

SOUTH CAROLINA ELECTRIC & GAS COMPANY

POST OFFICE 764

COLUMBIA, SOUTH CAROLINA 29218

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

September 3, 1982

Mr. James P. O'Reilly, Director
U. S. Nuclear Regulatory Commission
Region II, Suite 3100
101 Marietta Street, N.W.
Atlanta, GA 30303

Subject: Virgil C. Summer Nuclear Station
Docket No. 50/395/5
Operating License No. NPF-12
Reportable Substantial Safety Hazard
Solid State Protection System
On-Line Test Circuit

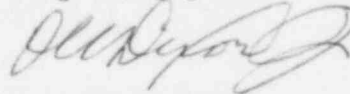
Dear Mr. O'Reilly:

On August 5, 1982, the NRC was notified of a substantial safety hazard concerning an undetectable failure which could exist in the on-line testing circuits of the Solid State Protection System. This problem was identified by Westinghouse, and South Carolina Electric and Gas (SCE&G) was first informed on August 4, 1982. The attached information includes a description and an evaluation of the problem.

Although failure of the subject test switch contacts is highly improbable, SCE&G will revise the surveillance test procedure to verify contact closure as an interim fix until Westinghouse completes a review of its consideration of design changes.

This letter represents the thirty (30) day report by SCE&G on this substantial safety hazard which is being reported under the requirement of 10CFR50.55(e). We expect to make a final report by December 1, 1982.

Very truly yours,



O. W. Dixon, Jr.

JCL:OWD:tdh

Attachment

cc: see page two

OFFICIAL COPY

IE 19

8209090053 820903
PDR ADOCK 05000395
S PDR

Mr. J. P. O'Reilly
Page two
September 3, 1982

cc: V. C. Summer
T. C. Nichols, Jr.
G. H. Fischer
O. W. Dixon, Jr.
H. N. Cyrus
H. T. Babb
D. A. Nauman
M. B. Whitaker, Jr.
W. A. Williams, Jr.
O. S. Bradham
R. B. Clary
M. N. Browne
A. R. Koon
H. Radin
Site Q. A.
C. L. Ligon (NSRC)
G. J. Braddick
J. L. Skolds
J. B. Knotts, Jr.
B. A. Bursey
J. B. Cookinham
I&E (Washington)
Document Management Branch
*(55e,21, LER only)
NPCF
File

10CFR21 - SUBSTANTIAL SAFETY HAZARD

1. Name and Address of Reporting Individual

Stephen M. Cunningham
P. O. Box 764
Columbia, SC 29218

2. Identification of Basic Component

Solid State Protection System (SSPS) (On-line test circuits)

3. Identification of Firm Supplying Component

Westinghouse Electric Corporation

4. Nature of Defect, Substantial Safety Hazard Created, and Evaluation

Periodic testing of the SSPS includes actuation of master relays which actuate Safeguards systems. When a preselected master relay is energized, a proving lamp in series with the output (slave) relay coil confirms electrical continuity. Operation of the relay is prevented by reducing the coil voltage from 120VAC to 15VDC during test. The operation of the master relay by means of the pushbutton test switch also removes the shunt from the proving lamp and allows the 15VDC to energize it to confirm continuity through the output relay coil.

Upon completion of the master relay and output relay coil continuity tests, 120VAC circuit voltage is restored. However, if the switch contacts which shunt the proving lamp should fail to reclose as expected, 120VAC would be applied to the proving lamp in event the systems were called to operate.

Depending on the output relay coil impedance and the number of output relays being operated by the master relay contacts, the current through the proving lamp could cause it to burn open before the output relays energized. In such an instance, associated Safeguards devices in the affected train would not actuate. Since, during circuit analysis, all identified nondetectable failures must be assumed to have occurred, the redundant Safeguards actuation train must be assumed to have similarly, if not identically, failed.

5. Date Information of Defect Was Obtained

August 4, 1982

6. Number and Location of Defect

Sixteen sets of contacts are affected. These contacts are located (eight each) in two SSPS cabinets.

7. Corrective Action

The testing procedure for output relay test will be changed to incorporate steps which verify contact closure. Generic corrective action will be addressed by Westinghouse.

8. Advice to Purchasers or Licensees

Include steps in testing procedure to verify contact closure after performing output relay test.