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SOUTHERN COMPANY
Energy to Serve Your World℠

January 21, 2000

LCV-1417

Docket No. 50-425

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Ladies and Gentlemen:

VOGTLE ELECTRIC GENERATING PLANT
LICENSEE EVENT REPORT 2-99-004
MANUAL REACTOR TRIP
DUE TO MISALIGNED CONTROL ROD

In accordance with the requirements of 10 CFR 50.73, Southern Nuclear Operating Company hereby submits a Vogtle Electric Generating Plant licensee event report for a condition that occurred on Unit 2 on December 30, 1999.

Sincerely,

J. B. Beasley, Jr.

JBB/JPC

Enclosure: LER 2-99-004

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser
Mr. M. Sheibani
SNC Document Management

U. S. Nuclear Regulatory Commission
Mr. L. A. Reyes, Regional Administrator
Mr. Ramin R. Assa, Vogtle Project Manager, NRR
Mr. J. Zeiler, Senior Resident Inspector, VEGP

IE22

NRC FORM 366 (6-1998) U.S.NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104 EXPIRES: 06/30/2001
Estimated burden per response to comply with this mandatory information request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

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TITLE (4)
MANUAL REACTOR TRIP DUE TO MISALIGNED CONTROL ROD

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 NAME	DOCKET NUMBER
										0 5 0 0 0
1 2	3 0	1 9 9 9	1 9 9 9	0 0 4	0 0	0 1	2 1	2 0 0 0	FACILITY NAME	0 5 0 0 0

OPERATING MODE (9)	2
POWER LEVEL (10)	0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR □: (Check one or more) (11)

20.2201(b)	20.2203(a)(2)(v)	50.73(a)(2)(i)	50.73(a)(2)(viii)
20.2203(a)(1)	20.2203(a)(3)(i)	50.73(a)(2)(ii)	50.73(a)(2)(x)
20.2203(a)(2)(i)	20.2203(a)(3)(ii)	50.73(a)(2)(iii)	73.71
20.2203(a)(2)(ii)	20.2203(a)(4)	X 50.73(a)(2)(iv)	OTHER
20.2203(a)(2)(iii)	50.36(c)(1)	50.73(a)(2)(v)	*Specify in Abstract below*
20.2203(a)(2)(iv)	50.36(c)(2)	50.73(a)(2)(vii)	*or in NRC Form 366A*

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (include area code)
Mehdi Sheibani, Nuclear Safety and Compliance	7 0 6 - 8 2 6 - 3 2 0 9

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
B	A A	I C	W I 2 0	N					

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-space typewritten lines) (16)

On December 30, 1999, reactor start-up was in progress and control room operators were withdrawing control rod banks. At 0444 EST, the indication for rod B6 dropped from 84 steps to 60 steps. A rod deviation annunciator alarmed and rod withdrawal was halted. Redundant indicators confirmed that rod B6 had, in fact, dropped 24 (+/- 4) steps. Per the applicable abnormal operating procedure, a manual reactor trip was initiated at 0456 EST. Operators verified that all rods fully inserted and the unit transitioned to Mode 3 (hot standby).

The cause of this event was a failed component. An investigation found that a blocking diode had failed open in the rod B6 movable gripper coil circuit. This resulted in a loss of power to the movable gripper thereby dropping rod B6 a total of 24 (+/- 4) steps before the stationary gripper coil re-energized. The failed diode was replaced. Control rod B6 was tested successfully and the unit was subsequently restarted without further incident.

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

A. REQUIREMENT FOR REPORT

This report is required per 10 CFR 50.73 (a)(2)(iv) because an unplanned actuation of the reactor protection system (RPS) occurred.

B. UNIT STATUS AT TIME OF EVENT

At the time of this event, Unit 2 was subcritical in Mode 2 (Startup) at 0 percent of rated thermal power. Other than that described herein, there was no inoperable equipment that contributed to the occurrence of this event.

C. DESCRIPTION OF EVENT

On December 30, 1999, reactor start-up was in progress and control room operators were withdrawing control rod banks. At 0444 EST, the indication for rod B6 dropped from 84 steps (per demand indication) to 60 steps (per digital rod position indication). A rod deviation annunciator alarmed and rod withdrawal was halted. Redundant indicators confirmed that rod B6 had, in fact, dropped 24 (+/- 4) steps. Per the applicable abnormal operating procedure, a manual reactor trip was initiated at 0456 EST. Operators verified that all rods fully inserted and the unit transitioned to Mode 3 (hot standby).

D. CAUSE OF EVENT

The cause of this event was a failed component. An investigation found that a blocking diode had failed open in the rod B6 movable coil circuit. This resulted in a loss of power to the movable gripper coil thereby dropping rod B6 a total of 24 (+/- 4) steps before the stationary gripper coil re-energized. As part of plant maintenance, diodes installed at various locations in the rod control system, including gripper coil blocking diodes, are tested each outage. This had most recently been completed in Unit 2 during the Fall 1999 refueling outage, approximately 2 months prior to this event. No open circuits were found at that time.

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

E. ANALYSIS OF EVENT

Upon the loss of power, the rod control system operated as designed by allowing control rod B6 to drop until the stationary gripper re-energized. Operators responded appropriately to verify the misaligned rod condition and initiate the required reactor trip. Because the reactor was subcritical, the trip had little or no effect on neutron flux and thermal output. Based on these considerations, there was no adverse effect on plant safety or on the health and safety of the public as a result of this event.

This event does not represent a safety system failure.

F. CORRECTIVE ACTIONS

1) The failed diode was replaced. Control rod B6 was tested successfully and the unit was successfully restarted without further incident.

2) At the time of this event, the manufacturer was conducting a review aimed at improving the reliability of these rod control circuits. Site engineering is consulting with the equipment manufacturer regarding this failure, and recommendations from the vendor will be considered when available.

G. ADDITIONAL INFORMATION

1) Failed Components:
Movable coil blocking diode circuit manufactured by Westinghouse Electric Corporation. Diode manufactured by NAE. Part #1N1206RA.

2) Previous Similar Events:
LER 50-425/1989-027, dated November 3, 1989. This LER addressed a reactor trip following a rod drop due to a diode failure in a stationary gripper coil circuit.

3) Energy Industry Identification System Code:
Control Rod Drive System - AA