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May 21, 1990

the southern electric system

W. G. Hairston, III
Senior Vice President
Nuclear Operations

ELV-01664
0389

Docket No. 50-424

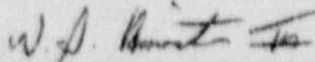
U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Gentlemen:

VOGTLE ELECTRIC GENERATING PLANT
LICENSEE EVENT REPORT
MANUAL REACTOR TRIP DUE TO INADVERTENT CLOSURE
OF MAIN FEED REGULATING VALVE

In accordance with 10 CFR 50.73, Georgia Power Company hereby submits the enclosed report related to an event which occurred on April 25, 1990.

Sincerely,


W. G. Hairston, III

WGH,III/NJS/gm

Enclosure: LER 50-424/1990-011

xc: Georgia Power Company
Mr. C. K. McCoy
Mr. G. Bockhold, Jr.
Mr. R. M. Odom
Mr. P. D. Rushton
NORMS

U. S. Nuclear Regulatory Commission
Mr. S. D. Ebner, Regional Administrator
Mr. T. A. Reed, Licensing Project Manager, NRR
Mr. R. F. Aiello, Senior Resident Inspector, Vogtle

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)
VOGTLE ELECTRIC GENERATING PLANT - UNIT 1

DOCKET NUMBER (2)

0 5 0 0 0 4 2 4 1 OF 0 4

PAGE (3)

TITLE (4)
MANUAL REACTOR TRIP DUE TO INADVERTENT CLOSURE OF MAIN FEED REGULATING VALVE

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	DOCKET NUMBER(S)					
0	4	25	90	90	011	00	05	21	90		0	5	0	0	0
											0	5	0	0	0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11)											
POWER LEVEL (10)	182	20.402(b)		20.405(c)	<input checked="" type="checkbox"/>	50.73(a)(2)(iv)		73.71(b)					
		20.406(a)(1)(i)		50.36(a)(1)		50.73(a)(2)(v)		73.71(c)					
		20.406(a)(1)(ii)		50.36(a)(2)		50.73(a)(2)(vi)		OTHER (Specify in Abstract below and in Text, NRC Form 366A)					
		20.406(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)							
		20.406(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)							
		20.406(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(ix)							

LICENSEE CONTACT FOR THIS LER (12)

NAME
R. M. ODOM, NUCLEAR SAFETY AND COMPLIANCE

TELEPHONE NUMBER

AREA CODE

4 0 4 8 2 6 - 3 2 0 1

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

SUPPLEMENTAL REPORT EXPECTED (14)

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

☐ YES (If yes, complete EXPECTED SUBMISSION DATE)☒ NO

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

On 4-25-90, at 1257 CDT, the Unit 1 reactor was manually tripped due to decreasing level in steam generator (SG) No. 2. Prior to the trip, a "Steam Generator 2 Flow Mismatch Alarm" annunciator was received and feedwater flow to SG No. 2 was observed to be decreasing rapidly. The Balance of Plant Operator attempted to increase the feedwater flow by increasing the demand signals to Main Feedwater Regulating Valve (MFRV) No. 2 and Bypass Feedwater Regulating Valve No. 2. However, SG No. 2 level continued to fall which forced initiation of the reactor trip. The Auxiliary Feedwater System actuated as designed following the reactor trip to maintain SG levels. By 1310 CDT, the Unit was stabilized in Mode 3.

Subsequent investigation indicated that MFRV No. 2 had closed and caused the event. The MFRV apparently closed when workers installing insulation on the MFRV inadvertently bumped into and mispositioned the local control levers located on the side of the valve positioner. Mispositioning of the local control levers interrupted the control air supply to the valve positioner. Since the local control levers are not used for normal operations, corrective action to prevent recurrence has been taken to remove these levers from both the Unit 1 and Unit 2 MFRVs.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) VEGP - UNIT 1	DOCKET NUMBER (2) 0 5 0 0 0 4 2 4 9 0	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
			0 1 1	0 0	0 2	OF 0 4

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

A. REQUIREMENT FOR REPORT

This report is required per 10 CFR 50.73 (a)(2)(iv) because an unplanned manual actuation of the Reactor Protection System occurred.

B. UNIT STATUS OF TIME OF EVENT

Unit 1 was in Mode 1 (power operation) at 82% of rated thermal power. There was no equipment which was inoperable or in an off normal status such that it contributed to the occurrence or consequences of this event.

C. DESCRIPTION OF EVENT

On 4-25-90, at approximately 1256 CDT, a "Steam Generator 2 Flow Mismatch Alarm" annunciator was received in the Unit 1 Control Room. The initial indication on channels 1FI-520A and 1FI-521A was that feedwater flow to Steam Generator (SG) No. 2 was decreasing rapidly. Based on this indication, the Balance of Plant Operator took manual control of Main Feedwater Regulating Valve (MFRV) No. 2 and Bypass Feedwater Regulating Valve (BFRV) No. 2 and increased the demand signals to 100%. However, SG No. 2 level continued to fall and at approximately 20% narrow range level, a manual reactor trip was initiated by the Reactor Operator at 1257 CDT.

On the reactor trip, all control rods fully inserted. The Main Feedwater System isolated, and the Auxiliary Feedwater (AFW) System actuated as designed. Control Room operators entered emergency operating procedure 19000-C, "E-0 Reactor Trip or Safety Injection", closed the "B" train Main Steam Isolation Valves and began throttling AFW flow to the steam generators. This action was taken to limit Reactor Coolant System cooldown and to maintain steam generator water levels. By 1310 CDT, the unit had been stabilized in Mode 3 and unit operating procedure 12006-C, "Unit Cooldown to Cold Shutdown" was entered.

D. CAUSE OF EVENT

The direct cause of the event was determined to be that MFRV No. 2 had closed. Closure of Main Feedwater Isolation Valve (MFIV) No. 2 would also have caused this event; however, the alarms which would have accompanied closure of that valve were not received prior to the reactor trip. Therefore, personnel were sent to investigate MFRV No. 2. Two non-utility craft personnel were found in the area of the valve. These personnel had been involved in installing insulation "cans" on the MFRV. An examination of the MFRV revealed that two local control levers, located one above the other on the side of the valve positioner, were in an intermediate position. Operation of the upper control lever interrupts the control air

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FACILITY NAME (1)

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

supply to the valve positioner and operation of the bottom control lever vents air off the positioner diaphragm. The control levers are provided as an option to allow local control of the valve for maintenance testing purposes and are not used for normal operation. The craft personnel were questioned, but it could not be confirmed that they had bumped or otherwise come in contact with these control levers. However, based on the work that was being performed, it was concluded that they had bumped the levers and caused the MFRV to close.

In order to verify that closure of the MFRV was the cause of the event, an attempt was made to open the valve from the Control Room with the local control levers still in the "as found" position. The MFRV would not open. The local control levers were then placed in their correct position and the MFRV opened properly on an attempt from the control room. As a final verification, the local control levers were again mispositioned and the MFRV went closed within 21 seconds. This testing confirmed that closure of the MFRV was the cause of the event and the mispositioning of the control levers was the cause for the valve closure.

The root cause for the mispositioning of the local control levers was determined to be the location of the levers in relation to the work that was being performed. The craft personnel, while positioning the insulation cans, apparently reached through the side rails of an access platform and bumped the control levers.

E. ANALYSIS OF EVENT

The fail-safe position for an MFRV is the closed position. Accident analyses indicate that the AFW System is capable of removing the stored heat of the primary water system during emergency conditions without relying on normal feedwater. The AFW System functioned properly to supply water to the steam generators following the reactor trip. Based on these considerations, there was no adverse effect on plant safety or on the health and safety of the public.

F. CORRECTIVE ACTIONS

The local control levers have been removed from the MFRVs for both Unit 1 and Unit 2.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		

TEXT (If more space is required, use additional NRC Form 305A's) (17)

G. ADDITIONAL INFORMATION

1. Failed Component Identification

None

2. Previous Similar Events

None

3. Energy Industry Identification System Codes

Main Feedwater System - SJ

Auxiliary Feedwater System - BA