

SOUTH CAROLINA ELECTRIC & GAS COMPANY

POST OFFICE 764

COLUMBIA, SOUTH CAROLINA 29218

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

December 14, 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
Diesel Generator Testing

Dear Mr. Denton:

On November 30, 1984, in accordance with Technical Specification Surveillance Requirement 4.8.1.1.1, the "B" Emergency Diesel Generator was being started for testing purposes by a simulated undervoltage (UV) signal. However, upon actuation of the test signal, the diesel did not start within the required ten (10) seconds. Therefore the test was determined to be a failure. South Carolina Electric and Gas Company (SCE&G) has concluded that under the provisions of Regulatory Guide 1.108, "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants," Revision 1, August 1977, Section C.2.e(2), the unsuccessful start of the diesel was attributed to the malfunction of equipment that is not a part of the defined diesel generator unit design and is therefore not a valid test failure. The cause of the start failure of the diesel is described below to support this conclusion.

The situation which caused the start failure was a ground on both the positive DC bus side of the Emergency Start Pushbutton (located on the main control board) and the positive DC bus itself at penetration XRPO030-PS, plug 5, pins 57 and 65 (see Attachment I). In this condition two (2) current paths were available to keep the Emergency Safeguards System (ESS) relay energized: (1) the normal control circuit path, and (2) the path through the ground connection to the positive DC bus. On initiation of the UV test, the UV contacts opened which should have deenergized the ESS relay causing the diesel to start. However, the current path through fuse FU-AH284 and the ground loop back to the positive DC bus still existed. Under the pre-test conditions the parallel current contribution to FU-AH284 was minimal, but when the UV contacts opened the only path left to keep the ESS relay energized was through the ground loop. This additional current exceeded the 6 amp rating of the fuse, thus opening the circuit and allowing the ESS to relay drop out. When this occurred the diesel started and the test was completed without further incident.

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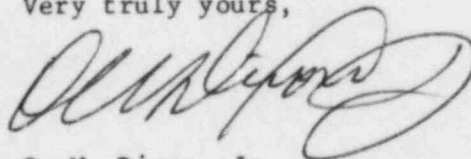
Mr. Harold D. Denton
Diesel Generator Testing
December 14, 1984
Page #2

The ground at the main control board resulted from the pushbutton rotating in its assembly and grounding on the metal enclosing the pushbutton. The ground at XRP-0030-ES occurred when the circuit, which is not a portion of the diesel generator unit design, was energized after performing a modification to the plant during the present refueling outage. This ground, in conjunction with the pushbutton ground on the control board, prevented the successful start of the diesel generator. The pushbutton ground alone would not have prohibited a successful start, and therefore, the malfunction in the circuitry not associated with the diesel design caused the failure.

Since the unsuccessful start of the "B" diesel generator on November 30, 1984 is not considered by SCE&G to be a valid test failure, the only valid diesel test failure at the Virgil C. Summer Nuclear Station occurred on December 18, 1982. SCE&G requests the Nuclear Regulatory Commission Staff's concurrence on this position to support continued testing of the diesel generators on a staggered test basis of at least once every thirty-one (31) days as outlined in Table 4-8.1 of the Technical Specifications.

If you have any questions, please contact this office.

Very truly yours,



O. W. Dixon, Jr.

AMM/OWD/gj
Attachment:

cc: V. C. Summer	C. A. Price
T. C. Nichols, Jr./O. W. Dixon, Jr.	C. L. Ligon (NSRC)
E. H. Crews, Jr.	K. E. Nodland
E. C. Roberts	R. A. Stough
W. A. Williams, Jr.	G. Percival
D. A. Nauman	C. W. Hehl
J. P. O'Reilly	J. B. Krotts, Jr.
Group Managers	NPCF
O. S. Bradham	File

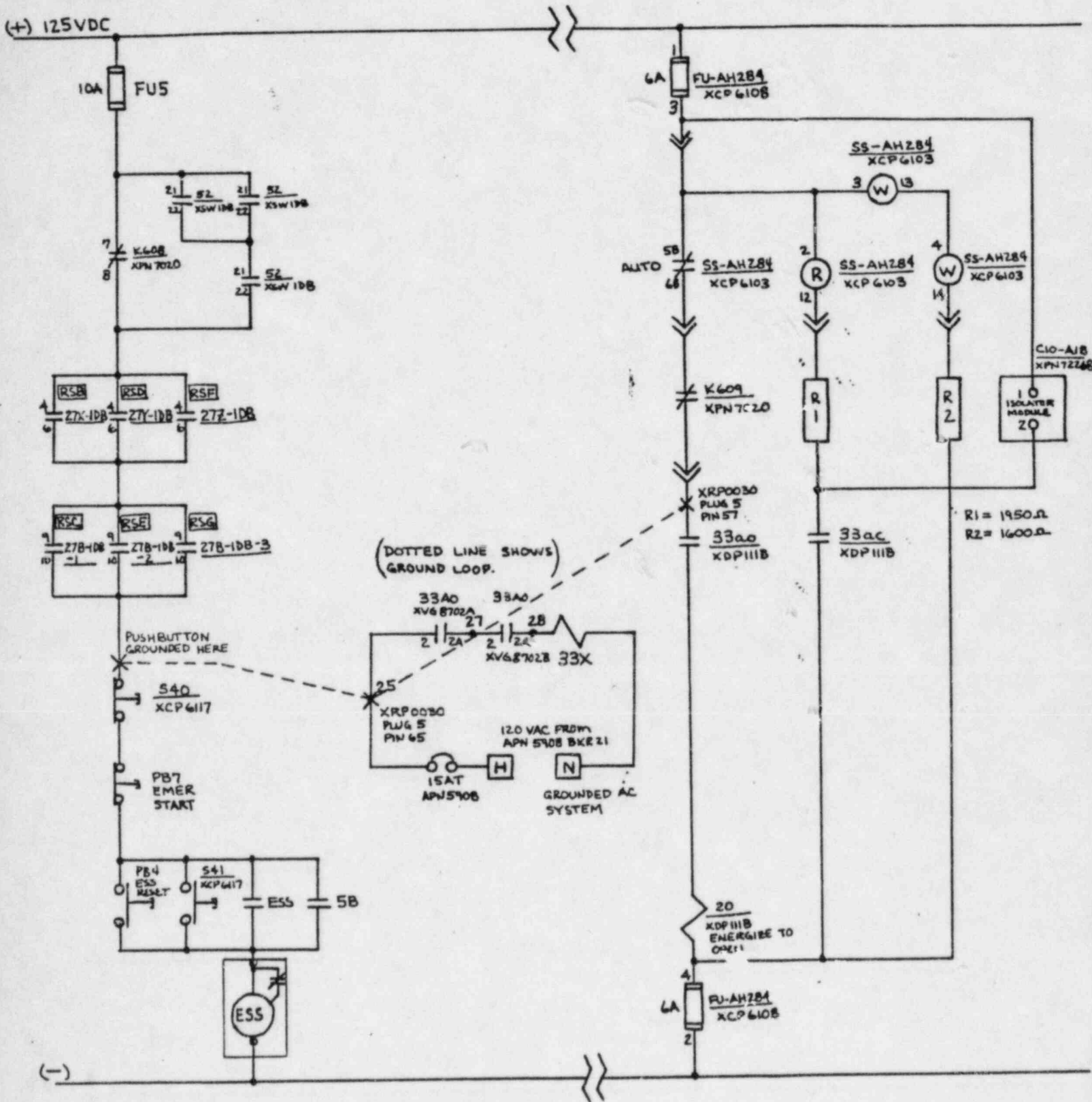


DIAGRAM GENERATED FROM :

- B-208-004-AH284
- B-208-037-ES67A
- 1MS-32-007-1-13
- B-208-084-RH06-A-8