

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) PLANT HATCH, UNIT 1	DOCKET NUMBER (2) 0 5 0 0 0 3 2 1	PAGE (3) 1 OF 0 4
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TITLE (4)
COMPONENT FAILURE RESULTS IN INOPERABILITY OF HIGH PRESSURE COOLANT INJECTION SYSTEM

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			
0	3	2 9	8	9	0 0 6	0	0	0 4	1 8 8 9			DOCKET NUMBER(S) 0 5 0 0 0

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)									
POWER LEVEL (10) 110.10	20.402(b)	20.405(e)	60.73(e)(2)(iv)	73.71(b)						
	20.406(a)(1)(i)	50.36(c)(1)	<input checked="" type="checkbox"/> 60.73(e)(2)(v)	73.71(c)						
	20.406(a)(1)(ii)	50.36(c)(2)	60.73(e)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
	20.406(a)(1)(iii)	50.73(e)(2)(i)	60.73(e)(2)(viii)(A)							
	20.406(a)(1)(iv)	50.73(e)(2)(ii)	60.73(e)(2)(viii)(B)							
20.406(a)(1)(v)	50.73(e)(2)(iii)	60.73(e)(2)(ix)								

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
NAME	AREA CODE		
Steven B. Tipps, Manager Nuclear Safety and Compliance, Hatch	9 1 1 2 3 1 6 7 1	- 1 7 8 1 5 1 1	

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	
X	BJ	I IN VIT	T12 I 4 18	Y						

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO				

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

On 3/29/89 at approximately 1245 CST, Unit 1 was in the Run mode at an approximate power level of 2435 (approximately 100% of rated thermal power). At that time, the High Pressure Coolant Injection (HPCI, EIIS Code BJ) system was declared inoperable because the Topaz Static Inverter, 1E41-K603, which supplies power to the HPCI flow control circuit, tripped and could not be reset. With no power to the flow control circuit, HPCI could not have achieved design flow during an automatic initiation of the system. The Topaz Static Inverter was replaced, procedure 34SV-E41-002-1S, "HPCI Pump Operability," was performed successfully, and HPCI was declared operable on 3/30/89 at approximately 0135 CST.

The cause of this event is component failure. The Topaz Static Inverter tripped due to a failed diode in the inverter.

The corrective action was to replace the inverter.

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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 (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

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 3/29/89 at approximately 1245 CST, Unit 1 was in the run mode at an approximate power level of 2435 CMWT (approximately 100% of rated thermal power). At that time, the High Pressure Coolant Injection (HPCI, EIIIS Code BJ) system was declared inoperable because the Topaz Static Inverter, 1E41-K603, which supplies power to the HPCI flow control circuit, tripped and could not be reset. With no power to the flow control circuit, HPCI could not have achieved design flow during an automatic initiation of the system. The cause of this event is component failure. A diode in the Topaz Static Inverter failed which caused the inverter to trip. The Topaz Static Inverter was replaced. procedure 34SV-E41-002-1S, "HPCI Pump Operability," was performed successfully, and HPCI was declared operable.

Description of Event

On 3/29/89 at approximately 1245 CST, testing of the HPCI pump was in progress using procedure 34SV-E41-002-1S, "HPCI Pump Operability." At that time, the Topaz Static Inverter, 1E41-K603, tripped. The inverter supplies AC power to the HPCI system's flow control circuit. The inverter's breaker was reset by Operations personnel, but the inverter tripped again. With no power to the flow control circuit, HPCI could not have achieved design flow on an automatic initiation signal. Operations personnel declared HPCI inoperable and initiated Limiting Condition for Operation (LCO) 1-89-172.

Instruments and Control (I&C) personnel investigated the trip of the inverter. They discovered a failed diode. The inverter was removed and replaced with one from stock. Procedure 34SV-E41-002-1S then was performed successfully and at approximately 0135 CST on 3/30/89, HPCI was declared operable and LCO 1-89-172 was terminated.

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FACILITY NAME (1) PLANT HATCH, UNIT 1	DOCKET NUMBER (2) 0 5 0 0 0 3 2 1	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Cause of Event

The root cause of this event was component failure. A diode in the Topaz Static Inverter failed. This caused the inverter's breaker to trip and would not allow it to be reset. The failure history of the inverter was assessed by reviewing the Nuclear Plant Reliability Data system records and this component failure appears to be an isolated event.

Reportability Analysis and Safety Assessment

This report is required per 10 CFR 50.73 (a)(2)(v) because a component failure occurred in the HPCI system which would have prevented the system from functioning as designed to mitigate the consequences of an accident. The failure would have prevented the HPCI system from reaching design flow upon automatic initiation of the system.

The HPCI system is provided to assure that the reactor is adequately cooled to limit fuel-clad temperature in the event of a small break in the nuclear boiler system causing a loss of coolant which does not result in rapid depressurization of the reactor vessel. The Automatic Depressurization System (ADS, EIIS Code JE) is a backup for the HPCI system. Upon ADS initiation, the reactor is depressurized to a point where either the Low Pressure Coolant Injection (LPCI, EIIS Code B0) system or the Core Spray (CS, EIIS Code BM) system can operate to maintain adequate core cooling.

In the event addressed in this report, the HPCI system was inoperable. The LPCI pumps and their associated equipment, ADS, and both loops of CS were operable. Based upon the Unit 1 Final Safety Analysis Report, either loop of the CS system or the LPCI system, consisting of two operable pumps in one Residual Heat Removal (RHR, EIIS Code B0) loop and at least one operable pump in the other RHR loop, can supply sufficient cooling to the reactor for any rupture of the nuclear safety boundary up to and including the Design Basis Accident (DBA).

Based on the above information, it is concluded that this event had no adverse impact on nuclear plant safety. The above analysis is applicable to all reactor power levels at which the HPCI system is required to be operable. Therefore, it is concluded that this event would not have been more severe had it occurred under other reactor operating conditions.

Corrective Action

The Topaz Static Inverter was replaced and the HPCI system was proven operable by successful completion of procedure 34SV-E41-002-1S.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		8 9	- 0 0 6	- 0 0	0 4	OF

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Additional Information

No systems other than the HPCI system were affected by this event.

Previous events in which HPCI was inoperable were reported in LER 50-366/1987-017, dated 12/15/87, LER 50-366/1987-004, Revision 1, dated 3/25/88, LER 50-321/1988-012, dated 9/20/88, LER 50-366/1988-022, dated 9/27/88, and LER 50-321/1988-017, dated 1/5/89. Corrective actions for these events would not have prevented this event because the previous events were caused by a deficient procedure, personnel error, or failure of a different component within the HPCI system.

Failed Component Identification:

MPL (Plant Index Identifier): 1E41-K603
 Manufacture: Topaz Electronics Company
 Model Number: N250-GWR-125-60-115
 Type: Inverter
 EIIS Code: INVT

Georgia Power Company
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Atlanta, Georgia 30308
Telephone 404 526-3195

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The Southern Electric System

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

HL-453
0627I
X7GJ17-H310

April 18, 1989

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 RESULTS IN INOPERABILITY
OF HIGH PRESSURE COOLANT INJECTION SYSTEM

Gentlemen:

In accordance with the requirements of 10 CFR 50.73 (a)(2)(v), Georgia Power Company is submitting the enclosed Licensee Event Report (LER) concerning a condition that could have prevented an Engineered Safety Feature (ESF) from fully performing its safety function. This event occurred at Plant Hatch - Unit 1.

Sincerely,


W. G. Hairston, III

JJP/ct

Enclosure: LER 50-321/1989-006

c: (See next page.)

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U.S. Nuclear Regulatory Commission

April 18, 1989

Page Two

c: Georgia Power Company

Mr. H. C. Nix, General Manager - Hatch

Mr. L. T. Gucwa, Manager Engineering and Licensing - Hatch

GO-NORMS

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Mr. L. P. Crocker, Licensing Project Manager - Hatch

U.S. Nuclear Regulatory Commission, Region II

Mr. S. D. Ebnetter, Regional Administrator

Mr. J. E. Menning, Senior Resident Inspector - Hatch