Jeffrey B. Archie
Vice President, Nuclear Operations
803.345.4214

SCE&G®
A SCANA COMPANY

June 28, 2007
RC-07-0102

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Dear Sir / Madam:

Subject: VIRGIL C. SUMMER NUCLEAR STATION (VCSNS)
DOCKET NO. 50/395
OPERATING LICENSE NO. NPF-12
RESPONSE TO THE NRC REQUEST FOR ADDITIONAL INFORMATION REGARDING EMERGENCY DIESEL GENERATOR TECHNICAL SPECIFICATION (TAC NO. MD3687)

Reference:
1. Jeffrey B. Archie, SCE&G, Letter to Document Control Desk, NRC, dated November 21, 2006, "Changes to Emergency Diesel Generator Specification" (RC-06-0199)

2. Robert E. Martin, NRC, Letter to Jeffrey B. Archie, SCE&G, dated April 27, 2007, "Request for Additional Information Regarding Diesel Generator Technical Specifications (TAC NO. MD3687)

This letter provides South Carolina Electric & Gas Company's (SCE&G) response to the request for additional information (RAI) regarding changes to emergency diesel generator Technical Specification (TAC NO. MD3687). The response to the RAI is included in the attachment to this letter.

Questions in the RAI seek a brief explanation confirming why optional loads are not required to meet safety requirements of the plant. Additionally, the RAI requests procedural references that provide instructions to prevent exceeding diesel generator load limits.

Should you have any questions, please call Mr. Bruce Thompson at (803) 931-5042.

A001

NRR

I certify under penalty of perjury that the foregoing is true and correct.

6/28/07
Executed on

Robert M. Sulkes for
Jeffrey B. Archie

WCM/JBA/dr
Attachment

c: K. B. Marsh
S. A. Byrne
N. S. Carns
J. H. Hamilton
R. J. White
W. D. Travers
R. E. Martin
NRC Resident Inspector
K. M. Sutton
P. Ledbetter
T. P. O'Kelley
NSRC
RTS (CR-05-03262)
File (813.20)
PRSF (RC-07-0102)

REQUEST FOR ADDITIONAL INFORMATION

REGARDING CHANGES TO

EMERGENCY DIESEL GENERATOR TECHNICAL SPECIFICATION (TAC NO. MD3687)

According to the Updated Final Safety Analysis Report (UFSAR), Table 8.3-3, Part A1, the total emergency diesel generator (EDG) loads for the design basis accident "Large Break loss-of-coolant accident with a loss of off-site power," during the indefinite recirculation phase (after the injection phase), are indicated as follows:

Total Loads with Optional Loads:	***4523.9 kilowatts (kW)***
Optional Loads:	***571.3 kW***
Loads without Optional Loads:	***3952.6 kW***

Similarly, according to the UFSAR, Table 8.3-3, Part A1, the total EDG loads for "Loss of Offsite Power," during Hot Standby – 30 Hours phase, are indicated as follows:

Total Loads with Optional Loads:	***4920 kW***
Optional Loads:	***1032 kW***
Loads without Optional Loads:	***3888 kW***

It is noted that total loads, including the optional (manually started) loads, are more than the EDG continuous rating of 4250 kW. Please provide a brief explanation of the optional loads confirming that these loads are not needed to meet the safety requirements of the plant. Also, provide the pertinent references (or pages) from the Emergency Operating Procedures and System Operating Procedures which confirm that the Plant Operator has adequate instructions to ensure that no EDG will be loaded above its short time rating of 4676 kW for 2 hours, and a continuous rating of 4500 kW for 22 hours in any 24-hour period, to meet the intent of the Technical Specifications.

Response to RAI:

NOTE: The continuous rating should be corrected to read 4250 kW versus 4500 kW as stated in the request. This correction was acknowledged per telecom with Robert E. Martin and Vejay Goel of the NRC on 04/12/07.

Station procedures address the diesel generator ratings described in FSAR Section 8.3.1.1.2.

Emergency Operating Procedures EOP 1.0, Reactor Trip/Safety Injection Actuation, and EOP-1.1, Reactor Trip Recovery, on a loss of offsite power (LOOP) condition, transition operators to Abnormal Operating Procedure AOP-304.3, Loss of All BOP Buses. An attachment to the AOP provides a caution to the operator that generator bus loading limits must NOT be exceeded. In addition, the AOP attachment further instructs the operator to stop all Engineered Safety Feature (ESF) loads NOT required for continued plant operation per Shift Supervisor direction.

Attachments to EOP 6.0, Loss of All ESF AC Power, provide caution for limiting manual loading of the generator and lists individual equipment kW load ratings for the ESF bus.

EOP 6.1, Loss of All ESF AC Power Recovery Without SI Required, provides caution for limiting manual loading of the generator and a list of equipment kW ratings in an attachment to the procedure.

EOP-6.2, Loss of All ESF AC Power Recovery With SI Required, also provides caution for limiting manual loading of the generator and a list of equipment kW ratings in an attachment to the procedure.

System Operating Procedure SOP-306, Emergency Diesel Generators, provides instruction for operating the emergency generators. The SOP provides a caution to NOT exceed diesel loading limits. Loading limits are included.

As can be determined from the above procedure guidance, plant operators will evaluate the effect of starting each optional load on the diesel loading limits. This evaluation will consider securing other loads not required for plant conditions prior to starting the desired optional load. It is expected that optional loads as well as some ESF loads not required for current plant operations will be stopped and started as necessary to ensure diesel loading limits are not exceeded.

A brief discussion of each optional load and its importance to safe plant operations is provided:

Turbine Turning Gear (XTG00001): As stated in the note 25 of FSAR Table 8.3-3, Part A-1, this equipment will be running less than 24 hours total during the 7 days following a Design Basis Event (DBE). Operation of the Turbine Turning Gear is based on economic and commercial risk considerations. During a LOOP this load will be operated as necessary when sufficient diesel load capacity is available. Operation of this load will be coordinated with the operation of other optional loads to ensure diesel loading limits are not exceeded.

Post Accident Analyzer System (XPN7215A): The analyzer system will be placed in service following a LOCA when directed by the EOPs. Post accident analyzer operation is described in the FSAR. FSAR section 6.2.5.1.3.1 states: "Redundant hydrogen concentration analyzers are provided to confirm that electric hydrogen recombiners are functioning properly following an accident. The analyzers are not required to initiate operation of the electric recombiners since the recombiners will be started 24 hours after a LOCA and the ability of these recombiners to remove hydrogen from the Reactor Building atmosphere has been accepted by the NRC[22]. During normal plant operating conditions, one hydrogen analyzer is in standby. The redundant hydrogen analyzers will be started after a LOCA." This small load would be given priority over other optional loads when it is directed to be started by the EOPs.

Pressurizer Heaters Backup Group 1 (XTF04101): For a LOOP, the pressurizer backup heaters would be placed in service to control Reactor Coolant System pressure. FSAR section 7.4.1.2.1.4.n states: "The backup heater groups are designed to be available during plant operations required to maintain hot shutdown or to bring the plant to cold shutdown. However, this availability is not a mandatory requirement for maintaining hot shutdown or for bringing the plant to cold shutdown." Operation of this load will be coordinated to ensure diesel loading limits are not exceeded. Options available to the operators include securing the RHR pump which was started by the Engineered Safety Feature Loading Sequencer (ESFLS), but is not required until the plant is in Mode 4, and securing other optional loads.

Air Compressor (XAC00003A): Neither the Station Service Air System, the Instrument Air System, Instrument Air Backup System nor the Reactor Building Instrument Air System is required to mitigate the consequences of a LOCA or to achieve safe shutdown. FSAR section 9.3.1.3 states: "Instruments and controls served by the Instrument Air System and the Reactor Building Instrument Air System are: 1) non-nuclear safety class and are either not required to function during a LOCA or to achieve safe shutdown; 2) nuclear safety class and fail in a safe position after loss of air supply." Operation of this compressor would require Balance of Plant (BOP) power to provide cooling water to the air compressor. Plant procedures direct plant operators to restore instrument air. The station has diverse sources for instrument air. They include a diesel driven air compressor, an ESF powered supplemental air compressor, and two station air compressors, one powered from a BOP bus and one powered from an ESF bus. During a LOOP, operation of the diesel driven air compressor would be preferred as it would not affect the diesel generator load limits.

AB Charcoal Exhaust Fan (XFN00019A): As stated in the note 26 of FSAR Table 8.3-3, Part A-1, this fan is expected to be manually started within the first thirty hours of either a LOCA or LOOP. Operation of this load will be coordinated with the operation of other optional loads to ensure diesel loading limits are not exceeded.

Hydrogen Recombiner (XHR00004A): The hydrogen recombiner would be placed in service following a LOCA when directed by the EOPs. For the postulated accident condition, FSAR section 6.2.5.1.3.1 states: "Redundant hydrogen concentration analyzers are provided to confirm that electric hydrogen recombiners are functioning properly following an accident. The analyzers are not required to initiate operation of the electric recombiners since the recombiners will be started 24 hours after a LOCA and the ability of these recombiners to remove hydrogen from the Reactor Building atmosphere has been accepted by the NRC[22]." This load would be given priority over other optional loads when it is directed to be started by the EOPs.

Spent Fuel Pit Cooling Pump (XPP00032A): As stated in the note 29 of FSAR Table 8.3-3, Part A-1, this pump will be operated as needed to maintain spent fuel pool temperatures within acceptable limits. Operation of this load will be coordinated with the operation of other optional loads to ensure diesel loading limits are not exceeded.