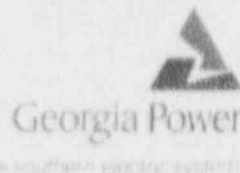


Georgia Power Company
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, Alabama 35201
Telephone 205 677-72

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



HL-2037
002922

February 6, 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 CAUSES
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 caused an unplanned engineered safety features actuation. This event occurred at Plant Hatch - Unit 1.

Sincerely,


J. T. Beckham, Jr.

OCV/cr

Enclosure: LER 50-321/1992-001

cc: (See next page.)

9202100286 920106
PDR ADOCK 05000321
S PDR

JEZ

cc: Power 

U.S. Nuclear Regulatory Commission

February 6, 1992

Page Two

cc: Georgia Power Company
Mr. J. Sumner, General Manager - Nuclear Plant
NORMS

U.S. Nuclear Regulatory Commission, Washington, D.C.
Mr. K. Jabbar, 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

002922

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) **PLANT HATCH, UNIT 1** DOCKET NUMBER (2) **05000321** PAGE (3) **1** OF **4**

TITLE (4) **COMPONENT FAILURE CAUSES AN 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)
01	13	92	92	001	00	02	06	92	PLANT HATCH, UNIT 2	05000366
										05000

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (11)

OPERATING MODE (9)	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
1			X	
POWER LEVEL	20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
100				
	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
STEVEN B. TIPPS, MANAGER NUCLEAR SAFETY AND COMPLIANCE, HATCH	912 307-7851

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	IL	RJX	G082	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

ABSTRACT (16)

On 1/13/92, at 1548 CST, Unit 1 and Unit 2 were both in the Run mode at 2436 CMWT (100 percent of rated thermal power). At that time, Area Radiation Monitor (ARM) 1D21-K601D tripped resulting in the Main Control Room Environmental Control (MCREC) system automatically transferring to the pressurization mode as designed. Plant personnel initiated investigation into the situation and found that radiation level in the area monitored by the ARM was 6 mR/hr; 9 mR/hr below the ARM design trip setpoint of 15 mR/hr. The ARM setpoint was checked and found to be at 8 mR/hr. The setpoint was adjusted to within tolerance per procedure 57CP-CAL-005-1S, "ARM System Calibration." Subsequently, the ARM was reset and the MCREC system was returned to the normal mode of operation by 2345 CST. Further investigation of the ARM system by Instrument and Controls personnel revealed that intermittent failure of ARM DC power supply unit 1D21-K603A caused the ARM trip. The power supply unit was replaced. The setpoints of the ARMs powered by this unit were checked and adjusted as necessary.

The cause of the event was intermittent failure of power supply unit 1D21-K603A. The output of the 1D21-K603A 24 VDC module was intermittently drifting below the allowable tolerance, resulting in a premature trip of ARM 1D21-K601D. Corrective actions for the event include replacing the power supply, adjusting ARM setpoints, and performing a failure analysis on the power supply.

**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	92	001	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 1/13/92, at 1548 CST, Unit 1 and Unit 2 were both in the Run mode at 2416 MWTT (100 percent of rated thermal power). At that time, Area Radiation Monitor (ARM, EIIS Code IL) 1D21-K601D tripped resulting in the Main Control Room Environmental Control (MCREC, EIIS Code VI) system automatically transferring to the pressurization mode as designed. Licensed personnel initiated investigation into the situation and found that the radiation level in the area monitored by the ARM was 6 mR/hr; 9 mR/hr below the ARM design trip setpoint of 15 mR/hr. The ARM setpoint was checked and found to be at 8 mR/hr. The setpoint was adjusted to within tolerance per procedure 57CP-CAL-005-1S, "ARM System Calibration." Subsequently, the ARM was reset and the MCREC system was returned to the normal mode of operation by 2345 CST. Further investigation of the ARM system by Instrument and Controls personnel revealed that intermittent failure of ARM DC power supply unit 1D21-K603A had caused the ARM setpoint to drift.

The ARM DC power supply unit, 1D21-K603A, converts 120 VAC power to 24 VDC and 575 VDC. It provides power to ten ARMs, including ARMs 1D21-K601B and D, which function to initiate the pressurization mode of the MCREC system. The power supply unit was changed out and tested under no-load conditions. The unit was found to fail intermittently. Specifically, one of the 24 VDC power supply modules drifted down to approximately 19 volts over a period of time and then for no apparent reason returned to 24 volts.

With the new power supply installed, the setpoints for each of the ten ARMs powered by 1D21-K603A were checked and adjusted as needed per procedure 57CP-CAL-005-1S.

CAUSE OF EVENT

The cause of the event was intermittent failure of power supply unit 1D21-K603A. During investigation of the event, the 24 VDC module of the unit was found to drift down to 19 VDC and back up to 24 VDC. The 24 VDC module supplies power to ARM alarm and trip units. A decrease in power to the alarm and trip unit produces the same effect in the ARM as reducing the trip setpoint. It is concluded that on 1/13/92 at 1548 CST, the output of the 24 VDC module had decreased to the point that the effective setpoint of ARM 1D21-K601D reached the area background radiation level of 6 mR/hr, resulting in the ARM tripping and the MCREC system automatically transferring to the pressurization mode.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1) PLANT HATCH, UNIT 1	DOCKET NUMBER (2) 0 5 0 0 0 3 2 1	LER NUMBER (5)			PAGE (3)	
		YEAR	SEQ NUM	REV		
		9 2	0 0 1	0 0	3	OF 4

TEXT

REPORTABILITY AND SAFETY ASSESSMENT

This report is required per 10 CFR 50.73(a)(2)(iv) because of an unplanned actuation of an Engineered Safety Feature (ESF). Specifically, the MCREC system, an ESF, transferred from the normal to the pressurization mode when ARM 1D21-K601D tripped.

The ARM system provides information to plant personnel concerning radiation levels at selected locations within the plant where radioactive material may be present, stored, handled, or introduced. The ARMs provide local indication as well as indication in the Main Control Room. They also alarm locally when radiation levels in that area exceed preselected setpoints; and, four of the refueling floor ARMs also provide initiation signals for automatic actuation of the MCREC system pressurization mode.

The MCREC system is designed to ensure habitability of the Unit 1 and Unit 2 Main Control Room following a Loss of Coolant Accident, a Fuel Handling Accident, a Main Steam Line Break Accident, or a Control Rod Drop Accident. Specifically, the MCREC system enters the pressurization mode of operation in response to a Loss of Coolant Accident signal from Unit 1 or 2, a Refueling Floor high radiation signal from Unit 1 or 2, a Main Steam Line high flow signal from Unit 1 or 2, a Main Steam Line high radiation signal from Unit 1 or 2, or a Main Control Room air intake high radiation signal. The pressurization mode pressurizes the Main Control Room preventing inleakage of gaseous radioactive material and thereby keeping dose to Main Control Room personnel to within 10 CFR 50, Appendix A, limits.

In the fuel handling design basis accident, a fuel bundle is dropped onto the core resulting in fuel rod damage and releases of radioactive gases into the refueling floor atmosphere. This design basis accident analysis results in radiation fields sufficient to trip selected ARMs with the resultant actuation of the MCREC system pressurization mode. The refueling floor ARM trip anticipates an actuation of the MCREC system pressurization mode resulting from a Main Control Room air intake high radiation signal. As such, it provides additional protection over that assumed in the Unit 1 and Unit 2 Final Safety Analysis Reports (FSAR) from the air intake high radiation trip.

In the event described in this report, the MCREC system entered the pressurization mode when refueling floor ARM 1D21-K601D tripped on a false high radiation signal. No accident or radioactive gas release had occurred to cause the high radiation signal. The system responded as designed and would have functioned properly to protect personnel in the Main Control Room had an actual release of radioactive gas occurred on the refueling floor.

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

**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	0 5 0 0 0 3 2 1	9 2	0 0 1	0 0	4	OF 4

TEXT

CORRECTIVE ACTIONS

Power supply 1D21-K603A was replaced and the associated ARM setpoints were checked and adjusted as necessary. The system was then returned to service by 1600 CST, on 1/15/92.

The failed power supply unit was replaced and will be sent to the manufacturer for failure analysis.

ADDITIONAL INFORMATION

No systems other than the MCREC system and the ARM system were affected by this event.

Similar events in the previous two years in which spurious ARM trips caused an automatic initiation of the MCREC pressurization mode were reported in the following LERs:

- 50-321/91-03, dated 03/08/91
- 50-321/91-20, dated 11/01/91
- 50-321/91-30, dated 12/23/91
- 50-366/90-09, dated 11/16/90
- 50-366/90-12, dated 12/26/90
- 50-366/91-03, dated 03/08/91
- 50-366/91-06, dated 04/12/91

With the exception of the event addressed in LER 50-321/91-20, the causes for these events included fuse failures, a voltage perturbation, and moving contaminated equipment close to an ARM. Corrective actions associated with these events included replacing fuses, decontaminating and labeling contaminated equipment. These corrective actions could not have prevented failure of the power supply unit and, therefore, could not have prevented this event. In the event addressed in LER 50-321/91-20, ARM 1D21-K601D setpoint was found to have drifted down several times to the background radiation level at the ARM resulting in several automatic initiations of the MCREC system pressurization mode. The setpoint was adjusted twice to restore it to the design setting. During a subsequent check of the ARM, the setpoint was found again to be out of tolerance. The ARM alarm and trip unit was then replaced. In retrospect, intermittent failure of power supply unit 1D21-K603A was the most probable cause of the event.

Failed Component Information:

MPL (Plant Identifier): 1D21-K603A
 Part Number: 112C2235G004
 Component Type: Power Supply
 Manufacturer Code: G082
 EIIS Component Code: RJX
 EIIS System Code: IL
 Reportable to NPRDS: Yes