

SOUTH CAROLINA ELECTRIC & GAS COMPANY

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VICE PRESIDENT AND GROUP EXECUTIVE  
NUCLEAR OPERATIONS

March 15, 1982



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

Subject: Virgil C. Summer Nuclear Station  
Docket No. 50/395  
Accumulator Discharge Valves  
SER Item 1.8.2

Dear Mr. Denton:

In Section 6.3.2 of Supplement 3 of the Safety Evaluation Report (SER) the NRC discussed the current design of the Accumulator Discharge Valves and notes that it violates the Reactor Systems Branch Technical Position RSB 5-1. The Staff requires an acceptable alternative design be installed prior to startup after the first refueling outage.

It is SCE&G's position that the present plant design and procedural method for plant cooldown is acceptable and can be the alternative to the requirement of RSB 5-1. Our conclusions are based on the following:

During the course of a normal cooldown operation, operators are required to isolate the safety injection accumulators when Reactor Coolant System (RCS) pressure is reduced to 1000 psi. This action requires operator action to energize the accumulator isolation valves by closing the appropriate breakers in the auxiliary and intermediate buildings. Following completion of the isolation, the operating procedure is signed to verify that the task has been accomplished. It is highly unlikely that the step will be forgotten when the cooldown is performed in accordance with operating procedures. In addition, even though closing the breakers occurs outside the control room, it is a very controlled evolution which would only take approximately five to ten minutes to perform.

The accumulator isolation valves have control bar position indication on the Engineering Safety Features Monitor Panel. This serves as a reminder to an operator during the cooldown operation.

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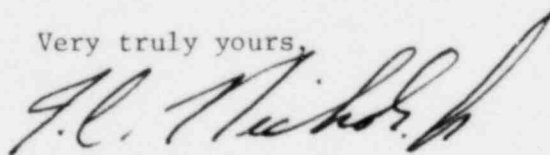
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The required actions to achieve RHR initiation during a plant cooldown include borating the RCS, dumping steam generator steam to cool the RCS to 350°F, and depressuring the RCS to 400 psig. These actions have been determined to require 11 hours of operator time. In order to achieve RHR initiation in 36 hours, the balance of available time, 25 hours, may be utilized to perform various tasks which may arise.

If an inadvertent failure to isolate the accumulator at 1000 psia occurred, the 25 hours of available time could be used to correct the situation. When RCS pressure eventually decreases to 600 psi from the depressurization operation, the pressure differential between the accumulator (600 psi) and RCS will equalize. Any subsequent RCS depressurization will result in a gradual accumulator injection into the RCS. The injection will terminate the RCS depressurization and stabilize overall system pressure terminating the accumulator injection. Repeated RCS depressurization attempts will result in repeated gradual injections followed by pressure stabilization. As this occurs, numerous indications are available to the operator which would alert him of presence of abnormal conditions. The RCS depressurization rate would slow down and stop, the pressurizer level would begin increasing, and the alarming of low accumulator water level and nitrogen pressure would occur. It would become obvious to the operator that the cooldown operation was not proceeding normally. The operator would stop the cooldown at this point and take the required action to isolate the accumulator and terminate the injections. The Operator could then utilize the 25 additional hours available to letdown the injected inventory. RHR initiation could be achieved in 36 hours.

Based on the above, SCE&G requests acceptance of this alternative position to the RSB 5-1 requirements. If you have any questions, please let us know.

Very truly yours,



T. C. Nichols, Jr.

RBC:TCN:rh

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