

Georgia Power Company
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, Alabama 35201
Telephone 205 877-7279

J. T. Beckham, Jr.
Vice President - Nuclear
Hatch Project



THE SOUTHERN POWER SYSTEM

HL-2018
002841

January 27, 1992

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
HIGH PRESSURE COOLANT INJECTION SYSTEM
INOPERABLE DUE TO COMPONENT FAILURE

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 component failure which resulted in an inoperable high pressure coolant injection system. This event occurred at Plant Hatch - Unit 1.

Sincerely,


J. T. Beckham, Jr.

OCV/cr

Enclosure: LER 50-321/1991-033

cc: (See next page.)

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PDR ADOCK 05000321
S PDR

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U.S. Nuclear Regulatory Commission

January 27, 1992

Page Two

cc: Georgia Power Company
Mr. H. L. Sumner, General Manager - Nuclear Plant
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 1	DOCKET NUMBER (2) 05000321	PAGE (3) 1 of 5
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TITLE (4)
HIGH PRESSURE COOLANT INJECTION SYSTEM INOPERABLE DUE TO COMPONENT FAILURE

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEC NUM	REV	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
12	30	91	91	033	00	01	27	92		05000
										05000

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (11)										
POWER LEVEL 100	20.402(b)			20.405(c)			50.73(a)(2)(iv)			73.71(b)	
	20.405(a)(1)(i)			50.36(c)(1)			X 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)			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)(ix)				

LICENSEE CONTACT FOR THIS LER (12)

NAME STEVEN B. TIPPS, MANAGER NUCLEAR SAFETY AND COMPLIANCE, HATCH	TELEPHONE NUMBER AREA CODE: 912 NUMBER: 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
X	BJ	R L Y	G O B 2	Y					

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 12/30/91, at 1015 CST, and on 12/31/91, at 1800 CST, Unit 1 was in the Run mode at 2436 CMWT (100 percent of rated thermal power). At each of these times, the High Pressure Coolant Injection (HPCI) system experienced flow oscillations of approximately 2000 gallons per minute while being tested in accordance with procedure 34SV-E41-002-1S, "HPCI Pump Operability." The procedure was being performed in order to meet the surveillance requirement of Unit 1 Technical Specifications section 4.5.D.1.b.(1). In each case, the system was secured and declared inoperable. Appropriate Limiting Conditions for Operation (LCO) were initiated and the required Technical Specifications actions were implemented. Corrective maintenance was performed on the system following each incident and functional testing of the system was satisfactorily completed on 12/30/91, at 1900 CST, and on 1/1/92, at 0330 CST, respectively. In each case, the system was returned to standby and the LCO terminated. The cause of each event was intermittent failure of a transfer relay(s) internal to the HPCI system flow control unit, 1E41-K615. The relays function to transfer flow control between the manual and automatic modes. Failure of the relay(s) caused HPCI system flow to oscillate excessively in each of the events. Since the failure was intermittent, it was not identified during troubleshooting activities following the first failed surveillance test and did not show up during the subsequent functional test. Corrective actions for the event included replacing the transfer relays and functionally testing the system in accordance with procedure 34SV-E41-002-1S.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)	
		SEQ NUM	REV		OF	
PLANT HATCH, UNIT 1	05000321	91	033	00	2	OF 5

TEXT

PLANT AND SYSTEM IDENTIFICATION

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

DESCRIPTION OF EVENT

On 12/30/91, at 1015 CST, Unit 1 was in the Run mode at 2436 CMWT (100 percent of rated thermal power). Operability testing of the High Pressure Coolant Injection (HPCI, EIIS Code BJ) system as required by Unit 1 Technical Specifications section 4.5.D.1.b.(1) was being performed per procedure 34SV-E41-002-1S, "HPCI Pump Operability." At 1015 CST, the HPCI system was initiated and the pump reached rated flow and discharge pressure. Several seconds later, the pump flow began oscillating approximately 2000 gallons per minute (gpm) (design flow rate of the pump is 4250 gpm). Flow controller 1E41-R612 was then placed in manual and the flow oscillations decreased to approximately 200 gpm. The system was subsequently secured and declared inoperable due to an apparent problem with the flow controls. Limiting Condition for Operation (LCO) 1-91-860 was initiated and the required Technical Specifications action statements were implemented.

Instrument and Controls (I&C) personnel who observed the system flow oscillations determined that the stability potentiometer on the EGM (electronic governor-magnetic pickup) needed to be adjusted to increase its dampening effect on the 'electronic noise' inherent in the control system. Thus, using procedure 57CP-CAL-001-1S, "Woodward HPCI Turbine Governor FT&C," the stability potentiometer was adjusted.

On 12/30/91, at 1615 CST, after the adjustment had been made to the EGM, the HPCI system was functionally tested per procedure 34SV-E41-002-1S. Upon initiating the system, it reached rated flow and pressure and then stabilized as designed. Since the oscillations did not occur as before, the Technical Specifications surveillance was completed. Prior to securing the system, the Condensate Storage Tank (EIIS Code SD) test return line valve 1E41-FO08 was adjusted per procedure to obtain a pump discharge pressure of greater than or equal to 1080 psig. This was done to prepare for a system response time test to be performed the following day. The response time test, which is not required by the Technical Specifications, is performed on a quarterly basis to verify the response time of the HPCI control system and was scheduled to be performed following the Technical Specifications operability test. The 1E41-FO08 valve is adjusted during the operability test to obtain a pump discharge pressure of greater than or equal to 1080 psig in order to simulate reactor pressure for the response time test to follow. The system is then placed in standby for approximately 24 hours prior to the test so that it is at ambient conditions when the test is started. After valve 1E41-FO08 was adjusted, the system was secured and placed in standby. LCO 1-91-860 was terminated at 1900 CST since the stability adjustment had apparently resolved the HPCI flow control problem.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)		
		YEAR	SEQ. NUM.	REV.			
PLANT HATCH, UNIT 1	05000321	91	033	00	3	OF	5

TEXT

On 12/31/91, at 1800 CST, Unit 1 was in the Run mode at 2436 CMWT (100 percent of rated thermal power). At that time, the system was initiated to perform the response time test and the pump rated discharge pressure and flow were achieved as designed. Several seconds later, as on 12/30/91, the system flow began oscillating approximately 2000 gpm. This time, the controller was transferred to manual and the flow stabilized. The system was secured and was declared inoperable. LCO 1-91-864 was initiated and the appropriate Technical Specifications actions were implemented.

In investigating the problem, I&C personnel calibrated flow control unit 1E41-K615 in accordance with procedure 57CP-CAL-044-1S, "GE Type 547-01, 547-12, and 543-03 Self Synchro Control Loop." During the calibration, the control unit would not successfully transfer from the manual to the automatic mode. It was determined that one or more transfer relays, components internal to the control unit, failed to function correctly, affecting the output of the unit. It could not be determined which of the three relays failed; consequently, all three transfer relays in the unit were replaced. Transfer of the control unit from the manual to the automatic mode was tested again and found to function correctly.

On 1/1/92, at 0130 CST, following repair of the unit, the HPCI operability test was repeated. The system was initiated and operated as designed, experiencing no erratic behavior. The 1E41-FO08 valve was adjusted as before in preparation for response time testing and the operability test was terminated at 0330 CST. The HPCI system was then declared operable and LCO 1-91-864 was terminated.

On 1/2/92, at 0328 CST, the response time test was repeated. The system functioned as designed, reaching rated flow and pressure within the required response time. The system flow stabilized as designed and experienced no unusual oscillations. Subsequently, the system was secured and placed in the standby mode by 0354 CST.

CAUSE OF EVENT

The cause of the event was intermittent failure of one or more of the three transfer relays in flow control unit 1E41-K615. These relays actuate when the automatic/manual switches of flow controller 1E41-R612 are manipulated to line up the flow control logic to provide automatic/manual control. During performance of procedure 57CP-CAL-044-1S, I&C personnel found that the control unit did not respond properly when the control loop was switched to automatic. In troubleshooting the problem, the technician found that one or more of the transfer relays were intermittently malfunctioning. It could not be determined which one of the relays was malfunctioning; consequently, all three relays were replaced. The control unit then functioned correctly. It is apparent that the malfunctioning relay(s) resulted in failure of the control logic to completely align itself for the automatic mode, adversely affecting the output signal, producing the flow oscillations. Because this failure was intermittent, the problem was not found during troubleshooting and subsequent testing of the system on 12/30/91.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)	
		YEAR	SEQ NUM	REV		
PLANT HATCH, UNIT 1	05060321	91	033	00	4	OF 5

TEXT

REPORTABILITY AND SAFETY ASSESSMENT

This report is required in accordance with 10 CFR 50.73(a)(2)(v) because a condition existed which would have prevented HPCI from performing its design function. Specifically, failure of the transfer relay(s) prevented the HPCI system from maintaining a stable design flowrate of 4250 gpm.

The HPCI system is designed to provide adequate cooling to the reactor vessel to limit fuel-clad temperature in the event of a small break in the nuclear steam supply system that does not result in rapid depressurization of the reactor vessel. The Automatic Depressurization System (ADS, EISS Code JE) is the backup for the HPCI system and is initiated on a low reactor water level condition coincident with a high Primary Containment pressure condition. Upon initiation of ADS, the reactor is depressurized to a point where either the Low Pressure Coolant Injection (LPCI, EISS Code BO) system or the Core Spray (CS, EISS Code BM) system can operate to maintain adequate core cooling.

In this event, an intermittent failure of one or more of the flow control unit transfer relays rendered the HPCI system inoperable. At the time of the event, ADS, the LPCI system, and the Core Spray system were operable. Consequently, had a small break loss of coolant accident occurred, the available systems would have functioned to provide adequate cooling to the core to limit fuel-clad temperatures.

Based on the above information, it was concluded that this event had no adverse impact on nuclear safety. This analysis applies to all operating conditions.

CORRECTIVE ACTIONS

All three transfer relays were replaced in flow control unit 1E41-K615.

Operability of the HPCI system was demonstrated by the successful completion of surveillance procedure 34SV-E41-002-1S on 1/2/92, at approximately 0354 CST.

ADDITIONAL INFORMATION

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

Events in the previous two years in which a component failure resulted in the inability of a system to perform a safety function were addressed in the following reports:

- 50-321/90-01, dated 1/22/90
- 50-321/90-15, dated 8/27/90
- 50-366/90-05, dated 8/06/90
- 50-366/91-08, dated 4/24/91
- 50-366/91-17, dated 6/28/91

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

FACILITY NAME (1) PLANT HATCH, UNIT 1	DOCKET NUMBER (2) 05000321	LER NUMBER (5)			PAGE (3)	
		YEAR	SEQ NUM	REV		
		91	033	00	5	OF 5

TEXT

Corrective actions for these events included repairing or replacing failed components such as a control amp, a resistor, a fuse, two valves and a motor. None of these events, causes, or corrective actions involved a controller relay. Consequently, these corrective actions should not have prevented this event.

Failed Component Information:

MPL (Plant Identifier): Component of Flow Controller 1E41-K615
 Part Number: 6114K60032
 Component Type: Transfer Relay
 Manufacturer Code: G082
 EIS Component Code: RLY
 EIS System Code: BJ
 Root Cause Code: X
 Reportable to NPRDS: Yes

Georgia Power Company
40 Inverness Center Parkway
P.O. Office Box 1295
Birmingham, Alabama 35201
Telephone 205 371-1179

J. T. Beckham, Jr.
Vice President—Nuclear
Hatch Project



HL-2018
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January 27, 1992

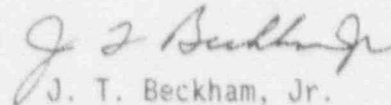
U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

PLANT HATCH - UNIT 1
NRC DOCKET 50-321
OPERATING LICENSE DPR-57
LICENSEE EVENT REPORT
HIGH PRESSURE COOLANT INJECTION SYSTEM
INOPERABLE DUE TO COMPONENT FAILURE

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 component failure which resulted in an inoperable high pressure coolant injection system. This event occurred at Plant Hatch - Unit 1.

Sincerely,


J. T. Beckham, Jr.

OCV/cr

Enclosure: LER 50-321/1991-033

cc: (See next page.)

U.S. Nuclear Regulatory Commission

January 27, 1992

Page Two

cc: Georgia Power Company

Mr. H. L. Sumner, General Manager - Nuclear Plant
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. Ebner, Regional Administrator

Mr. L. D. Wert, Senior Resident Inspector - Hatch

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) **PLANT HATCH, UNIT 1** DOCKET NUMBER (2) **05000321** PAGE (3) **1** OF **5**

TITLE (4)
HIGH PRESSURE COOLANT INJECTION SYSTEM INOPERABLE DUE TO COMPONENT FAILURE

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	30	91	91	033	00	01	27	92		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)	X 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)	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 NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORT TO NRC
X	BJ	R LY	G O B 2	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

ABSTRACT (16)

On 12/30/91, at 1015 CST, and on 12/31/91, at 1800 CST, Unit 1 was in the Run mode at 2436 MWt (100 percent of rated thermal power). At each of these times, the High Pressure Coolant Injection (HPCI) system experienced flow oscillations of approximately 2000 gallons per minute while being tested in accordance with procedure 34SV-E41-002-1S, "HPCI Pump Operability." The procedure was being performed in order to meet the surveillance requirement of Unit 1 Technical Specifications section 4.5.D.1.b.(1). In each case, the system was secured and declared inoperable. Appropriate Limiting Conditions for Operation (LCO) were initiated and the required Technical Specifications actions were implemented. Corrective maintenance was performed on the system following each incident and functional testing of the system was satisfactorily completed on 12/30/91, at 1900 CST, and on 1/1/92, at 0330 CST, respectively. In each case, the system was returned to standby and the LCO terminated. The cause of each event was intermittent failure of a transfer relay(s) internal to the HPCI system flow control unit, 1E41-K615. The relays function to transfer flow control between the manual and automatic modes. Failure of the relay(s) caused HPCI system flow to oscillate excessively in each of the events. Since the failure was intermittent, it was not identified during troubleshooting activities following the first failed surveillance test and did not show up during the subsequent functional test. Corrective actions for the event included replacing the transfer relays and functionally testing the system in accordance with procedure 34SV-E41-002-1S.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)	
		YEAR	SEQ NUM	REV		
PLANT HATCH, UNIT 1	0 5 0 0 0 3 2 1	9 1	0 3 3	0 0	2	OF 5

TEXT

PLANT AND SYSTEM IDENTIFICATION

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

DESCRIPTION OF EVENT

On 12/30/91, at 1015 CST, Unit 1 was in the Run mode at 2436 CMWT (100 percent of rated thermal power). Operability testing of the High Pressure Coolant Injection (HPCI, EIIS Code BJ) system as required by Unit 1 Technical Specifications section 4.5.D.1.b.(1) was being performed per procedure 34SV-E41-002-1S, "HPCI Pump Operability." At 1015 CST, the HPCI system was initiated and the pump reached rated flow and discharge pressure. Several seconds later, the pump flow began oscillating approximately 2000 gallons per minute (gpm) (design flow rate of the pump is 4250 gpm). Flow controller 1E41-R612 was then placed in manual and the flow oscillations decreased to approximately 200 gpm. The system was subsequently secured and declared inoperable due to an apparent problem with the flow controls. Limiting Condition for Operation (LCO) 1-91-860 was initiated and the required Technical Specifications action statements were implemented.

Instrument and Controls (I&C) personnel who observed the system flow oscillations determined that the stability potentiometer on the ECM (electronic governor-magnetic pickup) needed to be adjusted to increase its dampening effect on the 'electronic noise' inherent in the control system. Thus, using procedure 57CP-CAL-001-1S, "Woodward HPCI Turbine Governor FT&C," the stability potentiometer was adjusted.

On 12/30/91, at 1615 CST, after the adjustment had been made to the ECM, the HPCI system was functionally tested per procedure 34SV-E41-002-1S. Upon initiating the system, it reached rated flow and pressure and then stabilized as designed. Since the oscillations did not occur as before, the Technical Specifications surveillance was completed. Prior to securing the system, the Condensate Storage Tank (EIIS Code SD) test return line valve 1E41-F008 was adjusted per procedure to obtain a pump discharge pressure of greater than or equal to 1080 psig. This was done to prepare for a system response time test to be performed the following day. The response time test, which is not required by the Technical Specifications, is performed on a quarterly basis to verify the response time of the HPCI control system and was scheduled to be performed following the Technical Specifications operability test. The 1E41-F008 valve is adjusted during the operability test to obtain a pump discharge pressure of greater than or equal to 1080 psig in order to simulate reactor pressure for the response time test to follow. The system is then placed in standby for approximately 24 hours prior to the test so that it is at ambient conditions when the test is started. After valve 1E41-F008 was adjusted, the system was secured and placed in standby. LCO 1-91-860 was terminated at 1900 CST since the stability adjustment had apparently resolved the HPCI flow control problem.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)	
		YEAR	SEQ NUM	REV		
PLANT HATCH, UNIT 1	05000321	91	033	00	3	OF 5

TEXT

On 12/31/91, at 1800 CST, Unit 1 was in the Run mode at 2436 CMWT (100 percent of rated thermal power). At that time, the system was initiated to perform the response time test and the pump rated discharge pressure and flow were achieved as designed. Several seconds later, as on 12/30/91, the system flow began oscillating approximately 2000 gpm. This time, the controller was transferred to manual and the flow stabilized. The system was secured and was declared inoperable. LCO 1-91-864 was initiated and the appropriate Technical Specifications actions were implemented.

In investigating the problem, I&C personnel calibrated flow control unit 1E41-K615 in accordance with procedure 57CP-CAL-044-1S, "GE Type 547-01, 547-12, and 543-03 Self Synchro Control Loop." During the calibration, the control unit would not successfully transfer from the manual to the automatic mode. It was determined that one or more transfer relays, components internal to the control unit, failed to function correctly, affecting the output of the unit. It could not be determined which of the three relays failed; consequently, all three transfer relays in the unit were replaced. Transfer of the control unit from the manual to the automatic mode was tested again and found to function correctly.

On 1/1/92, at 1130 CST, following repair of the unit, the HPCI operability test was repeated. The system was initiated and operated as designed, experiencing no erratic behavior. The 1E41-FO08 valve was adjusted as before in preparation for response time testing and the operability test was terminated at 0330 CST. The HPCI system was then declared operable and LCO 1-91-864 was terminated.

On 1/2/92, at 0328 CST, the response time test was repeated. The system functioned as designed, reaching rated flow and pressure within the required response time. The system flow stabilized as designed and experienced no unusual oscillations. Subsequently, the system was secured and placed in the standby mode by 0354 CST.

CAUSE OF EVENT

The cause of the event was intermittent failure of one or more of the three transfer relays in flow control unit 1E41-K615. These relays actuate when the automatic/manual switches of flow controller 1E41-R612 are manipulated to line up the flow control logic to provide automatic/manual control. During performance of procedure 57CP-CAL-044-1S, I&C personnel found that the control unit did not respond properly when the control loop was switched to automatic. In troubleshooting the problem, the technician found that one or more of the transfer relays were intermittently malfunctioning. It could not be determined which one of the relays was malfunctioning; consequently, all three relays were replaced. The control unit then functioned correctly. It is apparent that the malfunctioning relay(s) resulted in failure of the control logic to completely align itself for the automatic mode, adversely affecting the output signal, producing the flow oscillations. Because this failure was intermittent, the problem was not found during troubleshooting and subsequent testing of the system on 12/30/91.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)	
		YEAR	SEQ NUM	REV		
PLANT HATCH, UNIT 1	0 5 0 0 0 3 2 1	9 1	0 3 3	0 0	4	OF 5

TEXT

REPORTABILITY AND SAFETY ASSESSMENT

This report is required in accordance with 10 CFR 50.73(a)(2)(v) because a condition existed which would have prevented HPCI from performing its design function. Specifically, failure of the transfer relay(s) prevented the HPCI system from maintaining a stable design flowrate of 4250 gpm.

The HPCI system is designed to provide adequate cooling to the reactor vessel to limit fuel-clad temperature in the event of a small break in the nuclear steam supply system that does not result in rapid depressurization of the reactor vessel. The Automatic Depressurization System (ADS, EISS Code JE) is the backup for the HPCI system and is initiated on a low reactor water level condition coincident with a high Primary Containment pressure condition. Upon initiation of ADS, the reactor is depressurized to a point where either the Low Pressure Coolant Injection (LPCI, EISS Code BO) system or the Core Spray (CS, EISS Code BM) system can operate to maintain adequate core cooling.

In this event, an intermittent failure of one or more of the flow control unit transfer relays rendered the HPCI system inoperable. At the time of the event, ADS, the LPCI system, and the Core Spray system were operable. Consequently, had a small break loss of coolant accident occurred, the available systems would have functioned to provide adequate cooling to the core to limit fuel-clad temperatures.

Based on the above information, it was concluded that this event had no adverse impact on nuclear safety. This analysis applies to all operating conditions.

CORRECTIVE ACTIONS

All three transfer relays were replaced in flow control unit 1E41-K615.

Operability of the HPCI system was demonstrated by the successful completion of surveillance procedure 34SV-E41-002-1S on 1/2/92, at approximately 0354 CST.

ADDITIONAL INFORMATION

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

Events in the previous two years in which a component failure resulted in the inability of a system to perform a safety function were addressed in the following reports:

- 50-321/90-01, dated 1/22/90
- 50-321/90-15, dated 8/27/90
- 50-366/90-05, dated 8/06/90
- 50-366/91-08, dated 4/24/91
- 50-366/91-17, dated 6/28/91

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

FACILITY NAME (1) PLANT HATCH, UNIT 1	DOCKET NUMBER (2) 05000321	LER NUMBER (5)			PAGE (3)	
		YEAR	SEQ NUM	REV		
		91	033	00	5	OF 5

TEXT

Corrective actions for these events included repairing or replacing failed components such as a control amp, a resistor, a fuse, two valves and a motor. None of these events, causes, or corrective actions involved a controller relay. Consequently, these corrective actions should not have prevented this event.

Failed Component Information:

MPL (Plant Identifier): Component of Flow Controller 1E41-K615
 Part Number: 6114K60032
 Component Type: Transfer Relay
 Manufacturer Code: G082
 E11S Component Code: RLY
 E11S System Code: BJ
 Root Cause Code: X
 Reportable to NPRDS: Yes