

Georgia Power Company  
40 Inverness Center Parkway  
First Office Box 1295  
Birmingham, Alabama 35201  
Telephone 205 877-2279

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



Georgia Power

The U.S. Electric System

HL-2304  
003698

July 10, 1992

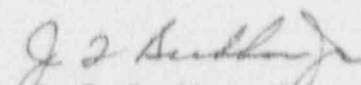
U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

PLANT HATCH - UNIT 2  
NRC DOCKET 50-366  
OPERATING LICENSE NPF-5  
LICENSEE EVENT REPORT  
REACTOR WATER CLEANUP SYSTEM LEAK  
RESULTS IN AN 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 a reactor water cleanup system leak which resulted in an engineered safety feature actuation. This event occurred at Plant Hatch - Unit 2.

Sincerely,

  
J. T. Beckham, Jr.

OCV/cr

Enclosure: LER 50-366/1992-007

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

9207160274 920710  
PDR ADOCK 05000366  
S PDR

*JE22*

**LICENSEE EVENT REPORT (LER)**

FACILITY NAME (1) Plant E. I. Hatch	DOCKET NUMBER (2) 05000366	PAGE (3) 1 OF 4
--	-------------------------------	--------------------

TITLE (4)  
Reactor Water Cleanup System Leak Results in an 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)
06	12	92	92	007	00	07	10	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)	<input checked="" type="checkbox"/>	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)	50.73(a)(2)(i)		50.73(a)(2)(vii)(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 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	CE	HX	P160	NO					

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
--	--	-------------------------------	-------	-----	------

ABSTRACT (16)

On 6/12/92, at 1600 CDT, Unit 2 was in the Run mode at 2436 CMWT (100 percent rated thermal power). The Reactor Water Cleanup System (RWCU, EISS Code CE) had previously been secured at 0900 CDT in order to perform procedure 57SV-G31-002-2S, "RWCU System Differential Flow Instrument FT&C." The procedure had been completed and Primary Containment Isolation System (PCIS, EISS Code JM) valves 2G31-F001 and F004 (which isolate the RWCU supply line Primary Containment penetration) had been opened, pressurizing the system, in preparation for returning the system to service. At 1600 CDT, an RWCU isolation signal was received on RWCU heat exchanger room high ambient temperature resulting in the automatic closure of PCIS valve 2G31-F004, as designed.

The cause of the event was failure of the gasket in the shell-to-tubing assembly flanged connection of the 2G31-B001B RWCU regenerative heat exchanger. The failed gasket resulted in high temperature water under high pressure spraying into the heat exchanger room, flashing into steam, resulting in elevated temperatures in the room. The leak had been discovered previously and plans were being made to repair it. Over a period of time, the leak grew worse ultimately causing the temperature in the heat exchanger room as measured by resistance thermal detector (RTD) 2G31-N062H to exceed the RWCU-Leak Detection System (LDS, EISS Code IJ) setpoint of 140 degrees Fahrenheit.

Corrective actions for the event included repairing the leak in accordance with Design Change Request (DCR) 92-112.

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

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)	
		YEAR	SEQ NUM	R/V		
Plant E. I. Hatch	05000366	92	007	00	2	OF 4

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 6/12/92, at 1600 CDT, Unit 2 was in the Run mode at 2436 CMWT (100 percent rated thermal power). The Reactor Water Cleanup System (RWCU, EIIS Code CE) had previously been secured at 0900 CDT in order to perform procedure 57SV-G31-002-2S, "RWCU System Differential Flow Instrument FT&C." The procedure had been completed and Primary Containment Isolation System (PCIS, EIIS Code JM) valves 2G31-F001 and F004 (which provide isolation of the RWCU supply line Primary Containment penetration) had been opened, pressurizing the system, in preparation for returning the system to service. At 1600 CDT, an RWCU isolation signal was received on RWCU heat exchanger room high ambient temperature resulting in the automatic closure of valve 2G31-F004, as designed.

The RWCU system uses three regenerative and two non-regenerative heat exchangers to cool the process fluid prior to it entering the filter demineralizers. One of the regenerative heat exchangers, 2G31-B001B, had previously developed a leak in the shell-to-tubing assembly flanged connection. The leak was first discovered on 3/27/92 and was estimated to be approximately 3 gpm. Repair of the leak would require a design change to the flanged connection. Subsequently, development of a design change was initiated and plans were made to repair the leak in the upcoming refueling outage scheduled to begin on 9/16/92. The leak worsened over the following couple of months as evidenced by an increasing trend in the heat exchanger room ambient temperature. Ultimately, on 6/12/92, at 1600 CDT, the temperature in the room as measured by resistance thermal detector (RTD) 2G31-NO62H reached the RWCU-Leak Detection System (LDS, EIIS Code IJ) setpoint for high ambient temperature, 140 degrees Fahrenheit. This RTD inputs to the PCIS logic associated with outboard PCIS valve 2G31-F004. Consequently, valve 2G31-F004 automatically closed. Inboard PCIS valve 2G31-F001 does not receive an input from this RTD and, therefore, was unaffected. Other RTDs in the room were indicating approximately ten degrees lower due to their location relative to the leak and did not reach the trip setpoint.

Development of the design change was expedited. Upon receipt of Design Change Request (DCR) 92-112 from the architect engineer, the heat exchanger leak was repaired. In particular, the flanged connection was seal welded and a leak repair sealant was injected into the interface of the flange bolt holes and the fastener studs. An operating pressure test was satisfactorily performed to test the integrity of the repair.

The system was then returned to service on 6/18/92, at 0212 CDT.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)	
		YEAR	SEQ NUM	REV		
Plant E. I. Hatch	05000366	92	007	00	3	OF 4

TEXT

CAUSE OF EVENT

The cause of the event was failure of the gasket in the shell-to-tubing assembly flanged connection of the heat exchanger. The failed gasket resulted in high temperature water under high pressure spraying out of the shell side of the heat exchanger into the heat exchanger room, flashing into steam, resulting in elevated temperatures in the room. The temperature at one of the heat exchanger room ambient temperature RTDs reached the trip setpoint of 140 degrees Fahrenheit.

REPORTABILITY ASSESSMENT AND SAFETY ANALYSIS

This report is required pursuant to 10 CFR 50.73(a)(2)(iv) in that an unplanned actuation of an Engineered Safety Feature (ESF), PCIS valve 2G31-F004, occurred as a result of a high temperature condition in the RWCU heat exchanger room.

PCIS provides timely protection against the onset and the consequences of events involving the potential release of radioactive materials from the fuel and nuclear system process barriers by isolating appropriate lines which penetrate Primary Containment. Additionally, isolation of the lines act to conserve reactor water inventory if a breach in the line is causing a loss of reactor coolant. Specifically, the purpose of the Group 5 PCIS valves (2G31-F001 and F004) is to isolate the RWCU suction line from Primary Containment upon parameters that are indicative of a leak in the system exceeding design setpoints. The parameters that provide indication of a system leak and that are monitored by RWCU-LDS are high differential flow between the RWCU supply and return lines, RWCU System room high ambient temperature, and high differential temperature between the inlet and outlet of the RWCU System room ventilation system. In this event, PCIS functioned as designed, isolating the RWCU supply line penetration of Primary Containment when the LDS high ambient temperature setpoint was reached.

Based on the above analysis, it is concluded that this event had no adverse impact on nuclear safety. This analysis is applicable to all power levels.

CORRECTIVE ACTIONS

The heat exchanger was repaired in accordance with DCR 92-112 and the system was returned to service on 6/18/92, at 0212 CDT.

ADDITIONAL INFORMATION

No systems other than the RWCU system, PCIS (Group 5 only), and RWCU-LDS were affected by this event.

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

FACILITY NAME (1)  Plant E. I. Hatch	DOCKET NUMBER (2)  05000366	LER NUMBER (5)			PAGE (3)	
		YEAR	SEQ NUM	REV		
		92	007	00	4	OF 4

TEXT

No previous similar events have occurred in the past two years in which a leak in the RWCU System pressure boundary resulted in an ESF actuation.

Failed Component Information:

Master Parts List Number: 2G31-B001B  
 Manufacturer: Perfex Incorporated  
 Model Number: SL-7281  
 Type: Regenerative Heat Exchanger  
 Manufacturer Code: P160  
 EISS Component Code: HX