SOUTH CAROLINA ELECTRIC & GAS COMPANY
POST OFFICE BOX 764
COLUMBIA, SOUTH CAROLINA 29218

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

December 22, 1980

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
Turbine Building Sump Pumps Discharge
Discussion of North Anna Event

Dear Mr. Denton:

South Carolina Electric and Gas Company acting for itself and as agent for the South Carolina Public Service Authority, provides forty-five (45) copies of our response to questions by the NRC on the topic of inadvertent releases of radioactivity at Summer Nuclear Station as applied to the discharge of the turbine building sump pump (Attachment 1) and the North Anna Event of September 25, 1979 (Attachment 2). Based on the information submitted in these attachments it is our position that the design of Summer Station provides adequate protection against inadvertent releases of radioactivity within these areas of concern.

If you have further questions, please let us know.

Very truly yours,

T. C. Nichols, Jr.

NEC:TCN:glb
Enclosures:
cc: V. C. Summer w/o enclosures
G. H. Fischer w/o enclosures
T. C. Nichols, Jr. w/o enclosures
E. H. Crews, Jr.
O. W. Dixon, Jr.
D. A. Nauman
O. S. Bradham
W. A. Williams, Jr.
A. A. Smith
A. R. Koon
R. B. Clary
J. B. Knotts, Jr.
J. L. Skolds
B. A. Bursey
NPCF/Whitaker
File

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ATTACHMENT 1

Turbine Building Sump Pump Discharge

The turbine building sump pumps normally discharge to an outside collecting sump. In the event of a radioactive leak, however, a radiation monitor (RML-8) alarms in the control room and automatically trips the sump pumps. This monitor is described in section 11.4.2 of FSAR. The sensitivity of this monitor is approximately 2×10^{-6} μCi/cc based on Cesium 137. Upon receipt of the alarm the activity level in the sump is verified. If this activity exceeds acceptable release limits, manual valve alignment is performed to direct the discharge to the waste process system (WPS). This system is described in section 11.2 of the FSAR. South Carolina Electric & Gas is currently adding valves and stainless steel piping between the turbine building sump pump discharge and the WPS. In addition, a flow measuring device will be provided in the normal discharge of the turbine building sump pumps between the pump and the outside collecting sump.

ATTACHMENT 2

North Anna Event

On September 25, 1980, an incident occurred at North Anna Unit 1 which resulted in an unplanned release of radioactivity. The potential for this type of release at Summer Nuclear Station was reviewed and is discussed below:

There are three main sources of water for the Chemical Volume and Control System (CVCS) Volume Control Tank (VCT) which could have the potential for overfill.

1. Reactor Coolant Pump seal water return.
2. RCS normal letdown.
3. Charging pump mini-flow return.

Seal water return and letdown are both automatically isolated by a Safety Injection Containment Isolation Signal and require manual action to be re-established. Component Coolant Pump (CCP) mini-flow returns are required by emergency operating procedures to be closed when the Reactor Coolant System (RCS) pressure is below 2000 psig.

The VCT is also equipped with the following design features:

1. A level control alarm in the control room on high or low level.
2. Two level controllers cause a three way modulating valve to divert seal return to the Recycle Holdup Tanks on high level.
3. Venting of the VCT is to the Waste Processing System (WPS) gas compressors.
4. The VCT is protected against overpressurization and overflow by a relief to the Boron Recycle Holdup Tanks. These tanks are equipped with internal diaphrams and are also vented to the WPS gas compressors.

As a part of programs initiated by the North Anna Event, IEC 79-21, and NUREG 0578, South Carolina Electric & Gas has reviewed the operating procedures for the transfer of all radioactive liquids. We have also reviewed sources for potential leakage and evaluated leak detection monitoring available to the operators for identifying the leakage source. To verify that the as-built condition meets the design requirements, SCE&G has performed a walk down of as-built piping having the potential for release of radioactive liquids. A walk down of the vent-gas piping is currently in progress. To date no discrepancies have been discovered. Any discrepancies discovered in the remaining walk downs will be corrected.