

Georgia Power Company  
40 Inverness Center Parkway  
Post Office Box 1295  
Birmingham, Alabama 35201  
Telephone 205 877-7279

J. T. Beckham, Jr.  
Vice President—Nuclear  
Hatch Project



Georgia Power

The Southern Electric System

HL-1681  
001793

June 14, 1991

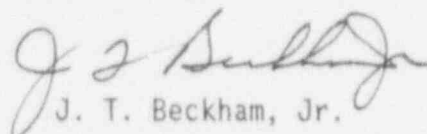
U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

PLANT HATCH - UNIT 1  
NRC DOCKET 50-321  
OPERATING LICENSE DPR-57  
LICENSEE EVENT REPORT  
IMPROPER INSTALLATION ON RELAY RESULTS IN  
ENGINEERED SAFETY FEATURE ACTUATION

Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(iv), Georgia Power Company is submitting the enclosed Licensee Event Report (LER) concerning an improper installation on a relay resulting in an unplanned actuation of an engineered safety feature. This event occurred at Plant Hatch - Unit 1.

Sincerely,



J. T. Beckham, Jr.

OCV/cr

Enclosure: LER 50-321/1991-010

cc: (See next page.)

U.S. Nuclear Regulatory Commission

June 14, 1991

Page Two

cc: Georgia Power Company

Mr. H. L. Sumner, General Manager - Nuclear Plant

Mr. J. D. Heidt, Manager Engineering and Licensing - Hatch  
NORMS

U.S. Nuclear Regulatory Commission, Washington, D.C.

Mr. K. Jabbour, Licensing Project Manager - Hatch

U.S. Nuclear Regulatory Commission, Region II

Mr. S. D. Ebnetter, Regional Administrator

Mr. L. D. Wert, Senior Resident Inspector - Hatch

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) PLANT HATCH, UNIT 1										DOCKET NUMBER (2) 05000321			PAGE (3) 1 of 4			
TITLE (4) IMPROPER INSTALLATION ON RELAY RESULTS IN ENGINEERED SAFETY FEATURES ACTUATION																
EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)							
MONTH	DAY	YEAR	YEAR	SEQ NUM	REV	MONTH	DAY	YEAR	FACILITY NAMES			DOCKET NUMBER(S)				
05	16	91	91	010	00	06	14	91				05000				
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (11)																
OPERATING MODE (9)		1	20.402(b)			20.405(c)			X	50.73(a)(2)(iv)			73.71(b)			
POWER LEVEL		100	20.405(a)(1)(i)			50.36(c)(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			
			20.405(a)(1)(iii)			50.73(a)(2)(i)				50.73(a)(2)(viii)(A)			Abstract below)			
			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)(x)						
LICENSEE CONTACT FOR THIS LER (12)																
NAME										TELEPHONE NUMBER						
STEVEN B. TIPPS, MANAGER NUCLEAR SAFETY AND COMPLIANCE, HATCH										AREA CODE		912 367-7781				
COMPLETE ONE LINE FOR EACH FAILURE DESCRIBED IN THIS REPORT (13)																
CAUSE	SYSTEM	COMPONENT	MANUFAC- TURER	REPORT TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC- TURER	REPORT TO NPRDS						
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)										<input checked="" type="checkbox"/> NO						

## ABSTRACT (16)

On 5/16/91, at 2155 CDT, Unit 1 was in the Run mode at a power level of 2436 CMWT (100% of rated thermal power). At that time, an isolation signal was received by Reactor Core Isolation Cooling (RCIC, EISS Code BN) system valve 1E51-F105. The valve subsequently closed per design. The valve is designed to close on high drywell pressure in conjunction with low RCIC steam line pressure. This condition did not exist at the time of the event. Investigation revealed the plastic cover on relay 1E51-K48 was wedged on such that the relay fingers were pressed against the contacts as though the relay were in an energized state. (The relay energizes to generate an isolation signal to valve 1E51-F105.) Further investigation disclosed that at the time the isolation was received, a plant operator had been performing a surveillance in Control Room panel 1H11-P623 where relay 1E51-K48 is located. It was concluded that he had inadvertently bumped the relay, wedging its plastic cover against the contact fingers. At 2230 CDT, the cover was loosened. The isolation signal was cleared, and the valve was reopened. No other actuations occurred as a result of this event.

The cause of this event was personnel error in that the wiring on relay 1E51-K48 was improperly routed. This led to improper installation of the cover of relay 1E51-K48, making the relay susceptible to an inadvertent actuation resulting from being bumped.

Corrective actions for this event include repairing this and similarly affected relays, and training personnel.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)		
		YEAR	SEQ NUM	REV			
PLANT HATCH, UNIT 1	05000321	91	010	00	2	OF	4

TEXT

## PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor

Energy Industry Identification System codes are identified in the text as (EIIIS Code XX)

## DESCRIPTION OF EVENT

On 5/16/91, at 2155 CDT, Unit 1 was in the Run mode at a power level of 2436 CMWT (100% of rated thermal power). At that time, turbine exhaust vacuum breaker isolation valve 1E51-F105 in the Reactor Core Isolation Cooling system (RCIC, EIIIS Code BN) received an isolation signal and closed. This valve functions as a Primary Containment Isolation System (PCIS, EIIIS Code JM) valve, isolating the vacuum relief line which leads from the suppression pool to the RCIC turbine exhaust line. The valve is designed to close on high drywell pressure in conjunction with low RCIC steam line pressure. This condition did not exist at the time of the event. With this line isolated, the licensed shift supervisor declared the RCIC system inoperable and initiated Limiting Condition for Operation (LCO) 1-91-256 to track resolution of the condition.

By approximately 2230 CDT, personnel investigating the event discovered the cover of relay 1E51-K48 wedged against the relay's moving contact arm. At the time the isolation was received, plant operations personnel had been performing surveillance procedure 34SV-T46-004-1S, "Secondary Containment Test." This surveillance procedure involves work in Control Room panel 1H11-P623 where relay 1E51-K48 is located. A plant operator had entered the panel, opened a link and exited the panel, unaware that the actuation had occurred while he was working in the panel. However, because he had been working in the panel when the isolation was received, it was concluded that he had inadvertently bumped relay 1E51-K48, wedging the slip-on plastic cover against the contact arm of the relay. This forced the contacts into the closed (energized) position, initiating an isolation signal to valve 1E51-F105.

At 2230 CDT, when the cover was restored to its proper position, the relay returned to its normal, deenergized position, clearing the isolation signal. The valve was then reopened. Subsequently, a stroke time test per surveillance procedure 34SV-E51-001-1S, "RCIC Valve Operability" was performed satisfactorily, and LCO 1-91-256 was terminated. No other actuations occurred in connection with this event, and no other operator actions were required.

## CAUSE OF EVENT

The cause of this event was personnel error in that control wiring was improperly routed to relay 1E51-K48 such that the relay cover could not be installed correctly. The relay which is the subject of this report is a General Electric type HGA relay of "back mount" design. Because of the incorrect routing of the control wiring, the cover had to be elevated slightly. This brought the cover into contact with the moving contact arm of the relay. Therefore, when the operator bumped the relay, the contact arm was wedged

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)	
		YEAR	SEQ NUM	REV		
PLANT HATCH, UNIT 1	05000321	91	010	00	3	OF 4

TEXT

upward as though the relay were energized. This resulted in an isolation signal being sent to PCIS valve 1E51-F105.

A contributing factor to the event was the cramped work space inside Control Room panel 1H11-P623. Specifically, the arrangement of the panel requires an operator to place his head and shoulders inside an opening of approximately 18 inches. This made it more likely the equipment operator would inadvertently bump the relay while working in the panel.

## REPORTABILITY AND SAFETY ASSESSMENT

This event is reportable per 10 CFR 50.73 (a)(2)(iv) because an unplanned automatic actuation of an Engineered Safety Feature (ESF) occurred. Specifically, a relay was bumped, resulting in PCIS valve 1E51-F105 (an ESF) isolating.

The PCIS valves are designed to limit the release of radioactive materials to the environment in the event of an accident by automatically isolating the lines entering and leaving the Primary Containment (E11S Code NH). The RCIC system provides core cooling during reactor shutdown by providing makeup water into the reactor pressure vessel in case of a loss of flow from the main feedwater system and is activated in time to preclude conditions which could lead to inadequate core cooling.

PCIS valve 1E51-F105 is designed to close under the conditions of high drywell pressure, in conjunction with low RCIC steam line pressure. This condition did not exist at the time of this event. However, relay 1E51-K48 in panel 1H11-P623 was inadvertently bumped during a surveillance activity. (The surveillance is unrelated to the RCIC system and does not involve this relay.) Bumping the relay wedged its slip-on plastic cover in place such that the contact fingers were pressed in, completing the circuit, resulting in an actuation.

The only function of relay 1E51-K48 is to close RCIC vacuum breaker isolation valve 1E51-F105. Therefore, per design, the valve moved to its "safe" position. No other actuations occurred as a result of this event. When the wedged-on relay cover was identified and corrected, the valve was reopened. In the event the RCIC system had been required to operate, the High Pressure Coolant Injection (HPCI, E11S Code BJ) system was operable and available to inject water into the vessel. The injection capacity of the HPCI system is approximately 10 times that of the RCIC system and, thus, would have provided adequate makeup to the reactor vessel.

Based on the above analysis, it is concluded this event had no adverse impact on nuclear safety. This analysis is applicable to all power levels.



LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)		
		YEAR	SEQ NUM	REV			
PLANT HATCH, UNIT 1	05000321	91	010	00	4	OF	4

TEXT

## CORRECTIVE ACTIONS

Corrective actions for this event include the following:

1. The cover of relay 1E51-K48 was loosened from its wedged-on condition, releasing the contact fingers. Valve 1E51-F105 was then reopened and satisfactorily tested, and the RCIC system was restored to operable status. This action is complete.
2. The control wiring on relay 1E51-K48 was rerouted and the cover was installed correctly. This action is complete.
3. A walkdown of Unit 1 and Unit 2 panels will be performed to identify any similar conditions with rear mounted HGA relays. Identified problems involving relays for which inadvertent actuation potentially occurring during repair would not adversely impact unit operation will be corrected by 8/15/91. Identified conditions involving relays for which inadvertent actuation potentially occurring during repair could adversely impact unit operation will be corrected by the end of the appropriate unit's next refueling outage.
4. This event will be discussed with electrical maintenance personnel, instrument and control technicians and operations personnel during shift training meetings. This action will be completed by 7/15/91.

## ADDITIONAL INFORMATION

1. Other Systems Affected: No systems other than the RCIC system and PCIS were affected by this event.
2. Previous Similar Events: No events were reported in the past two years in which improper routing of wiring on a relay resulted in an ESF actuation.
3. Failed Components Identification: No failed components contributed to this event.