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the southern electric system

W. G. Hairston, III
Senior Vice President
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HL-1367
001395

November 16, 1990

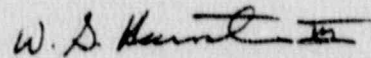
U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

PLANT HATCH - UNIT 2
NRC DOCKET 50-366
OPERATING LICENSE NPF-5
LICENSEE EVENT REPORT
TRIP OF AREA RADIATION MONITOR CAUSES
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 the unanticipated actuation of an Engineered Safety Feature (ESF). This event occurred at Plant Hatch - Units 1 and 2.

Sincerely,



W. G. Hairston, III

JJP/ct

Enclosure: LER 50-366/1990-009

c: (See next page.)

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c: 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 2** DOCKET NUMBER (2) **05000366** PAGE (3) **1** OF **5**

TITLE (4)
TRIP OF AREA RADIATION MONITOR CAUSES 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)
10	23	90	90	009	00	11	16	90	PLANT HATCH, UNIT 1	05000321
										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	367-7851
		912	

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

SUPPLEMENTAL REPORT EXPECTED (14)

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

ABSTRACT (16)

On 10/23/90 at approximately 0238 CDT, both Units 1 and 2 were in the Run mode at an approximate power level of 2436 CMWT (approximately 100% rated thermal power). At that time, the Main Control Room Environmental Control (MCREC, EIIS Code VI) system automatically transferred from the normal to the pressurization mode. This occurred as designed when Area Radiation Monitor (ARM, EIIS Code IL) 2D21-K601M tripped on detected radiation greater than its setpoint of 15 mR/hr. ARM 2D21-K601M is an input to the MCREC system pressurization mode logic. It tripped when a demineralized water hose, later determined to contain a 50 mR/hr hot spot, was moved near the ARM. The hose was being used to spray clean water on a loaded shipping cask as it was being removed from the cask storage pit near the ARM. Shipping cask handling activities were conducted with the monitoring of Health Physics personnel to assure radiation exposure was maintained as low as reasonably achievable; no personnel received an unexpectedly high dose from handling the contaminated hose nor did anyone become contaminated. The shipping cask was decontaminated and surveyed prior to shipment per approved plant procedures to meet Federal requirements for shipping radioactive material.

The cause of this event is less than adequate human factors. The hose had been used to drain a cask removed earlier and had become internally contaminated. Hoses used to drain casks were neither labeled as contaminated nor segregated from clean hoses.

Corrective actions for this event included marking and segregating contaminated hoses.

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TEXT

PLANT AND SYSTEM IDENTIFICATION

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

SUMMARY OF EVENT

On 10/23/90 at approximately 0238 CDT, Unit 2 was in the Run mode at an approximate power level of 2436 CMWT (approximately 100% rated thermal power) and Unit 1 was in the Run mode at an approximate power level of 2436 CMWT (approximately 100% rated thermal power). At that time, the Main Control Room Environmental Control (MCREC, EIIIS Code VI) system automatically transferred from the normal to the pressurization mode. This occurred as designed when Area Radiation Monitor (ARM, EIIIS Code IL) 2D21-K601M tripped on detected radiation greater than its setpoint of 15 mR/hr. ARM 2D21-K601M is an input to the MCREC system pressurization mode logic. It tripped when a demineralized water hose, later determined to contain a 50 mR/hr hot spot, was moved near the ARM. The hose was being used to spray clean water on a loaded shipping cask as it was being removed from the cask storage pit near the ARM. Shipping cask handling activities were conducted with the monitoring of Health Physics personnel to assure radiation exposure was maintained as low as reasonably achievable; no personnel received an unexpectedly high dose from handling the contaminated hose nor did anyone become contaminated. The shipping cask was decontaminated and surveyed prior to shipment per approved plant procedures to meet Federal requirements for shipping radioactive material.

The cause of this event is less than adequate human factors. The hose had been used to drain a cask removed earlier and had become internally contaminated. Hoses used to drain casks were neither labeled as contaminated nor segregated from clean hoses.

Corrective actions for this event included marking and segregating contaminated hoses.

DESCRIPTION OF EVENT

On 10/22/90, activities were underway on the Refueling Floor to remove a loaded shipping cask liner from the cask storage pit located between the Unit 1 and Unit 2 Spent Fuel Pools. The liner had been loaded with spent control rod blades and local power range monitors in preparation for shipment offsite. This was the fourth of a planned eleven such shipments.

The shipping cask was moved into the cask storage pit and the loaded liner was placed into it. The shipping cask lid was then placed on the cask and the bolts tightened. The cask lifting rigging was attached to the cask, personnel were positioned on opposite sides of the cask storage pit to spray with demineralized water the overhead crane hook, rigging, and cask as they were removed from the water, and the Unit 2 Shift Supervisor was notified the shipping cask was ready to be removed from the cask storage pit.

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On 10/23/90 at approximately 0238 CDT, personnel began lifting the shipping cask. As the overhead crane hook came out of the water, it was sprayed with demineralized water as part of routine decontamination operations. At that time, ARM 2D21-K601M tripped on high radiation (greater than 15 mR/hr) as one of the demineralized water hoses was moved near it. This ARM is an input to the MCREC system pressurization mode actuation logic; consequently, the MCREC system automatically transferred from the normal to the pressurization mode per design.

By approximately 0320 CDT, the shipping cask had been removed from the cask storage pit and placed in the cask washdown area on the Refueling Floor away from ARM 2D21-K601M. The high radiation trip from the ARM cleared and at approximately 0320 CDT, the MCREC system pressurization mode logic was reset and the system was returned to the normal mode. The shipping cask was decontaminated and surveyed prior to shipment per approved plant procedures to meet Federal requirements for shipping radioactive material.

CAUSE OF THE EVENT

The direct cause of this event was sensed high radiation by ARM 2D21-K601M as a demineralized water hose was moved near it during routine decontamination operations in the cask storage pit. Surveys of the hose performed after the ARM tripped indicated the hose was internally contaminated with contact readings as high as 50 mR/hr. It was determined the hose had become internally contaminated when it had been used to drain another shipping cask removed a few days earlier.

The root cause of this event is less than adequate human factors. Hoses used to drain the shipping casks were neither labeled as contaminated nor segregated from clean hoses. Consequently, personnel inadvertently chose an internally contaminated hose to spray demineralized water on the hook, rigging, and cask. The internal contamination resulted in radiation levels sufficient to trip the ARM when the hose was moved near it.

REPORTABILITY ANALYSIS 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, swapped from the normal to the pressurization mode when ARM 2D21-K601M tripped on sensed high radiation.

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 inadvertently 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, in the case of some of the Refueling Floor ARMs, provide a trip input to an ESF actuation logic system.

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The MCREC system is designed to ensure habitability of the 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 thereby preventing inleakage of gaseous radioactive material and keeping doses 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. The results of this design basis accident analysis indicate radiation fields sufficient to warrant the trip of selected ARMs and the resultant actuation of the MCREC system pressurization mode.

The Refueling Floor ARM trip anticipates the trip resulting from 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 from the air intake high radiation trip. It should be noted these trips are designed to protect Main Control Room personnel from doses due to gaseous radioactive releases from accidents elsewhere in the plant. Radiation from solid and/or liquid material which, by its physical nature, can not reach personnel in the Main Control Room is not relevant to these accident analyses.

In the event described in this report, the MCREC system entered the pressurization mode when Refueling Floor ARM 2D21-K601M tripped on sensed high radiation. This occurred when an internally contaminated water hose was moved near the ARM during shipping cask handling operations. 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. It should also be noted that shipping cask handling activities were conducted with the monitoring of Health Physics personnel to assure radiation exposure was maintained as low as reasonably achievable. No personnel received an unexpectedly high dose from handling the contaminated hose nor did anyone become contaminated.

Based on the above, it is concluded this event had no adverse impact on nuclear or personnel safety.

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CORRECTIVE ACTIONS

The MCREC system pressurization mode logic was reset and the system was returned to the normal mode at approximately 0320 CDT on 10/23/90.

Contaminated water hoses were marked and segregated from clean hoses on 10/23/90.

ADDITIONAL INFORMATION

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

No failed components caused or resulted from this event.

No previous similar events in which the MCREC system unexpectedly entered the pressurization mode have occurred in the last two years as a result of shipping cask removal activities.