

ATTACHMENT 1

MARKED-UP TECHNICAL SPECIFICATION PAGES

<u>Page</u>	<u>Specification</u>	<u>Change Description</u>
3/4 9-6	3/4.8.1.1, A. C. Sources Operating	1) Deletes 4.8.1.1.2.g.7.d  2) Add description of conditions necessary for hot restart LOOP test.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

7. Verifying the EDG operates for at least 24 hours.
- a) The EDG shall be loaded to the continuous rating (4150-4250 kw\*\*) for the time required to reach engine temperature equilibrium, at which time the EDG shall be loaded to an indicated target value of 4676 kw (between 4600-4700 kw\*\*) and maintained for 2 hours.
  - b) During the remaining 22 hours of this test, the EDG shall be loaded to an indicated 4150-4250 kw\*\*.
  - c) During this test the steady state voltage and frequency shall be maintained at  $7200 \pm 720$  volts and  $60 \pm 1.2$  Hz.

DELETE

~~d) Within 5 minutes after completing this 24-hour test, perform Surveillance Requirement 4.8.1.1.2.g.4.b.~~

8. Verifying that the auto-connected loads to each EDG do not exceed the 2000 hour rating of 4548 kw.
9. Verifying the EDG'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.
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.
11. Verifying that the fuel transfer pump transfers fuel from each fuel storage tank to the day tank of each diesel via the installed cross connection lines.
12. Verifying that the automatic load sequence timer is OPERABLE with the interval between each load block within  $\pm 10\%$  of its design interval.
13. Verifying that the following diesel generator lockout features prevent diesel generator starting only when required:
- a. Barring Device
  - b. Remote-Local-Maintenance Switch

ADD 4.8.1.1.2.g.14  
SEE INSERT 1

\*\*This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band shall not invalidate the test.

INSERT 1

SR 4.8.1.1.2.g.14 Verifying that within 5 minutes of operating the diesel generator for at least 1 hour at a load of 4150-4250 KW\*\* the diesel starts on the auto-start signal (Loss of Off-site Power 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 loaded with the shutdown loads. After energization of these loads, the steady-state voltage and frequency shall be maintained at 7200  $\pm$  720 volts and 60  $\pm$  1.2 Hz.

ATTACHMENT 2

DESCRIPTION OF AMENDMENT REQUEST

SAFETY EVALUATION

#### DESCRIPTION OF AMENDMENT REQUEST

This amendment request involves Technical Specification (TS) 3/4.8.1.1, "A.C. Sources - Operating," and specifically the surveillance requirement (SR) 4.8.1.1.2.g.7. This surveillance requirement directs that the Emergency Diesel Generator (EDG) be run at rated loads for 24 hours while maintaining its required voltage and frequency. Also, surveillance requirement 4.8.1.1.2.g.7.d requires that within 5 minutes of completing this test, SR 4.8.1.1.2.g.4.b is to be performed [a simulated loss of off-site power (LOOP) test]. SCE&G proposes to delete SR 4.8.1.1.2.g.7.d and to add a new surveillance requirement to run the diesel loaded at 4150 to 4250 KW for 1 hour prior to initiating the LOOP test.

The surveillance requirements for demonstrating the operability of the EDG are derived from Regulatory Guide 1.108, Revision 1, "Periodic Testing of Diesel Generator Units Used as On-site Electric Power Systems at Nuclear Power Plants," which provides guidelines for monitoring EDG performance and reliability via an assortment of periodic tests.

This amendment request is based on the current requirement to follow the 24 hour load run with a LOOP test. Due to the current requirements of SR 4.8.1.1.2.g.7, it would not be prudent during an outage to attempt the 24 hour run of EDG until all of the EDG design loads are operable and capable of satisfying the requirements of the LOOP test. Since all of these loads are not typically operable until near the end of the outage, the performance of SR 4.8.1.1.2.g.7 is forced to occur as a critical path item. This relates to a possible 48 hour critical path extension as a minimum, assuming no complications arise during the surveillance with respect to either the EDG or its design loads. If the LOOP test may be disconnected from the 24 hour run, as this amendment suggests, the 24 hour run may be performed earlier in the outage and in parallel with critical path activities. It should also be noted that based on a literal interpretation of the current surveillance requirement, if a delay occurred beyond the 5 minutes allowed for the LOOP test initiation or if the LOOP test should yield unsatisfactory results due to reasons not associated with the diesel generator, then the compelling reaction would be to rerun the 24 hour test in its entirety.

SCE&G is therefore requesting this amendment to improve the outage scheduling and prevent unnecessary cycling of the Emergency Diesel Generators.

#### SAFETY EVALUATION:

This evaluation will demonstrate that there are no safety consequences associated with the requested amendment and that the level of demonstration of EDC performance and reliability has not diminished.

This amendment request does not decrease the surveillance requirements of 4.8.1.1.2, but does add flexibility to the performance of one particular surveillance without affecting its objectives.

Surveillance requirement 4.8.1.1.2.g.7.d corresponds to testing described in Regulatory Guide 1.108, Position C.2.a(5), which states the following:

"Demonstrate functional capability at full load temperature conditions by rerunning the test phase outlined in Regulatory Position C.2.a(1) and (2) above [the LOOP test] immediately following (3) above [the 24 hour run]."

Past experience has demonstrated that operation of the EDG under loads of 4150 to 4250 KW results in the EDG reaching a stable full load temperature in less than 1 hour and that this temperature remains essentially constant throughout the 24 hour run. Therefore, the amendment request to run the EDG at 4150 to 4250 KW for 1 hour prior to initiating the LOOP test remains consistent with the purpose of Position C.2.a(5). The amendment request also maintains a consistent level of safety since the conditions under which the LOOP test is performed remains the same as those currently required by 4.8.1.1.2.g.7.d.

It is important to note that the requested amendment is also supported as being safe by the working draft of Revision 3 to Regulatory Guide 1.9, "Selection, Design, Qualification, Testing, and Reliability of Emergency Diesel Generator Units Used as Class 1E Onsite Electric Power Systems at Nuclear Power Plants," which is currently being reviewed for approval by the NRC. The EDG testing guidance described in Regulatory Guide 1.108 will be superseded by this revision to Regulatory Guide 1.9, which deletes the LOOP test requirement from the 24 hour run and instead describes a "Hot Restart" test which can be performed at any time. The "Hot Restart" test described in the Regulatory Guide is very similar to this amendment request.

In conclusion, based on the purpose of Regulatory Guide 1.108, Revision 1, and based on the consistency between the requested amendment and the current SR 4.8.1.1.2.g.7.d, with respect to the surveillance conditions and objectives, there is no increase in safety consequences associated with the requested amendment. This conclusion is also supported by the guidance in the working draft of Regulatory Guide 1.9, Revision 3.

ATTACHMENT 3

DESCRIPTION OF AMENDMENT REQUEST  
NO SIGNIFICANT HAZARDS EVALUATION

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**No Significant Hazards Determination:**

This amendment request has been reviewed with respect to Title 10 of the Code of Federal Regulations (10CFR) part 50.92 and found to contain no significant hazards considerations for the following reasons:

- 1) The amendment request does not involve a significant increase in the probability or consequences of an accident previously evaluated. The requested change only involves the duration for which the full load temperature conditions are maintained prior to performing the LOOP surveillance. A change of this nature does not affect the performance, reliability, or capabilities of the EDG to fulfill its design functions. Therefore, this requested amendment has no impact on any accident previously evaluated.
- 2) The amendment request does not create the possibility of a new or different kind of accident from any accident previously evaluated. The requested change only involves the duration for which the full load temperature conditions are maintained prior to performing the LOOP surveillance. The alteration of the surveillance requirements does not affect the normal operational methods, limits, or configurations with respect to the EDG. Therefore, the possibility of a malfunction or failure of any component or system which would result in a new or different kind of accident remains unaffected.
- 3) The amendment request does not involve a significant reduction in a margin of safety. The requested change does not alter any operational limits, practices or functions of the EDG, and the change maintains the technical basis of all of the surveillance objectives equal to that in the current surveillance requirements. Thus, neither the design nor accident analysis bases are impacted by the requested change, and therefore all safety margins remain unaffected.

In conclusion, for the reasons above, SCE&G has determined that the requested amendment to SR 4.8.8.1.1.2.g.7 warrants no significant hazards considerations and meets the requirements of 10CFR50.92.