

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Virgil C. Summer Nuclear Station	DOCKET NUMBER (2) 0 5 0 0 0 3 9 5	PAGE (3) 1 OF 0 4
---	--------------------------------------	----------------------

TITLE (4)
Agastat Relay Calibration

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		
0 7	2 4	8 4	8 4	0 3 4	0 0	0 8	2 3	8 4	DOCKET NUMBER(S) 0 5 0 0 0		

OPERATING MODE (9) 5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)											
POWER LEVEL (10) 0 0 0	20.402(b)			20.405(c)			50.73(a)(2)(iv)			73.71(b)		
	20.405(a)(1)(i)			50.36(a)(1)			50.73(a)(2)(v)			73.71(c)		
	20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vii)			OTHER (Specify in Abstract below and in Text, NRC Form 366A)		
	20.405(a)(1)(iii)			50.73(a)(2)(i)			50.73(a)(2)(viii)(A)					
	20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(viii)(B)					
20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(ix)						

LICENSEE CONTACT FOR THIS LER (12)									
NAME A. R. Koon, Jr., Assoc. Mgr, Regulatory Compliance							TELEPHONE NUMBER 8 0 3 3 4 5 - 5 2 0 9		

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)														
CAUSE	SYSTEM	COMPONENT	MANUFAC TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC TURER	REPORTABLE TO NPRDS
D	E K			N										
X	E K			N										

SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)		
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO										MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single space typewritten lines) (16)

On July 24, 1984, an inadequate maintenance procedure was identified. Electrical Maintenance Procedure (EMP) 300.012, "Agastat Relay Replacement," did not require delay time calibration of relays in their installed position. All relays tested and installed under this procedure were found to be acceptable with the exception of 7.2 KV Emergency Bus Undervoltage relays, 27 X, Y, and Z. "As Found" values for these relays were found to exceed the Technical Specification allowable setpoint value. On August 21, 1984, a failure to test ESF Loading Sequencer time delay relays within the periodicity of Surveillance Requirement 4.3.2.2 was also identified. Train "B" Diesel Generator was declared inoperable and testing was subsequently performed on the relays with satisfactory results.

There were no adverse consequences resulting from this event. Data obtained in the July 24 and August 21 relay calibrations provide assurance that the total response time of ≤ 10.3 seconds has not been exceeded. Additional corrective actions are identified in the text of this report.

8408300514 840823
PDR ADOCK 05000395
S PDR

IE22
1/1

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Virgil C. Summer Nuclear Station	DOCKET NUMBER (2) 0 0 0 0 3 9 5	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 4	- 0 3 4	- 0	0 0	2	OF 0 4

TEXT (If more space is required, use additional NRC Form 366A's) (17)

On July 24, 1984, with the Plant in Mode 5, an inadequate maintenance procedure was identified during the performance of a station modification. Electrical Maintenance Procedure (EMP) 300.012, "Agastat Relay Replacement," required performance of a relay calibration prior to installation. However this procedure did not require delay time calibration of the relays in their installed position. Installation and operation instructions for Agastat timing relays indicated that this procedural inadequacy could potentially cause a calibration error of as much as 32%.

The Licensee immediately initiated a review of equipment history files to identify Agastat relays previously installed under EMP-300.012. The delay times for these relays identified during this review were subsequently subjected to a calibration check and found to be acceptable with the exception of 7.2 KV Emergency Bus Undervoltage (Loss of Voltage) relays 27 X, Y, and Z. Relays for the Engineered Safety Feature (ESF) buses 1DA and 1DB had been replaced and calibrated under EMP-300.012 on April 17, 1984 and April 3, 1984 respectively. "As Found" time delay setpoints (reference table below) observed on July 24, 1984, were found to exceed the Technical Specification 3.3.2 (Table 3.3-4, Item 7.a), "Engineered Safety Feature Actuation System Instrumentation," allowable trip setpoint value of ≤ 0.275 second time delay.

ESF BUS	RELAY	DELAY TIMES (sec.)	
		AS FOUND	AS LEFT
XSW-1DA	27X	.362	.243
	27Y	.354	.244
	27Z	.325	.240
XSW-1DB	27X	.319	.243
	27Y	.318	.245
	27Z	.335	.243

Upon completion of the relay calibrations, "As Found" setpoints were compared to ESF response times previously obtained for Table 3.3-5, Item 14.a (Loss of Power) to ensure that the Technical Specification 3.3.2 allowable value of ≤ 10.3 seconds had not been exceeded. During performance of this review, the Licensee discovered that time delays for the 27S and 27T relays, which delay initiation of the ESF Loading Sequencer (ESFLS) on receipt of "Loss of Voltage" and "Degraded Voltage" signals respectively, had not previously been included in the total response time tabulation. The time delays for the 27S relays were then obtained from the March 1982 test data and utilized in the response time tabulations. The maximum delay time from receipt of an undervoltage condition until closure of the Diesel Generator output breaker was determined to be 8.372 seconds for Train "A" and 8.025 seconds for Train "B".

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Virgil C. Summer Nuclear Station	DOCKET NUMBER (2) 0 5 0 0 0 3 9 5	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 4	- 0 3 4	- 0 0	0 3	OF	0 4

TEXT (If more space is required, use additional NRC Form 365A's) (17)

	DIESEL GENERATOR START TIME	+	LOSS OF VOLTAGE DELAY TIME	+	ESFLS DELAY TIME	=	ACTUAL TIME	<	10.3 SECONDS
TRAIN "A"	6	+	.362	+	2.01	=	8.372	<	10.3 seconds
TRAIN "B"	5.6	+	.335	+	2.09	=	8.025	<	10.3 seconds

On August 21, 1984, during a review of the event, the Licensee determined that the failure to test the 27S and 27T relays since March 1982 constituted a failure to adequately perform Surveillance Requirement 4.3.2.2 for the "Loss of Power" circuitry identified in Table 3.3-5, Item 14. Train "B" Diesel Generator was subsequently declared inoperable at 1415 hours in accordance with Action Statement (a) of Technical Specification 3.8.1.1, "A.C. Sources." A calibration check was then performed with satisfactory results on the 27S and 27T relays which had not previously been included in the 18 month response time surveillance.

The tables below include the current ESF relay response times:

	DIESEL GENERATOR START TIME	+	LOSS OF VOLTAGE DELAY TIME	+	ESFLS DELAY TIME	=	ACTUAL TIME	<	10.3 SECONDS
TRAIN "A"	6	+	.244	+	2.01	=	8.254	<	10.3 seconds
TRAIN "B"	5.6	+	.245	+	2.10	=	7.945	<	10.3 seconds

	DIESEL GENERATOR START TIME	+	DEGRADED VOLTAGE	+	ESFLS DELAY TIME	=	ACTUAL TIME	<	13.3 SECONDS
TRAIN "A"	6	+	2.96	+	4.00	=	12.93	<	13.3 seconds
TRAIN "B"	5.6	+	2.97	+	4.34	=	12.91	<	13.3 seconds

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Virgil C. Sumner Nuclear Station	DOCKET NUMBER (2) 0 5 0 0 0 3 9 5 8 4	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 4	- 0 3 4	- 0 0	0 4	OF	0 4

TEXT (If more space is required, use additional NRC Form 366A's) (17)

There were no adverse consequences resulting from this event. The data obtained in the July 24 and August 21 relay calibrations provides assurance that the total response time of ≤ 10.3 seconds for "Loss of Voltage" and ≤ 13.3 seconds for "Degraded Voltage" has not been exceeded. To prevent a recurrence of this event, the Licensee has initiated the following corrective actions:

- 1) EMP-300.012 was revised on August 3, 1984, to require delay time testing of Agastat relays after completion of installation.
- 2) The appropriate surveillance test procedures will be revised prior to performance of the next scheduled test to ensure that the total circuitry response times for "Loss of Voltage" and "Degraded Voltage" are obtained on an 18 month basis in accordance with Surveillance Requirement 4.3.2.2.

SOUTH CAROLINA ELECTRIC & GAS COMPANY

POST OFFICE 764

COLUMBIA, SOUTH CAROLINA 29218

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

August 23, 1984

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

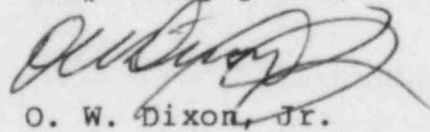
SUBJECT: Virgil C. Summer Nuclear Station
Docket No. 50/395
Operating License No. NPF-12
LER 84-034

Dear Sir:

Please find attached Licensee Event Report #84-034 for the Virgil C. Summer Nuclear Station. This Report is submitted pursuant to the requirements of 10 CFR 50.73(a)(2)(i).

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

Very truly yours,



O. W. Dixon, Jr.

CJM:OWD/dwf/epm
Attachment

cc: V. C. Summer	J. F. Heilman
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. Knotts, Jr.
Group Managers	INPO Records Center
O. S. Bradham	ANI Library
C. A. Price	NPCF
D. A. Lavigne	File

IE22
11