SOUTH CAROLINA ELECTRIC & GAS COMPANY
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M. C. JOHNSON
VICE PRESIDENT AND GROUP EXECUTIVE
SPECIAL SERVICES AND PURCHASING

September 7, 1979

United States Nuclear Regulatory Commission
Attn: Mr. James P. O'Reilly, Director
Marietta Building, 31st Floor
101 Marietta Street, NW
Atlanta, Georgia 30303

Subject: V. C. Summer Nuclear Station Unit #1
Additional Response to NRC Audit Report
50-395/79-17 dated 6/26/79

Gentlemen:

In reply to your letter of August 6, 1979, the following additional response to NRC Audit Report 50-395/79-17 is provided.

The fire pump installation conforms to NFPA 20 except that the electric motor driven fire pump power supply circuit breaker trip characteristics, in lieu of being set to permit continuous locked rotor current as stated in section 6.3.4 of NFPA20, are set as high as practicable and still coordinate with the fire pump controller breaker and the bus feeder breaker. This setting will allow a continuous current of three times the full load rating of the motor, which is well above the locked rotor thermal damage curve of the motor, and will also provide reasonable protection for the cable feed to the fire pump motor.

The electric motor driven fire pump is powered from a 480 volt load center at the circulating water intake. The load center is powered by a 1000/1333 KVA transformer. There are 8 circuit breakers on the load center plus a main breaker. The circuit breaker for the fire pump does not feed any other loads. The fire pump is controlled by a UL approved controller that also contains a circuit breaker. It is our intention to coordinate the breakers involved so that the breaker on the controller would be the first to trip in case of a fault in the motor. The fire pump motor is rated 345 amps full load and 2243 amps locked rotor. The breaker in the controller, which is designed to meet the requirements of NFPA-20, is set to trip at three times full load current or 1035 amps. The controller breaker will actually carry the locked rotor current for 8 seconds before tripping, while the feeder breaker will carry locked rotor current for 30 seconds before tripping. It is considered that setting the long time delay trip at locked rotor current (2243 amps), would be impractical as this would exceed the transformer rating considerably and

would require unusually large cables (2-750MCMs) which the controller cannot accommodate. It is considered that coordinating the breakers will meet the intent of the code to insure starting of the pump. Both the short time delay and the instantaneous setting will considerably exceed the locked rotor current of the motor. It is noted that if the breaker were set at 2243 amps long time delay, the 480 volt load center and transformer would probably be destroyed, possibly creating another fire.

Please be advised that we have revised the settings given in our July 18, 1979 letter. The new, higher settings are made by installing a different trip device in the feeder breaker.

Section E.2(C), Chapter 5 of the Fire Protection Evaluation/Fire Hazards Analysis will be amended by October 15, 1979 to reflect this position. Section 9.5.1.1 of the FSAR will also be amended in September 1979 as shown on the attached page.

The pressure sensing lines from each pump discharge to each pump controller are being replaced in accordance with a revised drawing approved by a qualified fire protection engineer in order to assure conformance with NFPA 20.

We trust that you will find our actions to resolve this item appropriate and satisfactory. Please feel free to contact us if we can provide additional information in relation to this item.

Very truly yours,

GMW/MCJ/sjw

cc: Messrs. C. J. Fritz
G. C. Meetze

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9.5 OTHER AUXILIARY SYSTEMS

9.5.1 FIRE PROTECTION SYSTEM

9.5.1.1 Design Bases

The fire protection system is designed to provide adequate fire protection for each hazard. It provides prompt fire detection, alarm and extinguishment. The fire protection system is designed to supplement the other fire protection safeguards incorporated into the plant design, including a low combustible fire loading and adequate separation of fire areas. Included in the total fire protection system are a fire protection water supply and distribution system, a fire detection and alarm system and gaseous extinguishing systems, as well as fixed water spray and automatic sprinkler systems.

The fire protection system has been designed to satisfy the interests and concerns expressed in the guidelines given in the National Fire Protection Association (NFPA) standards 1973, the requirements of the American Nuclear Insurers (ANI) 1976 and the Factory Mutual (FM) Loss Prevention Guidelines 1973. In addition, it complies with Occupational Safety and Health Act (OSHA) regulations 1972 and the Southern Standard Building Code 1973. Fire protection devices, where possible, are listed or approved by the Underwriters Laboratories (UL) or FM. 15

Materials of construction for the plant are fire resistive or noncombustible. Where interior finishes are provided, such as in office or control room areas, these finishes are noncombustible with flame spread ratings less than 25. A rating of 25 or less is considered noncombustible by the National Building Code. Pipe and duct insulation, including adhesives, are noncombustible. Electrical cable jacketing is of the flame retardant, nonpropagating type. Building roof deck assemblies satisfy the requirements for FM Class 1 roof decks.

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AMENDMENT 15
~~MARCH, 1979~~
SEPT 1979