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J. T. Beckham, Jr.
Vice President - Nuclear
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Georgia Power
the southern electric system

April 5, 1996

Docket No. 50-321

HL-5134

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

Edwin I. Hatch Nuclear Plant - Unit 1
Licensee Event Report
Component Failure Results in Unplanned
Engineered Safety Feature System Actuation

Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(iv) and 10 CFR 50.73(a)(2)(i), Georgia Power Company is submitting the enclosed Licensee Event Report (LER) concerning a component failure which resulted in an unplanned engineered safety feature system actuation.

Sincerely,

J T Beckham Jr

J. T. Beckham, Jr.

110026

OCV/eb

Enclosure: LER 50-321/1996-003

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. Ebneter, Regional Administrator
Mr. B. L. Holbrook, Senior Resident Inspector - Hatch

IE22 1

NRC FORM 366 (5-92)

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

APPROVED OMB NO. 3150-0104
EXPIRES: 5/31/95
ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB7714), 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.

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
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TITLE (4)
Component Failure Results in Unplanned Engineered Safety Feature System Actuation

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(S)
03	09	96	96	003	00	04	08	96		05000
									FACILITY NAME	05000

OPERATING MODE (9): 1
POWER LEVEL (10): 081

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR ? : (Check one or more of the following) (11)

	20.402(b)		20.405(c)	X	50.73(a)(2)(iv)		73.71(b)
	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 Abstract below and in Text, NRC Form 366A)
	20.405(a)(1)(iii)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		
	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 (include area code)
Steven B. Tipps , Nuclear Safety & Compliance Manager, Hatch	AREA CODE 912 367-7851

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS
X	JM	RLY	G080	Yes					

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 3/9/96 at 1456 EST, Unit 1 was in the Run mode in end-of-cycle coastdown at a power level of 1971 CMWT (81 percent rated thermal power). At that time, outboard Group 2 Primary Containment Isolation System (PCIS) valves closed unexpectedly and isolated the reactor coolant leakage detection systems. Operations personnel entered Unit 1 Technical Specification 3.4.5, Condition D, which requires entry into Specification 3.0.3, and began reducing power. Personnel investigating the unexpected isolation discovered the coil for relay 1A71-K57 had failed causing logic power fuse 1A71-F22 to blow and outboard Group 2 valves to close per design upon loss of logic power. Operations personnel replaced the blown fuse and maintenance personnel replaced the failed coil. By 1644 EST, operations personnel had reset the Group 2 isolation signal; returned the required reactor coolant leakage detection systems to service; exited Specification 3.4.5, Condition D, and Specification 3.0.3; and terminated the power reduction.

This event was caused by component failure. Specifically, the coil for relay 1A71-K57 failed causing logic power fuse 1A71-F22 to blow. This caused a loss of power to various Group 2 PCIS relays. The outboard Group 2 valves closed per design.

The logic power fuse and relay coil were replaced, the Group 2 isolation signal was reset, and the affected systems were returned to service.

PLANT AND SYSTEM DESCRIPTION

General Electric - Boiling Water Reactor
Energy Industry Identification System codes are identified in the text as (EIIS Code XX).

DESCRIPTION OF EVENT

On 3/9/96 at 1456 EST, Unit 1 was in the Run mode in end-of-cycle coastdown at a power level of 1971 CMWT (81 percent rated thermal power). At that time, outboard Group 2 Primary Containment Isolation System (PCIS, EIIS Code JM) valves closed unexpectedly. This resulted in isolation of the Fission Product (EIIS Code IJ) and Drywell Floor Drain Sump (EIIS Code IJ) Monitoring systems which are reactor coolant leakage detection systems. These systems are required by Unit 1 Technical Specifications Limiting Condition for Operation (LCO) 3.4.5 to be operable in modes 1, 2, and 3. Operations personnel entered Unit 1 Technical Specification 3.4.5, Condition D, for the inoperable reactor coolant leakage detection systems. This Condition requires entry into Unit 1 Technical Specification LCO 3.0.3. Accordingly, operations personnel began reducing reactor power to comply with these requirements.

Maintenance personnel investigated the unexpected isolation. They discovered that the coil for Group 2 Primary Containment Isolation System relay 1A71-K57 had failed causing outboard Group 2 logic power fuse 1A71-F22 to blow and outboard Group 2 Primary Containment Isolation System valves to close per design upon loss of logic power.

Operations personnel replaced the blown fuse and maintenance personnel replaced the failed relay coil. By 1644 EST, operations personnel had reset the Group 2 isolation signal; returned the required reactor coolant leakage detection systems to service; exited Technical Specification LCO 3.4.5, Condition D, and Technical Specification LCO 3.0.3; and terminated the power reduction. Power had been reduced from 81% rated thermal power to 77% rated thermal power before operations personnel terminated the power reduction.

CAUSE OF EVENT

This event was caused by component failure. Specifically, the coil for Primary Containment Isolation System relay 1A71-K57 failed causing a short circuit current which blew Group 2 outboard logic power fuse 1A71-F22. This caused a loss of power to outboard Group 2 Primary Containment Isolation System relays. Outboard Group 2 Primary Containment Isolation Valves closed upon loss of logic power per design.

The temperature of this relay coil was checked in January 1996 during routine, periodic thermography of coils in the main control room panels. Its temperature was normal and, in fact, had decreased slightly since the previous check. Therefore, there was no prior indication of degradation or imminent failure of the relay coil. This was an isolated failure.

REPORTABILITY ANALYSIS AND SAFETY ASSESSMENT

This report is required per 10 CFR 50.73 (a)(2)(iv) because an unplanned actuation of an Engineered Safety Feature system occurred and per 10 CFR 50.73 (a)(2)(i) because Unit 1 Technical Specification LCO 3.0.3 was entered. Specifically, outboard Group 2 Primary Containment Isolation System valves closed per design when the coil in relay 1A71-K57 failed and logic power fuse 1A71-F22 blew. The Primary Containment Isolation System is an Engineered Safety Feature system. Isolation of the outboard Group 2 valves resulted in isolation of the reactor coolant leakage detection systems. Isolation of these systems required entry in Unit 1 Technical Specification LCO 3.4.5, Condition D, which required entry into Unit 1 Technical Specification LCO 3.0.3.

The Primary Containment Isolation System is designed to provide protection against accidents involving the release of radioactive material from the fuel or nuclear process barriers by automatically closing certain primary containment isolation valves. Group 2 isolation valves isolate those lines which penetrate the primary containment and communicate with the containment atmosphere, but do not communicate directly with the reactor coolant system or the reactor pressure vessel. As a fail-safe measure, the Primary Containment Isolation System logic is designed to isolate the valves upon loss of logic power. This ensures isolation of the primary containment in the event of accidents in which power is lost also.

Limits on reactor coolant pressure boundary leakage are specified so that appropriate action can be taken before the integrity of the pressure boundary is impaired. Leakage detection systems for the reactor coolant pressure boundary are provided to alert the operators when leakage rates above normal background levels occur and to supply quantitative measurement of leakage rates. When the required monitoring systems are inoperable, no automatic means of monitoring leakage are available and plant shutdown is required in accordance with Technical Specification LCO 3.0.3.

In this event, the coil for Primary Containment Isolation System relay 1A71-K57 failed, causing fuse 1A71-F22 to blow, logic power to the outboard Group 2 Primary Containment Isolation System to be lost, and outboard Group 2 valves to isolate per design. The open Primary Containment Isolation System valves controlled by the affected logic went to the closed, or accident, position per design.

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

When the outboard Group 2 valves closed, the reactor coolant pressure boundary leakage detection systems were isolated and therefore rendered inoperable. Per Unit 1 Technical Specification LCO 3.4.5, Condition D, when the required leakage detection systems are inoperable, LCO 3.0.3 must be entered. Unit 1 Technical Specification LCO 3.0.3 requires the plant to be placed in hot shutdown within seven hours. Consequently, operations personnel, in parallel with efforts to find and repair the cause of the Group 2 isolation, began a controlled unit shutdown to comply with the requirements of LCO 3.0.3. Power was reduced approximately four percent before the cause of the isolation was found and repaired and the leakage monitoring systems were returned to service.

All systems functioned per design, and all required Technical Specification actions were taken. Therefore, it is concluded that this event did not have any adverse impact on nuclear safety. This analysis is applicable to all power levels.

CORRECTIVE ACTIONS

Operations personnel replaced the blown logic power fuse. Maintenance personnel replaced the relay coil per Maintenance Work Order 1-96-0848. Operations personnel reset the Group 2 isolation signal, and returned the required reactor coolant leakage detection systems to service by 1644 EST on 3/9/96.

ADDITIONAL INFORMATION

No systems other than those mentioned in this report were affected by this event.

Failed Component Information:

Master Parts List Number: 1A71-K57
Type: Relay
Manufacturer: General Electric
Model Number: CR120A
Manufacturer Code: G080

EIIS System Code: JM
EIIS Component Code: RLY
Root Cause Code: X
Reportable to NPRDS: Yes

There have been no previous similar events reported in the last two years in which an unplanned Engineered Safety Feature system actuation occurred due to a failed relay coil.