



South Carolina Electric & Gas Company  
P.O. Box 88  
Jenkinsville, SC 29065  
(803) 345-4040

10CFR50.73  
John L. Skolds  
Vice President  
Nuclear Operations

AUG 01 1991

Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

Gentlemen:

Subject: VIRGIL C. SUMMER NUCLEAR STATION  
DOCKET NO. 50/395  
OPERATING LICENSE NO. NPF-12  
LER 91-003

Attached is Licensee Event Report No. 91-003 for the Virgil C. Summer Nuclear Station. This report is submitted pursuant to the requirements of 10CFR50.73(a)(2)(iv).

Should there be any questions, please call us at your convenience.

Very truly yours,

John L. Skolds

DCH/JLS:smd  
Attachment

c: O. W. Dixon Jr.  
R. R. Mahan  
R. J. White  
S. D. Ebnetter  
G. F. Wunder  
General Managers  
C. A. Price  
G. J. Taylor  
F. H. Zander  
T. L. Matlosz

J. W. Flitter  
L. J. Montondo  
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## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Virgil C. Summer Nuclear Station										DOCKET NUMBER (2) 0 5 0 0 0 3 9 5										PAGE 18 1 OF 0 1 3														
TITLE (6) Perturbation on Off-Site Source Causes ESF Actuation of a Diesel Generator																																		
EVENT DATE (8)			LER NUMBER (8)						REPORT DATE (9)						OTHER FACILITIES INVOLVED (8)																			
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES										DOCKET NUMBER (8)															
0	7	0	2	9	1	9	1	0	0	3	0	0	7	3	1 9 1										0 5 0 0 0									
OPERATING MODE (8)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)																															
1			20.402(b)						20.406(a)						X						20.736(a)(2)(iv)						73.71(b)							
POWER LEVEL (10)			20.406(c)(1)(i)						20.36(a)(1)												20.736(a)(2)(iv)						73.71(c)							
19 19			20.406(a)(1)(ii)						20.36(a)(2)												20.736(a)(2)(iv)						OTHER (Specify in Abstract below and in Text, NRC Form 302A)							
			20.406(a)(1)(iii)						20.736(a)(2)(i)												20.736(a)(2)(iv)(A)													
			20.406(a)(1)(iv)						20.736(a)(2)(B)												20.736(a)(2)(v)(B)													
			20.406(a)(1)(v)						20.736(a)(2)(iv)												20.736(a)(2)(v)													
LICENSEE CONTACT FOR THIS LER (12)																																		
NAME																				TELEPHONE NUMBER														
W. R. Higgins, Supervisor, Regulatory Compliance																				8 0 1 3 3 1 4 1 5 1 - 4 1 0 4 1 2														
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																																		
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC					
C	E	K	D	G	N																													
SUPPLEMENTAL REPORT EXPECTED (14)																																		
YES (If yes, complete EXPECTED SUBMISSION DATE)																				X NO														
EXTRACT (Limit to 1400 words, i.e., approximately fifteen single-space typewritten lines) (15)																				EXPECTED SUBMISSION DATE (15)														
																				MONTH DAY YEAR														

At approximately 1723 hours on July 2, 1991, a thunderstorm-induced momentary fault on an off-site power source resulted in the actuation of the "A" Emergency Diesel Generator (EDG). The fault cleared and off-site voltage returned to normal in less than 2.25 seconds. Therefore, the bus continued to be carried by the off-site source and the EDG output breaker remained open.

Several non-critical components de-energized when their respective seal-in contactors opened as a result of the momentary loss of voltage. These components were quickly returned to service and, after confirming the off-site source was stable, the EDG was secured.

A review of this event has shown that plant response was as designed and that no safety consequences occurred. No further actions will be taken regarding this event.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Virgil C. Summer Nuclear Station	0500039591	00	3	00	02	of	03

TEXT (if more space is required, use additional NRC Form 355A's) (17)

PLANT IDENTIFICATION:

Westinghouse - Pressurized Water Reactor

EQUIPMENT IDENTIFICATION:

Emergency Diesel Generator

EIIS-DG

IDENTIFICATION OF EVENT:

A momentary voltage perturbation of one off-site source caused the actuation of "A" train Emergency Diesel Generator.

EVENT TIME AND DATE:

July 2, 1991, at 1723 hours.

REPORT DATE:

July 31, 1991

This report was initiated by Off-Normal Occurrence Report 91-37.

CONDITIONS PRIOR TO EVENT:

Mode 1, 99% power.

DESCRIPTION OF EVENT:

At approximately 1723 hours on July 2, 1991, a momentary voltage perturbation occurred on the off-site source supplying the "A" train Engineered Safety Features (ESF) Bus. The "A" Emergency Diesel Generator (EDG) started and obtained stand-by conditions (i.e., proper speed and voltage with output breaker open). The operators immediately verified that the "A" train bus was energized properly from its off-site source. They also noted various annunciators had alarmed, and several non-critical components had de-energized. All necessary loads were returned to service by 1725 hours and, after confirming with the system dispatcher that the off-site source was stable, the "A" EDG was secured at 1750 hours.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (3)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Virgil C. Summer Nuclear Station	0 5 0 0 0 3 9 5 9 1	—	0 0 3	—	0 0 0 3 OF 0 3

TEXT (if more space is required, use additional NRC Form 3554's) (17)

CAUSE OF EVENT:

A review of this event has shown that the voltage perturbation was caused by a fault which occurred during a thunderstorm. The fault caused the voltage on the off-site source to degrade to approximately 50% of nominal for three to four cycles, then drop to zero volts for five to six cycles before the fault was isolated. The duration of the undervoltage condition was long enough to start the "A" EDG; however, voltage recovered prior to the 2.25 second time delay, which isolates the "A" ESF Bus from off-site power and initiates the load sequencer.

The de-energization of the components was caused by seal-in contacts opening due to the momentary loss of power.

ANALYSIS OF EVENT:

The plant design incorporates a .25 second delay to actuate the undervoltage relays followed by a 2 second delay prior to isolating the off-site power supply. The 2 second delay for isolating the off-site power supply was designed, with NRC review and approval, to allow time for off-site relaying to clear the fault, and thus maintain the off-site source available to the plant. Therefore, the plant response to the momentary under voltage condition was consistent with plant design.

The loads that were lost were non-critical components and were returned to service by prompt operator action. Therefore, there were no safety consequences associated with this event.

IMMEDIATE CORRECTIVE ACTION:

1. Identified and restored de-energized components.
2. Confirmed via on-site observation and through the load dispatcher that the off-site source had recovered to normal status and was stable.
3. Secured the EDG.
4. Confirmed that actual plant response conformed to plant design.

ADDITIONAL CORRECTIVE ACTION:

None

PRIOR OCCURRENCES:

None