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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
Augmented Low-Power Start-Up
Test Program

Dear Mr. Denton:

In response to Mr. Robert L. Tedesco's October 23, 1980, letter concerning the subject test program, 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 information requested in the above. Prior to receiving Mr. Tedesco's letter, Mr. Bill Long of the NRC had requested that SCE&G submit to him by mid-November, SCE&G's position on the special low-power start-up test program as conducted by TVA at Sequoyah. Our plans are to conduct an augmented start-up program that will consist of Natural Circulation Demonstration Tests similar to, but not as extensive as, the tests conducted at Sequoyah.

The objectives of SCE&G's proposed augmented test program encompasses the objectives of the series of tests done at Sequoyah. Specifically, they are as follows:

1. Demonstrate decay heat removal capability of natural circulation.
2. Train the plant operators in natural circulation operations.
3. Determine the depressurization rate following a loss of pressurizer heaters for evaluation of the loss of all AC emergency procedure.
4. Demonstrate to the plant operators the effect of increased charging flow and reduced steam generator pressure on the saturation margin.

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5. Train the plant operator in the use of the auxiliary pressurizer spray.

The Natural Circulation Demonstration Test will essentially be identical to the TVA Test #1 in conjunction with combining Tests #3 and #5 in order to satisfy the above objectives of the augmented start-up program. However, during the performance of the Natural Circulation Demonstration Test, no FSAR or Tech. Spec. limits will be violated. Therefore, the degree of depressurization and RCS cooldown will be such that no Safety Evaluation Report need be required.

The Natural Circulation Demonstration Test will consist of initiating the natural circulation mode at approximately 3% reactor power and all reactor coolant pumps tripped. After sufficient period of stabilization, all pressurizer heaters will be turned off to monitor RCS depressurization rate. Once the saturation margin has decreased to a predetermined amount, RCS charging flow will first be increased and then steam flow increased to verify their affect on RCS pressure and saturation margin. After sufficient data has been collected under these conditions, the NSSS will be returned to the original natural circulation mode. The effectiveness of the auxiliary pressurizer spray will then be tested.

The proposed Natural Circulation Demonstration Test will be performed for all shifts prior to exceeding 5% reactor power except for Test #8, "Establishment of Natural Circulation from Stagnant Conditions," and Test #9B, "Boron Mixing and Cooldown Under Natural Circulation Conditions." Test #9B will be performed at the first available cooldown between the completion of the Acceptance Test and first refueling. In lieu of performing Test #8, training will be provided for plant operators via a simulator that has been updated as necessary using the Westinghouse and TVA test data collected at Sequoyah.

It is SCE&G's position not to run Sequoyah Special Tests listed below:

- No. 2, Natural Circulation with Simulated Loss of Offsite AC Power.
- No. 4, Effect of Steam Generator Secondary Side Isolation on Natural Circulation.
- No. 6, Cooldown Capability of the Charging and Letdown.
- No. 7, Simulated Loss of All Onsite and Offsite AC Power.
- No. 9A Forced Circulation Cooldown.

The reasons why these test need not be conducted at the Virgil C. Summer Nuclear Station are as follows:

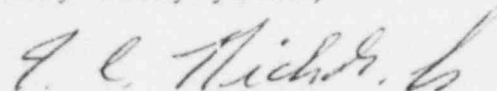
1. Limited additional operator training achieved during the test.
2. Minimum plant specific data produced.
3. Virgil C. Summer Nuclear Station design features will already have been proven by similar Westinghouse three-loop plants, Joseph M. Farley Unit #2 and North Anna Unit #2.

At the present time, we do not know of any safety issue which may be involved in performing the above mentioned program at the Virgil C. Summer Nuclear Station. If such issued are discovered prior to performing these tests, you will be promptly notified. Chapter 14 of the FSAR will be modified, as appropriate, to reflect our testing program.

In summary, the augmented start-up testing program described above for the Virgil C. Summer Nuclear Station meets the prescribed objectives. Sufficient operator training is provided as well as verification of pertinent plant specific design features. Further testing of this nature at the Virgil C. Summer Nuclear Station is unnecessary due to the limited benefit to be gained.

If there are any questions concerning this test program, please contact us.

Very truly yours,



T. C. Nichols, Jr.

TCN:sot

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