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*the southern electric system*

W. G. Hairston, III  
Senior Vice President  
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HL-1410  
00126

December 26, 1990

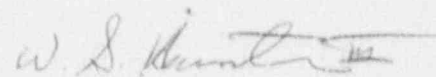
U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D. C. 20555

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

SRB/CT

Enclosure: LER 50-366/1990-012

c: (See next page.)

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U. S. Nuclear Regulatory Commission

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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
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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)
12	03	90	90	012	00	01	02	91	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)	<input checked="" type="checkbox"/>	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL 100	20.405(a)(1)(i)	50.36(c)(1)	<input type="checkbox"/>	50.73(a)(2)(v)	73.71(c)
	20.405(a)(1)(ii)	50.36(c)(2)	<input type="checkbox"/>	50.73(a)(2)(vi)	OTHER (Specify in Abstract below)
	20.405(a)(1)(iii)	50.73(a)(2)(i)	<input type="checkbox"/>	50.73(a)(2)(vii)(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)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME STEVEN B. TIPPS, MANAGER NUCLEAR SAFETY AND COMPLIANCE, HATCH	TELEPHONE NUMBER 912 367-7851
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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)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (16)

On 12/03/90, at approximately 2015 CST, Unit 1 and Unit 2 were both in the Run mode at approximately 2436 CMWT (approximately 100 percent of rated thermal power). Activities were in progress on the common Refueling Floor associated with the loading and shipping of spent Control Rod blades (EIIIS Code AA) and Local Power Range Monitor (LPRM, EIIIS Code IG) strings. At approximately 2015 CST, the Main Control Room Environmental Control System (MCREC, EIIIS Code VI) automatically transferred from its normal mode of operation to the Pressurization mode. This occurred as designed when Area Radiation Monitor (ARM, EIIIS Code IL) 2D21-K601M, located near the Spent Fuel Shipping Cask Storage Pit, tripped when a J-hook was lifted above the surface of the water of the pit. A survey of the J-hook, as it was raised and immediately prior to the ARM trip, indicated an unexpected contact dose rate of 80 mR/hr. The J-hook was promptly lowered back into the water and the ARM reading returned to normal. No personnel received an unexpectedly high dose during the event nor did anyone become contaminated. The ARM was subsequently reset and the MCREC system was placed back in the normal mode of operation.

The cause of this event was unexpected radioactive contamination on the J-hook. Corrective actions included assuring the J-hook was sufficiently decontaminated prior to its storage and restoring the MCREC system to its normal configuration.

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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 12/03/90, at approximately 2015 CST, Unit 1 and Unit 2 were both in the Run mode at approximately 2436 CMWT (approximately 100 percent of rated thermal power). Activities were in progress on the common Refueling Floor associated with the loading and shipping of spent Control Rod blades (EIIIS Code AA) and Local Power Range Monitor (LPRM, EIIIS Code IG) strings. At approximately 2015 CST, the Main Control Room Environmental Control System (MCREC, EIIIS Code VI) automatically transferred from its normal mode of operation to the Pressurization mode. This occurred as designed when Area Radiation Monitor (ARM, EIIIS Code IL) 2D21-K601M, located near the Spent Fuel Shipping Cask Storage Pit, tripped when a J-hook was lifted above the surface of the water of the pit. A survey of the J-hook, as it was raised and immediately prior to the ARM trip, indicated an unexpected contact dose rate of 80 mR/hr. The J-hook was promptly lowered back into the water and the ARM reading returned to normal. No personnel received an unexpectedly high dose during the event nor did anyone become contaminated. The ARM was subsequently reset and the MCREC system was placed back in the normal mode of operation.

The cause of this event was unexpected radioactive contamination on the J-hook.

Corrective actions included assuring the J-hook was sufficiently decontaminated prior to its storage and restoring the MCREC system to its normal configuration.

DESCRIPTION OF EVENT

On 12/03/90, Refueling Floor activities were in progress associated with the loading and shipping of spent Control Rod blades and LPRM strings. At approximately 2015 CST, a J-hook was being removed from the Spent Fuel Shipping Cask Storage Pit in order for it to be decontaminated and moved to dry storage. A J-hook is a hand manipulated tool used in Refueling Floor activities associated with the underwater retrieval, manipulation and storage of items. As the J-hook was lifted above the surface of the water of the pit, a Health Physics technician monitoring work activities properly surveyed the hook and found it to be reading approximately 80 mR/hr on contact. Since this was an unexpectedly high reading, the technician immediately directed the worker to lower the hook back into the water. Before this could be done, ARM 2D21-K601M, which is located adjacent to the pit, tripped on sensed high radiation (greater than 15 mR/hr). This ARM provides an input to MCREC system Pressurization mode actuation logic; consequently, the trip initiated an automatic transfer of the MCREC system to the Pressurization mode. The system functioned as designed.

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The hook was subsequently resubmerged in the water, moved from the vicinity of the ARM, and again removed from the water. Survey of the hook at that time showed a contact reading of approximately 20 mR/hr. The Refueling Floor personnel contacted the Shift Supervisor to notify him of the incident.

By approximately 2018 CST, the ARM trip had been reset and the MCREC system had been manually transferred back to the normal mode of operation. At approximately 2105 CST, the NRC was notified of the event in accordance with 10 CFR 50.72(b)(2).

CAUSE OF EVENT

The direct cause of the event was unexpected radioactive contamination of the J-hook. The high radiation trip setpoint of the ARM is 15 mR/hr, + or - 9.5 percent. In this event, the hook was removed from the pit which is located near the ARM. A survey of the hook at the time of the ARM trip showed a contact dose rate of approximately 80 mR/hr which was sufficient to cause the trip. The source of the contamination could not be identified since it was apparently washed off of the J-hook when the hook was resubmerged in the water.

The design function of the ARM is to detect gaseous radioactive iodine levels on the Refueling Floor which are indicative of a fuel handling accident and to provide the appropriate trip and alarm signals. However, the location of the ARM is such that routine Refueling Floor activities associated with the handling of irradiated and/or contaminated items in the Spent Fuel Cask Storage Pit creates a high potential for unnecessarily tripping the ARM.

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 (ESF) occurred. Specifically, the MCREC system, an ESF, transferred from the normal mode of operation 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 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 the Main Control Room air intake radiation monitors. As such, it provides additional protection over that provided by 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.

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 a contaminated J-hook was removed from the Spent Fuel Shipping Cask Storage Pit which is located near the ARM. 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 the Refueling Floor activities were conducted with monitoring by Health Physics personnel to assure radiation exposure was maintained as low as reasonably achievable. No personnel received an unexpectedly high dose during the event nor did anyone become contaminated.

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

CORRECTIVE ACTIONS

The J-hook was resubmerged immediately following the trip of the ARM. It was subsequently moved out of the vicinity of the ARM, removed from the water, and resurveyed. The resubmergence apparently removed the source of the unexpectedly high contact dose rate.

The ARM trip was reset and the MCREC system was returned to its normal mode of operation.

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ADDITIONAL INFORMATION

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

No failed components caused or resulted from this event.

One previous similar event in which the MCREC system unexpectedly entered the Pressurization mode as a result of Spent Fuel Cask Storage Pit activities has occurred in the past two years. The event was reported in LER 50-366/90-009, dated 11/16/90. The cause of this previous event was a failure to mark and segregate contaminated hoses. This resulted in a contaminated hose being moved into the immediate area of the ARM ultimately resulting in a trip of the ARM. Corrective actions included marking contaminated hoses and segregating them from clean hoses. This corrective action could not have prevented the recent event since contaminated hoses had no bearing on the event.