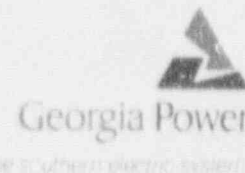


Georgia Power Company  
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J. T. Beckham, Jr.  
Vice President - Nuclear  
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HL-2076  
003014

February 26, 1992

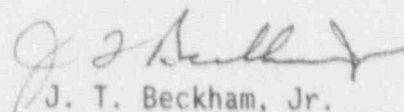
U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

PLANT HATCH - UNIT 1  
NRC DOCKET 50-321  
OPERATING LICENSE DPR-57  
LICENSEE EVENT REPORT  
COMPONENT FAILURE RESULTS IN  
UNPLANNED ENGINEERED SAFETY FEATURES 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 a component failure which resulted in an unplanned Engineered Safety Features actuation. This event occurred at Plant Hatch - Unit 1.

Sincerely,

  
J. T. Beckham, Jr.

OCV/cr

Enclosure: LER 50-321/1992-004

cc: (See next page.)

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U.S. Nuclear Regulatory Commission

February 26, 1992

Page Two

cc: Georgia Power Company

Mr. H. L. Sumner, General Manager - Nuclear Plant  
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. Ebner, Regional Administrator

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

003014

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) PLANT HATCH, UNIT ONE										DOCKET NUMBER (2) 05000321				PAGE (3) 1 OF 4		
TITLE (4) COMPONENT FAILURE RESULTS IN UNPLANNED ENGINEERED SAFETY FEATURE 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)			
02	01	92	92	004		00	02	26	92					05000		
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (11)														
1		20.402(b)				20.405(c)				<input checked="" type="checkbox"/> 50.73(a)(2)(iv)				73.71(b)		
POWER LEVEL		20.405(a)(1)(i)				50.36(c)(1)				<input type="checkbox"/> 50.73(a)(2)(v)				73.71(c)		
100		20.405(a)(1)(ii)				50.36(c)(2)				<input type="checkbox"/> 50.73(a)(2)(vii)				OTHER (Specify in Abstract below)		
		20.405(a)(1)(iii)				50.73(a)(2)(i)				<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
		20.405(a)(1)(iv)				50.73(a)(2)(ii)				<input type="checkbox"/> 50.73(a)(2)(viii)(B)						
		20.405(a)(1)(v)				50.73(a)(2)(iii)				<input type="checkbox"/> 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		912 367-7851				
COMPLETE ONE LINE FOR EACH FAILURE DESCRIBED IN THIS REPORT (13)																
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORT TO NRPDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORT TO NRPDS						
X	JM	RLY	G080	N												
SUPPLEMENTAL REPORT EXPECTED (14)												EX. CTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)												<input checked="" type="checkbox"/> NO				

## ABSTRACT (16)

On 2/1/92, Unit 1 was in the Run mode at a power level of 2436 CMWT (approximately 100% rated thermal power). Maintenance had been completed on the 'B' Reactor Protection System (RPS) motor generator (MG) set and RPS bus 'B' was being powered through its alternate supply in support of the maintenance work. At 0705 CST, when the bus was transferred back to the MG set, all expected actuations and valve closures in the Primary Containment Isolation System (PCIS) occurred due to the momentary loss of power. However, during restoration of the affected systems, operators were unable to reopen two PCIS valves in the Fission Product Monitoring (FPM) system, 1D11-F052 and 1D11-F053. Operators then walked down Control Room panels and identified a chattering relay, 1P33D-KR6, which was preventing the valves' isolation logic from being reset. At 0710 CST, a licensed operator manually positioned the relay in the energized state so the isolation logic could be reset and the valves could be reopened. This action restored normal flow through the FPM system. At 0745 CST, however, with the relay still chattering, PCIS valve 1D11-F053 again automatically closed. An operator noticed the closure and successfully reopened the valve with its control switch. The failed relay was subsequently replaced.

The cause of this event was component failure. A relay failed in the control logic for PCIS valve 1D11-F053.

Corrective actions for this event included replacing the failed relay and functionally testing the isolation logic which was affected by the relay.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)	
		YEAR	SEQ NUM	REV		
PLANT HATCH, UNIT ONE	05000321	92	004	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 (EIIS Code XX).

DESCRIPTION OF EVENT

On 2/1/92, Unit 1 was in the Run mode at a power level of 2436 CMWT (approximately 100% rated thermal power). Reactor Protection System (RPS, EIIS Code JC) electrical bus 'B' was being powered from its alternate supply while periodic maintenance was being completed on the normal power supply, the RPS motor generator (MG) set. When the maintenance was complete, operators prepared to transfer the RPS bus to its normal supply. When the bus transfer occurs, RPS power is momentarily interrupted. Since systems powered by RPS are designed to actuate upon loss of power, the bus transfer results in numerous actuations, including closure of several valves in the Group 2 Primary Containment Isolation System (PCIS, EIIS Code JM).

At 0705 CST, licensed operations personnel transferred RPS bus 'B' to its normal supply, the RPS MG set. All actuations and valve closures occurred as expected. Per procedure 34AB-OPS-066-1S, "LOSS OF RPS BUS," operators began returning affected systems to service by opening valves which had closed. Upon resetting the Group 2 and Group 5 isolation logic, operators noticed a relay chattering. They also found that PCIS valves 1D11-FO52 and 1D11-FO53 could not be opened with their control switches. These valves provide primary containment isolation for the Fission Product Monitoring (FPM, EIIS Code IJ) system. Operators walked down Control Room panels and identified relay 1P33D-KR6, located in panel 1H11-P700, as the chattering relay.

At 0710 CST, a licensed operator manually positioned the relay in its energized state which allowed reset of the logic system. Then a second licensed operator opened the FPM valves with their control switches, restoring normal flow through the FPM system. The relay, however, continued to chatter. In accordance with plant administrative controls, a Deficiency Card was written and maintenance personnel were notified the relay needed to be replaced.

At 0745 CST, with the relay still chattering, valve 1D11-FO53 automatically closed. A licensed operator immediately noticed the closure and was able to reopen the valve with its control switch without having to manually reposition the relay again. There were no other automatic actuations of this valve. The chattering relay was subsequently replaced, and the logic system affected by the relay was successfully functionally tested by 1415 CST.

CAUSE OF EVENT

The cause of the event was a component failure. A relay failed in the control logic for PCIS valve 1D11-FO53, resulting in an unplanned automatic closure of the valve. The component failure was determined to be random, i.e., not induced by service-related conditions.



**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

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TEXT

REPORTABILITY ANALYSIS 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 occurred. Specifically, a failed relay in the control logic for PCIS valve 1D11-FO53 resulted in this valve receiving an isolation signal and the valve closing per design.

The Group 2 Primary Containment Isolation System is designed to isolate certain Primary Containment Isolation Valves to provide protection against accidents involving the release of radioactive materials from the fuel or nuclear process barriers. Group 2 systems are generally those systems whose lines do not communicate directly with the reactor vessel, but penetrate the Primary Containment and communicate with the free space inside it. Logic which initiates a Group 2 isolation is powered from the Reactor Protection System and is designed to provide closure signals to isolation valves in the event of a loss of power. Power is momentarily lost when an RPS bus is transferred between alternate and normal power. This results in a half scram in that RPS channel and other automatic actions, including Group 2 PCIS actuations. Process conditions which will initiate a Group 2 isolation include low reactor water level (Level 3), high drywell pressure, and high radiation in the reactor building or on the refueling floor.

In this event, a single Group 2 PCIS valve, 1D11-FO53, closed as a result of a failed relay, 1P33D-KR6, in its isolation logic. This relay supplies an actuation signal to four Group 2 isolation valves, 1D11-FO52, 1D11-FO53, 1B21-F112, and 1E41-F121. The 1D11 valves isolate the lines leading to and from the Primary Containment to the FPM system, and the other two valves isolate lines associated with the Post Accident Sampling System (PASS, EIS Code IP). Valves 1D11-FO52, 1B21-F112, and 1E41-F121 could potentially have been affected during the event, but were not. The PASS valves are normally kept closed, and were closed throughout this event. The unpredictable nature of circuit response during relay chatter accounts for the fact that valve 1D11-FO52 remained open even though valve 1D11-FO53 went closed.

If a valid Group 2 PCIS signal had been generated during the time the relay was chattering, the relay would have deenergized as designed, and all four valves, 1D11-FO52, 1D11-FO53, 1B21-F112, and 1E41-F121, would have received isolation signals as required. The ability of the logic system to assume the tripped state was successfully tested after the relay was replaced, which indicates that no problem existed with the valves themselves or with the rest of the logic system.

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

CORRECTIVE ACTIONS

Relay 1P33D-KR6 was replaced with a new relay from stock, and the affected logic system was functionally tested.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)		
		YEAR	SEQ NUM	REV			
PLANT HATCH, UNIT ONE	05000321	92	004	00	4	OF	4

TEXT

ADDITIONAL INFORMATION

1. Other Systems Affected: No systems were affected by this event other than the PCIS and the FPM system.
2. Previous Similar Events: Events reported in the past two years in which a failed relay resulted in an ESF actuation were described in the following LERs:

50-321/1990-016, Dated 09/13/90  
50-321/1991-002, Dated 03/01/91  
50-321/1991-014, Revision 1, Dated 12/17/91  
50-366/1990-002, Revision 1, Dated 08/13/90  
50-366/1990-008, Dated 10/18/90  
50-366/1991-002, Dated 02/18/91

Corrective actions for these events included replacing faulty relays and installing them in improved mountings, replacing failed fuses, counseling personnel, performing a design review and modifying logic in the Standby Gas Treatment System (SGTS, EIIS Code BH). These corrective actions would not have prevented this failure because the failure of relay 1P33D-KR6 was considered to be random, and not induced by any service-related conditions.

3. Failed Components Identification:

Master Parts List Number: 1P33D-KR6  
Manufacturer: General Electric  
Type: Relay  
Model Number: CR120A06022AA  
Manufacturer Code: G080  
EIIS System Code: JM  
EIIS Component Code: RLY  
Root Cause Code: X  
Reportable to NPRDS: No