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MIDDLE SOUTH UTILITIES SYSTEM

March 4, 1986

W3P86-0155
A4.05
QA

Mr. George W. Knighton, Director
PWR Project Directorate No. 7
Division of PWR Licensing-B
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

Subject: Waterford SES Unit 3
Docket No. 50-382
Supplement to NPF-38-14
Diesel Generator Inspection

Reference: W3P86-0033 dated February 19, 1986

Dear Mr. Knighton:

By the referenced letter LP&L requested a change to Surveillance Requirement 4.8.1.1.2.d.1 to allow performance of diesel generator inspections at refueling outages. This letter provides supplemental information to support the requested change.

In discussions with the NRC Staff it was determined that adequate technical justification was presented for the change, however, the Staff wished to place a limit on the length of the surveillance interval. To define the surveillance interval the Staff requested the following additional information on future cycle lengths for Waterford 3.

LP&L has decided to implement an 18 month Cycle 2. Subsequent cycles may extend to 24 months. Based on potential future cycle lengths LP&L proposes the attached wording change for Surveillance Requirement 4.8.1.1.2.d.1.

Should you require further information please contact Mike Meisner at (504) 595-2832.

Your very truly,

K.W. Cook
Nuclear Support & Licensing Manager

KWC:MJM:ssf

Attachment

cc: B.W. Churchill, W.M. Stevenson, R.D. Martin, J.H. Wilson, NRC Resident Inspectors Office, E. Tomlinson (NRC-NRR)

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SURVEILLANCE REQUIREMENTS (Continued)

2. Verify an impurity level of less than 2 mg of insolubles per 100 ml when tested in accordance with ASTM-D2274-70; analysis shall be completed within 7 days after obtaining the sample but may be performed after the addition of new fuel oil; and

3. Verify the other properties specified in Table 1 of ASTM-D975-1°77 and Regulatory Guide 1.137, Revision 1, October 1979, Position 2.a., when tested in accordance with ASTM-D975-1977; analysis shall be completed within 14 days after obtaining the sample but may be performed after the addition of new fuel oil.

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.

1 2. Verifying the generator capability to reject a load of greater than or equal to 498 kW (HPSI pump) while maintaining voltage at 4160 ± 420 volts and frequency at 60 +4.5, -1.2 Hz.

2 3. Verifying the generator capability to reject a load of 4400 kW without tripping. The generator voltage shall not exceed 4784 volts during and following the load rejection.

3 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 after the auto-start signal, energizes the auto-connected 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 at 4160 ± 420 volts and 60 + 1.2, -0.3 Hz during this test.

4 5. Verifying that on an SIAS 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 steady-state generator voltage and frequency shall be 4160 ± 420 volts and 60 ± 1.2 Hz within 10 seconds after the auto-start signal; the generator voltage and frequency shall be maintained within these limits during this test.

SURVEILLANCE REQUIREMENTS (Continued)

5 6. Simulating a loss-of-offsite power in conjunction with an SIAS actuation test signal, 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 after the auto-start signal, energizes the auto-connected emergency loads through the load sequencer and operates for greater than or equal to 5 minutes. After energization, the steady-state voltage and frequency of the emergency busses shall be maintained at 4160 ± 420 volts and 60 + 1.2, -0.3 Hz during this test.

c) Verifying that all automatic diesel generator trips, except engine overspeed and generator differential, are automatically bypassed upon loss of voltage on the emergency bus concurrent with a safety injection actuation signal.

6 7. Verifying the diesel generator operates for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to greater than or equal to 4840 kW and during the remaining 22 hours of this test, the diesel generator shall be loaded to greater than or equal to 4400 kW. The generator voltage and freqency shall be 4160 ± 420 volts and 60 ± 1.2 Hz within 10 seconds after the start signal; the steady-state generator voltage and frequency shall be 4160 ± 420 volts and 60 + 1.2, -0.3 Hz during this test. Within 5 minutes after completing this 24-hour test, perform Surveillance Requirement 4.8.1.1.2.d.4b.

7 8. Verifying that the auto-connected loads to each diesel generator do not exceed the 2000-hour rating of 4400 kW.

8 9. Verifying the diesel generator's capability to:

a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power,

b) Transfer its loads to the offsite power source, and

c) Be restored to its standby status.

9 10. Verifying that with the diesel generator operating in a test mode (connected to its bus), a simulated safety injection signal overrides the test mode by (1) returning the diesel generator to standby operation and (2) automatically energizes the emergency loads with offsite power.

SURVEILLANCE REQUIREMENTS (Continued)

10 ~~11~~. Verifying that the fuel transfer pump transfers fuel from each fuel storage tank to the diesel oil feed tank of each diesel via the installed cross connection lines.

11 ~~12~~. Verifying that the automatic load sequence timer is OPERABLE with the time of each load block within ±10% of the sequenced load block time.

12 ~~13~~. Verifying that the following diesel generator lockout features prevent diesel generator starting only when required:

a) turning gear engaged
b) emergency stop
c) loss of D.C. control power
d) governor fuel oil linkage tripped

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f ~~e~~. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting the diesel generators simultaneously, during shutdown, and verifying that the diesel generators accelerate to at least 600 rpm (60 ± 1.2 Hz) in less than or equal to 10 seconds.

g ~~f~~. At least once per 10 years by:

1. Draining each diesel generator fuel oil storage tank, removing the accumulated sediment, and cleaning the tank using a sodium hypochlorite solution or equivalent, and

2. Performing a pressure test of those portions of the diesel fuel oil system designed to Section III, subsection ND of the ASME Code at a test pressure equal to 110% of the system design pressure.

h ~~g~~. By performing a visual inspection of the interior of the diesel generator fuel oil storage tanks each time the tank is drained and, if necessary, clean the tank with a sodium hypochlorite solution, or equivalent.

4.8.1.1.3 Reports - All diesel generator failures, valid or nonvalid, shall be reported in a Special Report to the Commission pursuant to Specification 6.9.2 within 30 days. Reports of diesel generator failures shall include the information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977. If the number of failures in the last 100 valid tests (on a per nuclear unit basis) is greater than or equal to 7, the report shall be supplemented to include the additional information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977.

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e. At the first refueling outage, and thereafter, at intervals not to exceed 24 months, subject the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.