

SOUTH CAROLINA ELECTRIC & GAS COMPANY

POST OFFICE BOX 764

COLUMBIA, SOUTH CAROLINA 29218

T. C. NICHOLS, JR.
VICE PRESIDENT AND GROUP EXECUTIVE
NUCLEAR OPERATIONS

June 16, 1981



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
Meterological Information

Dear Mr. Denton:

As a result of a meeting with the NRC staff on June 5, 1981, South Carolina Electric and Gas Company, acting for itself and as agent for the South Carolina Public Service Authority, herewith documents our compliance with Nureg 0654, Rev. 1, Appendix II, "Meterological Criteria for Emergency Preparedness at Operating Nuclear Power Plants." The basic functions stipulated by Appendix II are addressed as follows:

1. Capability for making meterological measurements:

The existing capability for taking measurements onsite includes the primary meterological tower's duplicative measurement system. This system provides the following parameters used for dose assessment:

- A. Wind Speed (10 and/or 61 meters)
- B. Wind Direction (10 and/or 61 meters)
- C. Differential Temperature (10-61 and/or 10-40 meters)

The specific system components and the resultant system accuracies have been provided in SAR Section 2.3 and are consistent with proposed Regulatory Guide 1.23, Rev. 1. The commitment to provide a viable backup meterological measurements system, also consistent with the proposed R. G. 1.23, Rev. 1 and Nureg 0654, was provided in a letter dated May 12, 1981. The instrumentation to be installed in the backup tower is identical to that currently in use in the primary tower and includes measurement of the following parameters:

- A. Wind Speed (10 meters)
- B. Wind Direction (10 meters)
- C. Wind Direction Sigma (10 meters)

It is our intent to install and place into operation the backup system by full power. However, if this becomes impractical, we

8106180 299
A

Mr. Harold R. Denton
June 16, 1981
Page 2

will implement the compensatory actions described in Annex 1 to Appendix 2 at full power and continue with them until the backup tower is operational. Specific compensatory actions are detailed below:

1. Emergency Plan Procedures will be modified to include Monthly communication for data availability with the National Weather Service in Columbia by the persons(s) responsible for making offsite dose projections. Alternate methods for determining stability class by cloud cover, wind speed, and time of day shall also be provided.
 2. The existing meteorological monitoring system will be calibrated on a quarterly basis beginning the third month after full power operation. During those quarterly calibrations site specific wind speed, wind direction and sigma theta (10 meter) information will be available at the Meteorological Site 2 installation described in FSAR Section 2.3. This data would be transmitted to the Control Room and Emergency Operations Facility (EOF) via radio communication should plant conditions dictate. Emergency procedures detailing this activity will be prepared and personnel will be trained in their use prior to fuel load.
 3. Similarly, if the primary measurements systems become unavailable, the Site 2 system would be utilized as the alternate source of meteorological information. Meteorological Site 2 provides information more characteristic of site conditions than the tertiary National Weather Service (Columbia) data.
 4. Existing equipment will continue to be inspected by the site Instrumentation and Control Maintenance group at least weekly to assure the continuing availability of site specific meteorological data.
 5. Should quarterly data unavailability exceed the goals specified in proposed Revision 1 to Regulatory Guide 1.23, SCE&C shall, within 60 days, file a report to the NRC describing the situation and the corrective actions taken to preclude similar data unavailabilities in the future.
2. Capability for making near real-time predictions of atmospheric effluent transport and diffusion.

In a previous submittal dated May 12, 1981, SCE&C provided basic information related to the dose calculation methodology (DCM) to be used as a basis for the development of the site specific

Class A model. The submitted DCM provides the framework for further model upgrades. We currently are developing and modifying the Class A model based on our present review of site specific data. Some of the site specific factors which will be considered in both the data review and subsequent model modification include:

- A. Building wake correction (with directional dependency),
- B. Terrain corrections including the observed effect of Monticello Reservoir on transport and diffusion, and
- C. Diurnal and seasonal effects on transport or diffusion.

Should the results of this study indicate the need for inclusion of Sigma Theta measurements at the primary tower location, the system will be upgraded. SCE&G will provide further details on the Class A model as they become available. Should the computer modeling system be unavailable, a manual overlay method for the estimation of dispersion and diffusion consistent with the Class A model will be provided.

- 3. Capability for the remote interrogation of the atmospheric measurements and predictions by appropriate organizations.

The digital data outputs from both the primary and backup meteorological measurements systems are to be provided to the Dose Assessment and Monitoring System's (DAMS) Hewlett-Packard 1000 computer system located in the Technical Support Center (TSC). Meteorological data necessary for the estimation of offsite exposures will be available to personnel in the Control Room, TSC and Emergency Operations Facility.

Several methods for the remote interrogation of the DAM system's meteorological data base by NRC and Emergency Response Organizations will be provided including output to the TSC/EOF computer system, (Nuclear Data Link) and direct output via a RS-232 data port on the DAM system for direct transmission via telephone lines. The specific format of data and output requirements of the RS-232 port will be consistent with the recommendations of proposed Regulatory Guide 1.23 Rev. 1, Section C.8 and Appendix B and Nureg 0654, Appendix II. If we are unable to provide this function by full power, we will modify existing Emergency Plan Procedures to provide for direct telephone access to the individual(s) responsible for making offsite dose projections in accordance with compensatory action (iii) of the aforementioned Nureg.

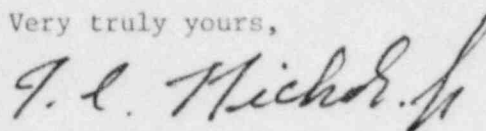
It is anticipated that these upgraded capabilities will be available by April 1, 1982 and the entire system described herein will be fully operational by July 1, 1982. (Milestone 5, 6, 7 and 8 of Nureg 654 Rev. 1 Annex 1 to Appendix II will be attained by the suggested

Mr. Harold R. Denton
June 16, 1981
Page 4

dates). As noted previously should equipment and software availability allow, implementation of the functions contained in Nureg 0654, Appendix II will occur with the deletion of corresponding compensatory actions.

If you have further questions, please let us know.

Very truly yours,



T. C. Nichols, Jr.

TCN:lkf

cc: H. R. Denton
V. C. Summer
G. H. Fischer
H. N. Cyrus
T. C. Nichols, Jr.
D. A. Nauman
W. A. Williams, Jr.
R. B. Clary
O. S. Braitham
A. R. Koon
M. N. Browne
B. A. Sursey
J. L. Skolds
J. B. Knetts, Jr.
NPCF
File