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*The Southern Electric System*

W. G. Hairston, III  
Senior Vice President  
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HL-1383  
000033

November 29, 1990

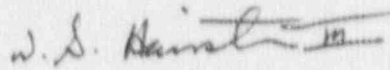
U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

PLANT HATCH - UNIT 2  
NRC DOCKET 50-366  
OPERATING LICENSE NPF-5  
LICENSEE EVENT REPORT  
INADEQUATE PROCEDURES AND PERSONNEL ERROR  
RESULT IN MISSED TECHNICAL SPECIFICATIONS SURVEILLANCE

Gentlemen:

In accordance with the requirements of 10 CFR 50.73 (a)(2)(i), Georgia Power Company is submitting the enclosed Licensee Event Report (LER) concerning a missed Technical Specifications surveillance. This event occurred at Plant Hatch - Unit 2.

Sincerely,

  
W. G. Hairston, III

JJP/ct

Enclosure: LER 50-366/1990-011

c: (See next page.)

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U.S. Nuclear Regulatory Commission  
November 29, 1990  
Page Two

c: Georgia Power Company  
Mr. H. L. Sumner, General Manager - Nuclear Plant  
Mr. J. D. Heidt, Manager Engineering and Licensing - Hatch  
GO-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) <b>PLANT HATCH, UNIT 2</b>	DOCKET NUMBER (2) <b>05000366</b>	PAGE 1 OF 6
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TITLE (4)  
**INADEQUATE PROCEDURES AND PERSONNEL ERROR RESULT IN MISSED TECHNICAL SPECIFICATIONS SURVEILLANCE**

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)
11	05	90	90	011	00	11	29	90		05000
										05000

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (11)												
OPERATING MODE (9) 1		20.402(b)			20.405(c)			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)(vi)			OTHER (Specify in Abstract below)	
		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 <b>STEVEN B. TIPPS, MANAGER NUCLEAR SAFETY AND COMPLIANCE, HATCH</b>	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 NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORT TO NPRDS

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 11/5/90 at 0700 CST, Unit 2 was in the Run mode at an approximate power level of 2436 CMWt (approximately 100% rated thermal power). At that time, the operations Shift Supervisor, acting on erroneous information concerning an illuminated Fission Product Monitoring (FPM, EIS Code IJ) system flow annunciator, terminated a Limiting Condition for Operation (LCO) and suspended compensatory actions required by the LCO. At approximately 1430 CST on 11/5/90 corrective action was taken which cleared the annunciator. At approximately 2305 CST on 11/5/90, it was determined that the Particulate Monitoring subsystem of the FPM had not been operable during the interval between 0700 CST when the compensatory actions were suspended and 1430 CST when the flow annunciator was cleared. Thus, sampling of the containment atmosphere, which is required by Unit 2 Technical Specifications section 3.4.3.1, action statement 'a', was not accomplished as required during that time.

The root causes of this event were two deficient procedures and a cognitive personnel error.

Corrective actions for this event included revising the involved procedures, counseling the individual responsible for the personnel error, and reperforming a visual check of the FPM for proper operation.

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PLANT AND SYSTEM IDENTIFICATION

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

SUMMARY OF EVENT

On 11/5/90 at 0700 CST, Unit 2 was in the Run mode at an approximate power level of 2436 CMWt (approximately 100% rated thermal power). At that time, the operations Shift Supervisor, acting on erroneous information concerning an illuminated Fission Product Monitoring (FPM, EIIIS Code IJ) system flow annunciator, terminated a Limiting Condition for Operation (LCO) and suspended compensatory actions required by the LCO. At approximately 1430 CST on 11/5/90 corrective action was taken which cleared the annunciator. At approximately 2305 CST on 11/5/90, it was determined that the Particulate Monitoring subsystem of the FPM had not been operable during the interval between 0700 CST when the compensatory actions were suspended and 1430 CST when the flow annunciator was cleared. Thus, sampling of the containment atmosphere, which is required by Unit 2 Technical Specifications section 3.4.3.1, action statement 'a', was not accomplished as required during that time.

The root causes of this event were two deficient procedures and a cognitive personnel error.

Corrective actions for this event included revising the involved procedures, counseling the individual responsible for the personnel error, and reperforming a visual check of the FPM for proper operation.

DESCRIPTION OF EVENT

On 11/1/90, at approximately 0845 CST, a Chemistry Department technician was performing a routine daily surveillance on the FPM system when he observed that the filter paper on the Particulate Monitoring subsystem was not advancing properly. He then initiated Deficiency Card 2-90-3266, in accordance with plant administrative controls, to document the condition and initiate corrective action. By 0920 CST, Limiting Condition for Operation (LCO) 2-90-338 was initiated, and four-hour grab samples of Primary Containment Atmosphere were taken, per the requirements of Technical Specifications section 3.4.3.1, action statement 'a'. Maintenance Work Order 1-90-3153 was initiated to implement corrective action.

On 11/5/90, at approximately 0400 CST, Instrument and Controls technicians replaced the filter paper drive motor on the Particulate Monitoring subsystem. A Chemistry Department technician performed the required post-maintenance functional test, which consisted of visual verification of filter paper motion and system lineup. The system lineup is performed by the Chemistry Department via procedure 64CH-CAM-005-0S, "FISSION PRODUCT MONITORS." The procedure,

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however, did not specify a position for switch 2D11-P011-HS2, so it was left in the OFF position. Power for the filter paper drive motor is supplied through this switch; thus the paper was not moving at the time the functional test was performed. The paper moves slowly so that twenty to thirty minutes are required in order to visually detect movement. The technician allowed approximately twenty-five minutes to elapse before checking for filter paper motion. The technician mistakenly believed that motion had occurred. Therefore, the technician signed off the functional test as complete and satisfactory even though the power supply switch was in the OFF position and the paper could not have been advancing.

The same Chemistry Department technician who performed the post-maintenance functional test observed that annunciator "FISSION PRODUCT FLOW HI/LOW," was illuminated in the Main Control Room (MCR). The annunciator response procedure directed operators to investigate such things as valve isolations, pump trips, etc. On 11/5/90, by approximately 0700 CST, Chemistry personnel had confirmed by direct observation of the FPM gas flow rotameter and differential pressure gauges that the required gas flow existed in the system. When all the conditions listed in the annunciator response procedure as possible causes for the alarm were determined not to exist, the annunciator was concluded to be spurious. Only later was it discovered that leaving switch 2D11-P011-HS2 in the OFF position also causes the system flow annunciator to alarm.

A Chemistry Department foreman then informed the Shift Supervisor that the post-maintenance functional test had apparently been successfully completed and that the "FLOW HI/LOW" annunciator had been concluded to be spurious. The Shift Supervisor terminated LCO 2-90-338 on the condition that the Chemistry Department continue to monitor FPM system gas flow and differential pressure every four hours until the annunciator was cleared.

On 11/5/90, at approximately 1430 CST, Instrument and Controls technicians investigating the lit annunciator discovered that switch 2D11-P011-HS2 being in the OFF position was causing the "FLOW HI/LOW" annunciator. When the switch was placed in the ON position, the annunciator cleared immediately (the position of switch 2D11-P011-HS2 was not listed in the annunciator response procedure as a possible cause for the flow annunciator).

On 11/5/90, at approximately 2305 CST, personnel reviewing the event determined that placing switch 2D11-P011-HS2 in the OFF position also disconnects power from the filter paper drive motor. Thus, it was recognized that, since the Particulate Monitoring subsystem of the FPM system cannot properly perform its function without the filter paper being in motion, the FPM system had not been operable at the time the LCO was terminated. Since the grab sampling and analysis of containment atmosphere had been suspended when the LCO was terminated, a required Technical Specifications surveillance had not been performed as required between 0700 CST and 1430 CST.



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CAUSE OF EVENT

The root causes of this event are two deficient procedures and cognitive personnel error. Procedure 64CH-CAM-005-0S, "FISSION PRODUCT MONITORS," did not list switch 2D11-P011-HS2 in the system lineup for the affected panel. The adjacent panel, 2D11-P010, is part of the same FPM system and also has a switch labeled "HS2." The switch on panel 2D11-P010 is listed in 64CH-CAM-005-0S and is normally in the OFF position when the system is in operation. The apparent similarity between the two panels led the Chemistry technician not to question the position of the undesignated switch or its omission from the system lineup. Moreover, the HS2 switch on panel 2D11-P011 is not normally manipulated by Chemistry Department personnel; thus, the incorrect position was not conspicuous to the technician.

The annunciator response procedure 34AR-602-430-2S, "FISSION PRODUCT FLOW HIGH/LOW," should list all the possible causes of the annunciator "FISSION PRODUCT FLOW HI/LOW." The switch which supplies power to the filter paper drive motors has several functions, one of which is to illuminate the flow annunciator under certain conditions. This potential annunciator cause was omitted from the procedure, and it led operators to a false confidence that all causes for a valid annunciator had been investigated and eliminated. The cause for the annunciator was eventually determined via reviews of elementary drawings and system manuals and by panel walkdowns. While this investigation was underway, the Shift Supervisor, having been erroneously assured that the annunciator was spurious, terminated the LCO, thus suspending the compensatory actions required by the Technical Specifications.

Finally, the Chemistry technician who performed the post-maintenance functional test on the Particulate Monitoring subsystem made a cognitive personnel error in checking the motion of the filter paper. This error, in conjunction with the deficient procedures, misled other technicians and operations personnel into regarding the flow annunciator as spurious.

REPORTABILITY ANALYSIS AND SAFETY ASSESSMENT

This event is reportable per 10 CFR 50.73(a)(2)(i) because an event occurred in which a Technical Specifications surveillance was not performed as required. Specifically, a four-hour grab sample and analysis of the primary containment atmosphere was not performed as required by Unit 2 Technical Specifications section 3.4.3.1, action statement 'a'.

The Fission Product Monitor is designed to provide continuous monitoring of the primary containment atmosphere during reactor operation as well as during periods when the reactor is shut down and personnel entry into the drywell is required. The system provides an alarm in the Main Control Room if preset

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radiation levels are exceeded or if an instrument failure occurs. Per design, a small flow of containment atmosphere is established via piping which penetrates containment and leads to the FPM panels. This flow is passed through a continuously moving paper filter medium which captures and concentrates particulates in the containment atmosphere. As the filter paper advances, it is moved past a sodium iodide (NaI) scintillation detector which monitors for radioactivity.

In this event, a mispositioned switch caused the filter paper drive motor to be disconnected from its power source. Thus the filter paper could not have been drawn through the Particulate Monitoring subsystem of the FPM system and past the NaI scintillation detector. A high radiation condition resulting from leakage of particulates into the containment atmosphere would thus have remained undetected by the FPM system. However, other containment leakage detection systems were available. The iodine and noble gas monitoring subsystem of the FPM was operable, and would have detected any leakage of these fission products should it have occurred. Also, the equipment and floor drain level and flow monitoring systems were operable during this time frame, and their leakage detection capabilities would have detected any excess reactor coolant system leakage in the containment. Finally, the normal and high range containment radiation monitoring systems were operable. Since no drywell entry was made or contemplated, and since other means of leakage detection were available, it is concluded that this event had no adverse impact on nuclear safety. This analysis is applicable to all power levels.

CORRECTIVE ACTIONS

1. The filter paper in the Particulate Monitoring subsystem was re-examined after the mispositioned switch was corrected, and the paper was determined to be advancing properly.
2. Procedure 64CH-CAM-005-0S, "FISSION PRODUCT MONITORS," has been temporarily revised to incorporate the position of switch 2D11-P011-HS2 in the system lineup. This change will be incorporated into the next permanent revision of this procedure.
3. Procedure 34AR-602-430-2S, "FISSION PRODUCT FLOW HIGH/LOW," has been temporarily revised to include the position of switch 2D11-P011-HS2 in the list of possible causes for the flow annunciator. This revision has also been incorporated into the corresponding Unit 1 procedure, 34AR-650-313-1S. These changes will be incorporated into the next permanent revisions of these procedures.
4. The individual responsible for the cognitive personnel error has been counseled.

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ADDITIONAL INFORMATION

1. Other Systems Affected: None
2. Previous Similar Events: There have been no events at Plant Hatch in the past two years in which a Limiting Condition for Operation was prematurely or inappropriately terminated resulting in missed compensatory actions.
3. Failed Components Identification: No failed components caused this event.