

SOUTH CAROLINA ELECTRIC & GAS COMPANY

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O. W. DIXON, JR.
VICE PRESIDENT
NUCLEAR OPERATIONS

June 6, 1984

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
Operating License No. NPF-12
Inadequate Core Cooling

Dear Mr. Denton:

During the implementation review of the Inadequate Core Cooling Instrumentation (ICCI) installation conducted at the Virgil C. Summer Nuclear Station on May 8, 1984, qualification of the backup core exit thermocouple display was raised as an NRC Staff concern. Through subsequent conversations with the Staff, a mutually acceptable design modification was developed which is described below.

As shown in the attached sketch, the thermocouple signals will be routed in two trains, with twenty-five signals in one train and twenty-six signals in the other. With the exception of the area where the thermocouples exit the reactor vessel head, the circuits will be divided into two trains and electrical separation will be maintained. In addition, the circuits will be seismically supported.

Outside the Reactor Building, the circuits will be routed from the penetrations to the thermocouple transmitter/isolation cabinets maintaining electrical separation and utilizing qualified cable and seismic supports. A thermocouple transmitter/isolation cabinet will be provided for each train containing electronic modules which provide cold junction compensation and 1E electrical isolation for each thermocouple. This electrical isolation will assure that any credible faults on the non-1E circuits connected to the output of the isolators will not degrade the 1E thermocouple circuits. These cabinets will be located in the cable spreading area one floor below the Control Room.

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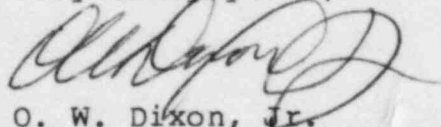
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The signals from the output of the isolators will then be wired to the input of two computers. In addition, eight A-Train and eight B-Train signals will be routed through separate isolation amplifiers and input to the respective A-Train and B-Train subcooling monitors. These circuits will be routed to the subcooling monitors maintaining electrical separation and utilizing qualified cable and seismically qualified cable trays and conduit. To be consistent with the separation criteria, these are designated "associated" circuits.

As previously discussed, we are proceeding with design and procurement of this system as described to support installation during first refueling.

If you have any questions, please advise.

Very truly yours,



O. W. Dixon, Jr.

MF/OWD/em

cc: V. C. Summer
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File

NOTES:
 1. CKTS. FROM THE OUTPUT OF THE ISOLATORS TO THE INPUT OF THE COMPUTERS WILL BE ROUTED TOGETHER AS 'X' TRAIN.
 2. CKTS. ARE ISOLATED AND ROUTED TO THE SUBCOOLING MONITORS AS ASSOCIATED 'CKTS.'

