create the possibility of a new or different kind of accident from any previously evaluated since this change does not involve a change in the operation or the physical design of the emergency power systems.

(3) Involve a significant reduction in a margin of safety

Deferral of the inspection would not significantly increase the possibility of undetected degradation of the diesel generators, because the diesel generators are operated infrequently for short periods of time. The last inspection indicated no excessive wear of engine internals after approximately 550 hours of operating time on each diesel generator. The limiting conditions for operation, and other surveillance requirements to verify operability are unchanged and remain in effect.

Based on the above discussion, operation of the facility in accordance with the proposed amendment would not involve a significant increase in the probability or consequences of an accident previously evaluated, or create the possibility of a new or different kind of accident from any accident previously evaluated, or involve a significant reduction in a margin of safety.

Therefore, operation of the facility in accordance with the proposed amendmant would pose no threat to the public health and safety, afnd would not involve a significant hazards consideration.

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