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VICE PRESIDENT AND GROUP EXECUTIVE
NUCLEAR OPERATIONS

October 31, 1980

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Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Virgil C. Summer Nuclear Station
Docket No. 50/395
I&C Questions - IEB-79-27

Dear Mr. Denton:

As requested by Mr. Hubert Li of the I&C branch, South Carolina Electric and Gas Company (SCE&G), acting for itself and agent for South Carolina Public Service Authority, provides forty-five (45) copies of the SCE&G position on IEB-79-27, "Loss of Non-Class 1E Instrumentation and Control Power System Bus During Operation". Item numbers in this letter correspond to item numbers in the bulletin.

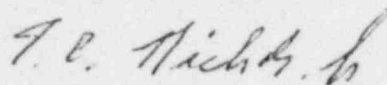
- 1a. Each class 1E and non class 1E bus supplying power to safety and non safety related instrumentation and control system is supplied power from a particular source through an inverter. Upon loss of a.c. power to each of these inverters, an alarm is provided in the control room.
- 1b. Loads connected to these buses which are necessary for the plant to achieve cold shutdown are the auxiliary safeguard cabinets, the reactor protection relay panels, the process racks, the auxiliary relay racks and the solid state protection cabinets. During normal shutdown, several non safety related systems or portions of safety systems with non safety controls are utilized and therefore, lack redundancy. Examples are the feedwater system, the condenser steam dump system, the CVCS letdown system and the normal charging path of the CVCS system. Inverter failure may prevent the operator from utilizing several of these systems. However, an alternate means to achieve cold shutdown utilizes only safety related systems as described in the response to FSAR question 211.86. The inverter loads of these safety related systems are the same as listed above except the auxiliary relay racks. Since these systems are redundant and powered from separate inverters, loss of a single inverter does not prevent the plant from achieving cold shutdown conditions.

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- 1c. No modifications are proposed as a result of this review.
2. Plant procedures required to achieve cold shutdown upon loss of power to each class 1E and non class 1E bus supplying power to safety and non safety related instrument and control systems have been reviewed. These procedures cover the concerns addressed in items 2a, b and c of this bulletin.
3. IE Circular 79-02, "Failure of 120 Volt Vital A.C. Power Supplies", has been re-reviewed to include both class 1E and non class 1E safety related power supply inverters. The class 1E inverters are dual input inverters which provide continuous power to 120 volt vital a.c. buses. Transfer from one input to the other is accomplished without interruption of the output. There are two non class 1E inverters, one of which is a dual input inverter which operates in the same manner as the class 1E inverters. The other is a single input inverter. The output from this inverter is paralleled with a supply from a 480-120 volt transformer which is connected through a static transfer switch. Upon loss of inverter output, automatic transfer is initiated to the backup source. Operation of the transfer switch is alarmed in the control room. No design modifications are proposed as a result of this re-review.

If you have any questions, please let us know.

Very truly yours,



T. C. Nichols, Jr.

RBC:TCN:rh

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