U.S. NUCLEAR REGULATORY COMMISSION APPROVED OMB NO. 3150-0104 EXPIRES: 8/31/86 EXPIRES: 8/31/86						
FACILITY NAME (1)	24 - 41		DC	CKET NUMBER	(2) 2 0 5	PAGE (3)
Virgil C. Summer Nuclear	Station		0	15 0 0	10121212	1 OF 013
Turbine Trip/Reactor Tri	p					
EVENT DATE (5) LER NUMBER (6)	REPORT DATE (7	0	OTHER F	ACILITIES INVOL	LVED (8)	
TH DAY YEAR YEAR SEQUENTIAL REVISION MONTH DAY YEAR FACILITY NAM			ES	R(S)		
					0 5 0 0	10111
04028686-006-0	99998	16			0 15 10 10	10111
OPERATING THIS REPORT IS SUBMITTED PURSUA	NT TO THE REQUIREMENT	S OF 10 CFR 8: (Check one or more of	the following) (11	1)	
MODE (9) 20.402(b)	20.406(c)	-	50.73(e)(2)(iv)		73.71(b)	
POWER LEVEL 1. 0. 0-20.405(a)(1)(i)	50.35(c)(1)	-	50.73(a)(2)(v)		OTHER (Specify in Abstract	
(10) 20.408(a)(1)(ii)	50.36(c)(2) 50.73(a)(2)(i)		50 73(a)(2)(viii)(A)		below and in Text, NRC Form	
20.405(a)(1)(iv)	50.73(a)(2)(ii)	-	50.73(a)(2)(viii)(B)			
20.406(a)(1)(v)	50.73(e)(2)(iii)		50.73(s)(2)(x)			
	LICENSEE CONTACT FO	R THIS LER (12)		1		980
W. R. Higgins, Assoc. Mana	ger, Regula	tory Con	npliance	AREA CODE	3 4 5 -	15121019
COMPLETE ONE LINE	FOR EACH COMPONENT F	LURE DESCRIBE	D IN THIS REPORT	(13)		
CAUSE SYSTEM COMPONENT MANUFAC. TO NPR	BLE	CAUSE SYSTEM	COMPONENT	MANUFAC- TURER	REPORTABLE TO NPRDS	•
X TL 35G080Y				111		
			111	111		
SUPPLEMENTAL REP	ORT EXPECTED (14)			EXPECT	ED MONT	H DAY YEAR
YES III yes, complete EXPECTED SUBMISSION DATE	NO			DATE (1	0N 5)	
On April 2, 1986, while a reactor trip. The cause main generator excitation connection on a current t repair of the current tra manufacturer, additional outboard collector ring w brushes were replaced and carbon and roughness due action, the unit startup	t 100% powe of the turb: . Initiall, ransformer co testing was ere found w the slip r to arcing. was complet	r, a tur ine gene y the ca in the v nnectior conduct orn and ing was Upon co ed and p	rbine gen erator tr ause was voltage r h and dis ted and t not maki buffed t power ope	erator ip was attribu- regulator scussion the brus ing cont to remov- n of this eration	trip ca the los uted to or. Aft with t shes on tact. T ve depos is corre resumed	used a s of a bad er the the lited ective 1.
Because of this event, the Licensee has taken the following action.						
 Electrical Maintenance has increased surveillances of the brushes to every 12 hours pending final resolution of the brush failure. 						
 The old brushes, along with a sample of the in-stock spares, are being sent to a laboratory for analysis. 						
8605020425 860502 PDR ADOCK 05000395 S PDR	,			IE	2Z 1/1	

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104 EXPIRES: 8/31/85

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

On April 2, 1986, while operating at 100% power, a turbine generator trip caused a reactor trip. The cause of the event was due to the loss of excitation to the main generator.

On March 18, 1986, plant electrical personnel identified that a current transformer (CT) in the current boost circuit of the voltage regulator had a bad connection. Unable to make repairs, the Licensee established monitoring of the circuit every six hours.

Following the shutdown at 1155 hours on April 2, 1986, repairs to the CT were made and the manufacturer was contacted for verification that the loss of the CT would result in a loss of excitation. While waiting for confirmation from the manufacturer, the electricians continued checking out the voltage regulator circuitry. At approximately 2000 hours on April 2, 1986, the manufacturer, in discussions with the electrical supervisor, expressed the opinion that an open circuit on the CT would not cause a loss of excitation; they recommended additional testing on the voltage regulator when the unit could be brought back up to speed. Subsequently, the reactor was brought critical, and the turbine was brought up to speed for voltage regulator testing at approximately 0230 hours on April 3, 1986. All preliminary checks and voltage readings were normal. However, when bringing the exciter regulator on line, the output of the exciter did not come up when the exciter field breaker was closed.

Followup investigation revealed that the brushes on the outboard collector ring of the Alterrex were worn and not making contact which prevented excitation of the generator field.**

** NOTE: The brushes were inspected on March 27 and 31, 1986 with no abnormalities observed.

The brushes were replaced and the slip ring was buffed to remove deposited carbon and roughness due to arcing. Upon completion of this corrective action, the unit startup was completed and power operation was resumed.

There were no adverse consequences due to this event. No safety limits were exceeded and the reactor protective system functioned as designed.

Due to the electrical transient as a result of this event, all three instrument air compressor shutdown relays picked up and had to be locally reset. This had a minimal impact on the plant in that the units were restarted by the operators as part of the immediate response to the trip.

Actuation of the steam line power operated relief valves resulted in an unmonitored release. The release was conservatively calculated to be a small fraction of the allowable limits.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION U.S. NUCLEAR REGULATORY COMMIS APPROVED OMB NO. 3150-0104 EXPIRES: 8/31/85						Y COMMISS			
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n more spa	sce is required, use additional NRC, Form 300A \$) (17)								
The	Licensee has taken the	following action as	a res	sult of	this e	event			
ine	Licensee has taken the	TOTIONING GOOTON GO							
1)	Electrical Maintenance	has increased their	surve	eillance	s of t	he			
	brushes to every 12 hou	rs pending final res	soluti	ion of t	ne pru	ISA			
	failure.								
2)	The old brushes, along	with a sample of the	e in-s	stock sp	pares,	are			
	being sent to a laborat	ory for analysis.							



South Carolina Electric & Gas Company P.O. Box 764 Columbia, SC 29218 (803) 748-3513

Dan A. Nauman Vice President Nuclear Operations

April 24, 1986

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

> Virgil C. Summer Nuclear Station SUBJECT: Docket No. 50/395 Operating License No. NPF-12 LER 86-006

Dear Sir:

Attached is Licensee Event Report #86-006 for the Virgil C. Summer Nuclear Station. This report is submitted pursuant to the requirements of 10 CFR 50.73(a)(2)(iv).

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

trulx yours, Nauman

RJB/DAN:lcd Attachment

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	E. C. Roberts	K. E. Nodland
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