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*the southern electric system*

W. G. Hairston, III  
Senior Vice President  
Nuclear Operations

HL-1377  
000944

November 20, 1990

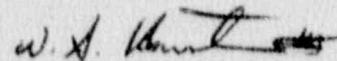
U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

PLANT HATCH - UNIT 2  
NRC DOCKET 50-366  
OPERATING LICENSE NPF-5  
LICENSEE EVENT REPORT  
PERSONNEL ERROR RESULTS IN  
MISSED TECHNICAL SPECIFICATION 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 specification surveillance. This event occurred at Plant Hatch - Unit 2.

Sincerely,



W. G. Hairston, III

CLT/et

Enclosure: LER 50-366/1990-010

c: (See next page.)

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U.S. Nuclear Regulatory Commission

November 20, 1990

Page Two

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)  
**PERSONNEL ERROR RESULTS IN MISSED 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)
10	30	90	90	010	00	11	20	90		05000
										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				
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 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	TELEPHONE NUMBER
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

SUPPLEMENTAL REPORT EXPECTED (14)

YES (if yes, complete EXPECTED SUBMISSION DATE)  NO

EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

ABSTRACT (16)

On 10/30/90, at approximately 1710 CST, with Unit 2 in the Run mode at an approximate power level of 2436 CMWT (approximately 100 percent rated thermal power), a licensed Shift Supervisor determined that certain surveillance requirements had not been met. Specifically, with the 2C Diesel Generator (D/G, EIIIS Code EK) inoperable, a breaker alignment check had not been performed every 8 hours as required by Unit 2 Technical Specifications section 3.8.1.1 Action b. Immediately upon discovery, a breaker alignment check was begun using the applicable sections of procedure 34SV-SUV-013-0S, "Weekly Breaker Alignment Checks." The required surveillance was satisfactorily completed at approximately 1810 CST, only 13 hours after completion of the previous surveillance but not within 8 hours as required.

The cause of this event was cognitive personnel error on the part of licensed personnel. The dayshift unit Shift Supervisor, when he assumed his duties, was aware of the Limiting Condition for Operation (LCO) which existed for the inoperable D/G and the requirement to perform a breaker alignment check every 8 hours. However, as the shift progressed, he failed to direct the timely performance of the check.

Corrective actions included performing the required surveillance and counseling the involved individual.

LICENSEE EVENT REPORT (LER)

Facility Name (1)				Docket Number (2)				Page (3)		
SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 3				0   5   0   0   0   3   6   2				1   of   0   7		
Title (4)										
STEAM GENERATOR FEEDWATER SPARGER DAMAGE										

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
Month	Day	Year	Year	Sequential Number	Revision Number	Month	Day	Year	Facility Names	Docket Number(s)
0	5	10	9	0	5	1	1	116	SONGS, UNIT 2	0   5   0   0   0   3   6   1
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)							
6			20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)	
POWER LEVEL (10)			20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)	
0   0   0			20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		X Other (Specify in Abstract below and in text)	
/ / / / /			20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		(Voluntary)	
/ / / / /			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	
R. W. Krieger, Station Manager		AREA CODE 7   1   4   3   6   8   6   2   5   5	

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

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

	Expected Submission Date (15)	Month	Day	Year

Yes (if yes, complete EXPECTED SUBMISSION DATE)  No

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On 5/10/90, with Unit 3 in Mode 6, during a routine inspection of the tubesheet of the Steam Generators (SGs), metal debris was found on the secondary side of both Unit 3 SGs. The sources of the debris were determined to be from both the feeding at its intersection with the feedwater inlet distribution box and the "T" vent assembly attached to each feedwater inlet distribution box.

On 7/28/90, Unit 2 was shut down for SG secondary side inspections. The condition of the feeding was similar although less extreme than that observed in Unit 3.

The design of the feeding and its support system did not adequately account for all of the loading conditions present in the SGs. This resulted in stress concentration at the welds associated with the transition piece between the feeding and the distribution box, causing cracking of the welds over a period of several years, and erosion and erosion-corrosion of the cracked pieces during power operation. The "T" vent assembly failure resulted from erosion and erosion-corrosion due to localized high velocity flow.

The feeding supports in both units were upgraded to reduce the stress concentration at the feeding/distribution box junction. In addition, the feeding design in both units was upgraded so that the junction between the feeding and distribution box can withstand greater stresses. The upgraded design includes: 1) use of Schedule 120 pipe to replace the transition piece (formerly Schedule 40 pipe), and 2) implementation of an improved weld joint design and weld practices. The "T" vent assemblies were determined to be unnecessary and modifications were completed which removed them. Debris was removed where possible, including the only piece that had caused any wearing of adjacent SG tubes. Although the wear of these tubes was not sufficiently deep to require plugging, as a precautionary measure, these tubes were plugged and staked. The predicted SG tube wear rate from debris that could not be removed was determined to be sufficiently low such that any degraded tubes would be identified (by required eddy current surveillance testing) prior to exceeding the allowable wear limits.

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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 10/30/90, at approximately 1710 CST, with Unit 2 in the Run mode at an approximate power level of 2436 CMWT (approximately 100 percent rated thermal power), a licensed Shift Supervisor determined that certain surveillance requirements had not been met. Specifically, with the 2C Diesel Generator (D/G, EIIIS Code EK) inoperable, a breaker alignment check had not been performed every 8 hours as required by Unit 2 Technical Specifications section 3.8.1.1 Action b. Immediately upon discovery, a breaker alignment check was begun using the applicable sections of procedure 34SV-SUV-013-0S, "Weekly Breaker Alignment Checks." The required surveillance was satisfactorily completed at approximately 1810 CST, only 13 hours after completion of the previous surveillance but not within 8 hours as required.

The cause of this event was cognitive personnel error on the part of licensed personnel. The dayshift unit Shift Supervisor, when he assumed his duties, was aware of the Limiting Condition for Operation (LCO) which existed for the inoperable D/G and the requirement to perform a breaker alignment check every 8 hours. However, as the shift progressed, he failed to direct the timely performance of the check.

Corrective actions included performing the required surveillance and counseling the involved individual.

DESCRIPTION OF EVENT

On 10/30/90, at 0430 CST, the 2C Diesel Generator, 2R43-S001C, was removed from standby status and rendered inoperable to allow for the scheduled replacement of check valves in the air start system. The check valves were being replaced as part of a design change which would allow improved inservice testing of the air start system. The 2C D/G was the last of the five D/G's to have its air system modified.

Limiting Condition for Operation (LCO) 2-90-334 was entered when the 2C D/G was rendered inoperable to track restoration of the D/G within 72 hours as required by Unit 2 Technical Specifications section 3.8.1.1. Section 3.8.1.1 Action b requires that, with one D/G inoperable, a breaker alignment check, as described in Unit 2 Technical Specifications section 4.8.1.1.1.a, be performed within 1 hour and at least once per 8 hours thereafter. In accordance with the LCO and to satisfy the requirements of section 3.8.1.1 Action b, performance of appropriate sections of procedure 34SV-SUV-013-0S, "Weekly Breaker Alignment Checks," was immediately begun. The position of certain breakers was verified

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to ensure that two physically independent circuits exist (by virtue of breaker position) between the offsite transmission network and the onsite Class 1E distribution system. The required sections of procedure 34SV-SUV-013-0S were satisfactorily completed on 10/30/90 at approximately 0510 CST. Thus, the requirement to verify correct breaker alignment within one hour of declaring a D/G inoperable was met.

The nightshift Shift Supervisor (SS) for Unit 2 was relieved by the dayshift SS at 0525 CST. The dayshift SS, at the time he assumed his duties, was fully aware of LCO 2-90-334 and the requirement to repeat the breaker alignment check within 8 hours. However, as the shift progressed, he became involved in other activities and overlooked the need to perform the breaker alignment check. At approximately 1710 CST that same day, while discussing upcoming surveillances with his relief, the dayshift SS realized that the required check had been missed. Procedure 34SV-SUV-013-0S was immediately begun at that time and the applicable sections were satisfactorily completed at 1810 CST. Thus, approximately 13 hours had elapsed from the time the first breaker alignment check was completed.

A breaker alignment check was satisfactorily performed again, in accordance with procedure 34SV-SUV-013-0S, at 2115 CST on 10/30/90. The work on the D/G air start system was then completed and the 2C D/G was proven operable by satisfactory performance of procedure 34SV-R43-003-2S, "2C Diesel Generator Monthly Test." LCO 2-90-334 was terminated at 0115 CST on 10/31/90 after returning the 2C D/G to operable status.

CAUSE OF EVENT

The cause of this event is cognitive personnel error. The licensed Shift Supervisor failed to direct performance of a breaker alignment check within 8 hours of performance of the previous check as required by Unit 2 Technical Specifications section 3.8.1.1 Action b.

REPORTABILITY ANALYSIS AND SAFETY ASSESSMENT

This report is required pursuant to 10 CFR 50.73(a)(2)(i) because a condition existed which was prohibited by the Technical Specifications. Specifically, with the 2C D/G inoperable, a breaker alignment check as described in Unit 2 Technical Specifications section 4.8.1.1.1.a was not performed at least once per 8 hours as required by section 3.8.1.1 Action b.

The Southern Electric System transmission network supplies offsite AC power for operating the essential buses as well as providing AC power for non-essential buses during startup and shutdown of either unit at Plant Hatch. The network connections at Plant Hatch consist of four 500kV transmission lines and four 230kV transmission lines. A 500/230kV auto transformer connects the 500kV switchyard to the 230kV switchyard. A ring bus switching scheme is used for the

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500kV switchyard and a breaker-and-a-half scheme is used for the 230kV switchyard. Three physically independent 230kV circuits are provided from the switchyard to Startup Auxiliary Transformers (SAT) 1C, 1D, 2C, and 2D which supply normal and alternate power to the 4160V essential buses for the respective unit. Physical separation, the ring bus, breaker-and-a-half switching schemes, redundant switchyard protection systems, and transmission system design based on load flow and stability studies minimize simultaneous failure of all offsite power sources in compliance with General Design Criterion 17.

The onsite standby AC power supply for Plant Hatch Units 1 and 2 consists of five diesel generator units, which supply standby power to 4160V essential buses 1E, 1F, 1G, 2E, 2F, and 2G. Diesel generators 1A and 1C supply Unit 1 essential buses 1E and 1G, respectively. Diesel generators 2A and 2C supply Unit 2 essential buses 2E and 2G respectively. Diesel generator 1B is shared and can supply either Unit 1 essential bus 1F or Unit 2 essential bus 2F.

Each 4160V essential bus then has three separate and independent power supplies. In the case of bus 2G, for instance, normal power is supplied from SAT 2D, alternate power is supplied from SAT 2C, and standby or emergency power is supplied from Diesel Generator 2C. Power sensing logic for the essential bus will cause automatic swapping of power supplies from normal to alternate to emergency power as required to energize the bus.

In this event Diesel Generator 2C was rendered inoperable by planned maintenance activities and would have been incapable of automatically starting and providing emergency power to bus 2G in the unlikely event that it was called upon to do so. Unit 2 Technical Specifications allow continued operation for 72 hours with one diesel generator inoperable provided that:

- two physically independent circuits between the offsite transmission network and the onsite essential distribution system are demonstrated operable by performance of Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter, and
- the other two diesel generators serving the other two essential 4160V buses are demonstrated operable within 24 hours by performance of Surveillance Requirement 4.8.1.1.2.a.4.

Surveillance Requirement 4.8.1.1.1.a is commonly referred to as a "breaker alignment check" and is performed in accordance with procedure 34SV-SUV-013-0S, "Weekly Breaker Alignment Checks." Surveillance Requirement 4.8.1.1.2.a.4 involves a slow start and gradual loading of the operable diesel generators. This latter surveillance was not required to be performed in this case because the 2C Diesel Generator was made operable prior to the time that testing of the other two diesel generators would have had to start in order to meet the 24 hour time limit.

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As explained previously in this report, correct breaker alignment of the offsite transmission network was verified by satisfactory performance of 34SV-SUV-013-0S within one hour of declaring the 2C Diesel Generator inoperable. The procedure was not performed again until 13 hours later but was again satisfactory when performed at that time. There were no operations of the offsite transmission network breakers serving Plant Hatch during the time that the 2C Diesel Generator was inoperable. Thus, despite the delay in performing the second breaker alignment check, two physically independent circuits remained operable between the offsite transmission network and the onsite essential distribution system during the event. Based on this information, it is concluded that this event had no adverse impact on nuclear safety. This analysis applies to all operating conditions.

CORRECTIVE ACTIONS

Applicable portions of procedure 34SV-SUV-013-0S, "Weekly Breaker Alignment Check" were satisfactorily completed on 10/30/90 at approximately 1810 CST.

The involved individual was counseled.

ADDITIONAL INFORMATION

Previous similar events in which surveillances required by LCO's were not performed within the required time frame have occurred at Plant Hatch. Those events were reported in the following Licensee Event Reports:

50-321/89-002, Dated 02/28/89  
50-321/89-013, Dated 10/31/89  
50-366/89-001, Dated 02/02/89

Corrective actions resulting from the previous similar events included performing the required surveillances and counseling involved personnel. These corrective actions would not have prevented this event because the involved individuals were unique to those events.