NRC FORM 366 (12-81)

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

APPROVED BY OMB 3150-0011 EXPIRES 4-30-82

CONTROL BLOCK: ⑴ (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

Line	Field	Value
0 1	LICENSEE CODE (2)	S C V C S 1
	LICENSE NUMBER (3)	0 0 - 0 0 0 0 0 - 0 0
	LICENSE TYPE (4)	4 1 0 0 0
	CAT (5)	
CON'T 0 1	REPORT SOURCE (6)	L
	DOCKET NUMBER (7)	0 5 0 0 0 3 9 5
	EVENT DATE (8)	0 6 0 3 8 3
	REPORT DATE (9)	0 7 2 9 8 3

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 With the Plant in Mode 1, the "A" Emergency Diesel Generator was connected to
0 3 Vital Bus 1DA and loaded to 4250kw during its operability surveillance test. The
0 4 normal 115kv power supply to the vital bus was lost and the diesel generator out-
0 5 put breaker tripped open. The diesel was shut down and locked out by a phase
0 6 differential relay, thereby losing all A.C. power input to the vital bus. No
0 7 adverse consequences resulted as the redundant vital bus remained operable for
0 8 plant safeguards.

0 9	SYSTEM CODE (11)	CAUSE CODE (12)	CAUSE SUBCODE (13)	COMPONENT CODE (14)	COMP. SUBCODE (15)	VALVE SUBCODE (16)
	E A	C	Z	Z Z Z Z Z Z	Z	Z

(17) LER/RO REPORT NUMBER

EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
8 3	—	0 7 4	/	0 3	L	—	0

ACTION TAKEN (18)	FUTURE ACTION (19)	EFFECT ON PLANT (20)	SHUTDOWN METHOD (21)	HOURS (22)	ATTACHMENT SUBMITTED (23)	NPRD-4 FORM SUB. (24)	PRIME COMP. SUPPLIER (25)	COMPONENT MANUFACTURER (26)
E	F	Z	Z	0 0 0 0	Y	N	Z	Z 9 9 9

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 The event was caused by an electrical surge from a lightning storm. The surge
1 1 tripped: 1) The normal power feed breaker for Vital Bus 1DA open on over-
1 2 current. 2) The diesel generator output breaker open on overcurrent and phase
1 3 differential. The licensee will evaluate additional surge suppression circuitry
1 4 to protect the diesel generator circuitry.

1 5	FACILITY STATUS (28)	% POWER (29)	OTHER STATUS (30)	METHOD OF DISCOVERY (31)	DISCOVERY DESCRIPTION (32)
	E	0 9 5	N/A	A	Operator Observation

1 6	ACTIVITY RELEASED (33)	CONTENT OF RELEASE (34)	AMOUNT OF ACTIVITY (35)	LOCATION OF RELEASE (36)
	Z	Z	N/A	N/A

PERSONNEL EXPOSURES

1 7	NUMBER (37)	TYPE (38)	DESCRIPTION (39)
	0 0 0	Z	N/A

PERSONNEL INJURIES

1 8	NUMBER (40)	DESCRIPTION (41)
	0 0 0	N/A

LOSS OF OR DAMAGE TO FACILITY

1 9	TYPE (42)	DESCRIPTION (43)
	Z	N/A

PUBLICITY

2 0	ISSUED (44)	DESCRIPTION (45)
	N	

NRC USE ONLY

NAME OF PREPARER H. C. Fields
H. C. Fields

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

July 29, 1983

Mr. James P. O'Reilly
Regional Administrator
U.S. Nuclear Regulatory Commission
Region II, Suite 2900
101 Marietta Street, N.W.
Atlanta, Georgia 30303

SUBJECT: Virgil C. Summer Nuclear Station
Docket No. 50/395
Operating License No. NPF-12
Thirty Day Written Report
LER 83-074

Dear Mr. O'Reilly:

Please find attached Licensee Event Report #83-074 for Virgil C. Summer Nuclear Station. This Thirty Day Report is required by Technical Specification 6.9.1.13.(b) as a result of entry into Action Statement (b) of Technical Specification 3.8.1.1, "Electrical Power Systems, A.C. Sources," and Action Statement (a) of Technical Specification 3.8.3.1, "Electrical Power Systems, Onsite Power Distribution," on July 3, 1983.

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

Very truly yours,

O. W. Dixon, Jr.

HCF:OWD/mac/fjc
Attachment

cc: V. C. Summer
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Document Management Branch
INPO Records Center
NPCF
File (Lic./Eng.)

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES

At 2315 hours on July 3, 1983, the Plant was operating in Mode 1. The "A" Emergency Diesel Generator (XEG001A) was connected to Engineered Safety Feature (ESF) Bus 1DA and was loaded to 4250kw for the performance of an operability surveillance test. A lightning storm caused an electrical surge on the 115kv offsite power source for ESF Bus 1DA which tripped OCB 1802 (located at the source of the 115kv line) open on overcurrent. Simultaneously, the power surge caused the XEG001A output breaker to trip open on both "overcurrent" (51VDG relay) and "phase differential" (87DGA relay). This de-energized ESF Bus 1DA and shutdown the diesel due to the actuation of the phase differential relay.

The Engineered Safety Features Load Sequencer (ESFLS) actuated in response to the dead bus and sequenced through Output #7, which opened both the Normal and Alternate offsite power supply breakers for ESF Bus 1DA. At this step, the ESFLS stopped sequencing because XEG001A was shutdown and locked out by the phase differential trip. OCB 1802 automatically reclosed and re-energized the 115kv line. However, the ESFLS had locked out the Normal and Alternate Power Supply Breakers and prevented their reclosure from the Main Control Board. ESF Bus 1DA remained de-energized until 0025 hours, July 4, 1983, for a total time of one hour and ten minutes. By this time, all lockouts had been reset and the Normal offsite power supply breaker was closed to energize ESF Bus 1DA.

During the period that ESF Bus 1DA was inoperable, all Train "B" ESF systems remained operable and the minimum number of systems required for safe plant shutdown, as evaluated in the Accident Analysis, was satisfied. No adverse consequences to the safety of the public or the plant resulted from this event.

CORRECTIVE ACTION

Due to the loss of ESF Bus 1DA, Technical Specification 3.8.3.1, Action Statement (a), was applied. Power was restored prior to the fourteen (14) hour time limit for proceding to cold shutdown. Technical Specification 3.8.1.1, Action Statement (b), was also applied. An electrical alignment verification for the "B" train ESF had just been completed at 2200 hours on July 3, 1983. The "B" Diesel Generator Operability Test had been completed at 2232 hours, July 3, 1983.

CORRECTIVE ACTION - Continued

Component Cooling Water Train A (powered by 1DA) was supplying Reactor Coolant Pump cooling water. Component Cooling Water Train B was started and cooling water was restored to the Reactor Coolant Pump in less than ten (10) minutes.

Defective parts in XEG-001A were repaired and the equipment was declared operable at 0820 hours, July 5, 1983, after the satisfactory performance of the applicable surveillance procedure.

The Licensee plans to evaluate the need for developing additional surge suppression circuitry to protect the emergency diesel generator circuitry from lightning induced surges. This evaluation will be completed by October 31, 1983. Any resulting modifications will be implemented upon design approval and material procurement.