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Georgia Power
the southern electric system

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

PLANT HATCH - UNIT 2
NRC DOCKET 50-366
OPERATING LICENSE NPF-5
LICENSEE EVENT REPORT
COMPONENT FAILURE RESULTS IN GROUP 5
PRIMARY CONTAINMENT ISOLATION SYSTEM 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 a Group 5 Primary Containment Isolation system actuation. This event occurred at Plant Hatch - Unit 2.

Sincerely,

J. T. Beckham, Jr.

OCV/cr

Enclosure: LER 50-366/1992-008

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

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NRC Form 366 (6-89) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
PLANT HATCH UNIT 2	0 5 0 0 0 3 6 6	1 OF 4

TITLE (4)
COMPONENT FAILURE RESULTS IN GROUP 5 PRIMARY CONTAINMENT ISOLATION SYSTEM 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)
										0 5 0 0 0
0 6	2 0	9 2	9 2	0 0 8	0 0	0 7	1 7	9 2		0 5 0 0 0

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (11)			
POWER LEVEL	1 0 0	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)
		20.405(a)(1)(iii)	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	
	AREA CODE	
STEVEN B. TIPPS, MANAGER NUCLEAR SAFETY AND COMPLIANCE, HATCH	912	367-7851

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORT TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORT TO NPRDS	
X	C E	T I C	F 0 8 0	N O							

SUPPLEMENTAL REPORT EXPECTED (14)

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

ABSTRACT (16)

On 6/20/92 at 0455 CDT, Unit 2 was in the Run mode at 2436 CMWT (100 percent rated thermal power) when an RWCU isolation signal was received on high process fluid temperature downstream of the Reactor Water Cleanup system (RWCU, EIIS Code CE) non-regenerative heat exchanger resulting in the automatic closure of Primary Containment Isolation system (PCIS, EIIS Code JM) valve 2G31-F004, as designed. The RWCU system had previously been isolated to replace leaking regenerative heat exchanger relief valves. After the valves had been replaced, the system was unisolated and the process of prewarming begun in preparation for returning the system to service when the isolation occurred. Licensed Operations personnel verified that an actual high temperature condition did not exist in the system effluent. An investigation later determined that a capacitor and a power supply board for temperature indicating controller 2G31-N008 had failed, resulting in a false high process fluid temperature signal to the 2G31-F004 isolation logic. The defective components were replaced and the RWCU system was returned to service on 6/22/92 at 0254 CDT.

The cause of the event is component failure. A capacitor and a power supply board in temperature controller 2G31-N008 failed.

Corrective actions for this event included replacing the failed components in the controller and calibrating the controller satisfactorily.

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 6/20/92 at 0455 CDT, Unit 2 was in the Run mode at 2436 CMWT (100 percent rated thermal power). The Reactor Water Cleanup system (RWCU, EIIS Code CE) had been isolated since 6/18/92 at 2325 CDT, in order to replace leaking RWCU regenerative heat exchanger relief valves 2G31-F3057 and 2G31-F3058. Replacement of the valves was completed by 1916 CDT on 6/19/92. Subsequently, the system was filled and vented in accordance with procedure 34SO-G31-003-2S, "Reactor Water Cleanup System." On 6/20/92 at 0035 CDT, the system was unisolated and pressurized. Prewarming of the system then began. At 0455 CDT, during the prewarming process, an RWCU isolation signal was received on high process fluid temperature downstream of the RWCU non-regenerative heat exchanger (NRHX) resulting in the automatic closure of Primary Containment Isolation system (PCIS, EIIS Code JM) valve 2G31-F004, as designed. Licensed Operations personnel verified that an actual high temperature condition did not exist in the system effluent in accordance with annunciator response procedure 34AR-602-427-2S, "RWCU Filter Inlet Temperature High." Licensed Operations personnel noted that the trip signal for high temperature downstream of the NRHX comes from temperature indicating controller 2G31-N008. Therefore, they directed Instrument and Control (I & C) technicians to investigate operation of the controller. The RWCU system remained isolated with valve 2G31-F004 fully closed while investigation of the event was in progress.

Upon arriving at the remote panel where the controller is located, I & C technicians observed that the red trip light was illuminated. While checking calibration of the controller per procedure 57CP-CAL-065-2S, "Fenwal Type 550/551/561 Temperature Indicating Controller," the technicians noted that the device was out of calibration and that the trip unit could not be reset. Upon disassembling the controller, they discovered a failed capacitor in the controller's amplifier board and a failed power supply. The failure of these components had apparently resulted in the generation of a false high process fluid temperature signal to the 2G31-F004 isolation logic.
The failed components were replaced and the controller was calibrated satisfactorily. Licensed Operations personnel then opened valve 2G31-F004 and returned the RWCU system to service on 6/22/92 at 0254 CDT, in accordance with procedure 34SO-G31-003-2S, "Reactor Water Cleanup System."

CAUSE OF EVENT

The cause of this event was component failure in temperature indicating controller 2G31-N008. This resulted in a false high fluid temperature signal to the 2G31-F004 isolation logic.

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 (ESF) occurred. Specifically, Group 5 PCIS valve 2G31-F004 closed in response to a false indication of high fluid temperature downstream of the RWCU system non-regenerative heat exchanger.

The purpose of the Group 5 PCIS is to isolate the line leading from the Primary Containment to the Reactor Water Cleanup system when certain process conditions are sensed. These conditions include high ambient temperature in the RWCU heat exchanger room, high differential temperature in the ventilation system ducts entering and leaving the RWCU heat exchanger room, Water Level 2 in the Reactor Pressure Vessel, high differential flow in the lines entering and leaving containment, initiation of the Standby Liquid Control (SBLC, EIIS Code BR) system and high process fluid temperature downstream of the RWCU NRHX. The latter two conditions do not affect the inboard Group 5 PCIS valve, 2G31-F001. These signals close only the outboard PCIS valve, 2G31-F004. The purpose of the Group 5 PCIS isolation on high temperature following the non-regenerative heat exchanger is to prevent hot reactor water from damaging the resin in the RWCU system filter demineralizers, which could result in intrusion of the resin into the reactor coolant system. The purpose of the isolation on SBLC initiation is to prevent removal of the boron solution injected by SBLC.

In the event addressed in this report, a failure of the temperature controller resulted in the generation of an invalid high fluid temperature signal to the isolation logic for 2G31-F004. The logic system responded per design by initiating automatic isolation of the outboard Group 5 PCIS valve, 2G31-F004. No other systems were affected by the isolation. The system fulfilled its design function by isolating when the appropriate logic signal was present. If a design basis accident had occurred during the event, the automatic isolation of the outboard PCIS valve would have had no effect on the capability of the inboard valve to close and, in fact, the penetration would have already been isolated. The system would have responded per design, however, and completed the isolation with both valves. In the event that the controller had failed such that it was unable to trip, and a design basis event occurred, the other inputs to the valve's isolation logic, i.e., leak detection, Reactor Water Level 2, etc., would have produced an isolation of 2G31-F004. Since the logic systems for the two redundant group 5 valves are independent of each other, the 2G31-F001 valve was unaffected by the failure of the controller and was thus capable of being isolated by any valid isolation signal.

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

CORRECTIVE ACTIONS

The failed components in the controller were replaced and the controller was calibrated satisfactorily. The RWCU system was returned to service on 6/22/92 at 0254 CDT.

ADDITIONAL INFORMATION:

1. Other Systems Affected: No systems were affected other than those mentioned in this report.

2. Previous Similar Events: Events reported in the past two years in which failed components resulted in Group 5 PCIS isolations are described in the following LERs:

   50/321/1991-014, dated 09/09/91,
   50/321/1991-016, dated 09/30/91,
   50/321/1991-019, dated 10/18/91,
   50/321/1992-015, dated 07/10/92,
   50-366/1991-015, dated 09/18/91,
   50-366/1991-020, dated 12/02/91,
   50-366/1992-007, dated 07/10/92

   Corrective actions from these events included replacing failed components, issuing operating orders on the operation of the Standby Gas Treatment System (SGTS, EIIS Code BH), performing engineering reviews to evaluate SGTS design and component application, calibrating RWCU system flow instruments, repairing a leaking valve in the RWCU system, sending a sample of light bulbs to the manufacturer for failure analysis, performing an engineering review to evaluate the application of a circuit breaker in the Reactor Protection System (RPS, EIIS Code JE), replacing a cracked temperature switch in the RWCU system, and repairing a leak in the RWCU heat exchanger. These corrective actions would not have prevented the event described in this report because they addressed the specific failures peculiar to each event. Moreover, none of the component failures reported in the previous events resulted from the kind of defective components which led to the present event.

3. Failed Components Identification:

   Master Parts List Number: 2G31-N008
   Manufacturer: Fenwal Electronics Corporation
   Type: Temperature Indicator Controller
   Model Number: Type 561
   Manufacturer Code: F080
   EIIS System Code: CE
   EIIS Component Code: TIC
   Root Cause Code: X
   Reportable to NPRDS: No