NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
PLANT HATCH, UNIT 1	0 5 0 0 0 3 2 1	1 OF 0 5

TITLE (4)

DEGRADED OIL CAUSES REACTOR WATER CLEANUP ISOLATION

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 8	0 9	8 8	8 8	0 0 6	0 0	0 9	0 6	8 8		0 5 0 0 0
										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)	1 0 0	20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
		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 and in Text, NRC Form 366A)
		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	AREA CODE 9 1 2 3 6 7 - 7 8 5 1

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	
X	C E	P	I 0 7 0	N							
X	C E	S E A L	I 0 7 0	N							

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X YES (If yes, complete EXPECTED SUBMISSION DATE)	NO		1 2	0 8	8 8

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

On 08/09/88 at approximately 0900 CDT, Unit 1 was in the run mode at an approximate power level of 2436 MWT (approximately 100 percent of rated thermal power). The Reactor Water Cleanup (RWCU EIIS Code CE) Primary Containment Isolation System (PCIS EIIS Code JM) Valves closed on a Group 5 isolation signal. This was an unanticipated actuation of an Engineered Safety Feature.

The probable root cause of this event was oil degrading faster than expected, causing abnormal system wear and vibration, resulting in a pump seal failure.

Corrective actions for this event included: 1) placing the "A" RWCU pump into service, 2) repairing the "B" RWCU pump, 3) sending a sample of the suspected oil offsite by September 29, 1988, for further analysis, 4) placing the suspected batch of oil on hold to prevent its use in the plant, 5) replacing the oil with synthetic oil provided by a different vendor, 6) determining that no equipment with similar operating conditions contains this batch of oil, and 7) updating this report by approximately 12/08/88 after the results of the oil analysis are received.

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A. REQUIREMENT FOR REPORT

This report is required per 10 CFR 50.73(a)(2)(iv) because an unplanned actuation of an Engineered Safety Feature (ESF) occurred. Specifically, the Primary Containment Isolation System (PCIS EIIS Code JM) Group 5 valves closed.

B. UNIT(s) STATUS AT TIME OF EVENT

1. Power Level/Operating Mode:

Unit 1 was in the run mode at an approximate power level of 2436 MWT (approximately 100 percent of rated thermal power).

2. Inoperable Equipment:

There was no inoperable equipment that contributed to the event.

C. DESCRIPTION OF EVENT

1. Event

On 08/09/88 at approximately 0900 CDT, the seal on the Reactor Water Cleanup (RWCU EIIS Code CE) pump "B", 1G31-C001B, failed. Since the pump was in service at the time, the seal failure released steam into the RWCU pump room. The temperature in the pump room increased to the technical specification setpoint of 150 degrees Fahrenheit and the RWCU isolated on high room and high differential temperature by closing the 1G31-F001 and 1G31-F004 valves.

Operations personnel investigated the high temperature signal and determined that the cause was a blown pump seal. Operations personnel then manually isolated the "B" RWCU pump. At approximately 1403 CST, the "A" RWCU pump, 1G31-C001A, was placed into service to control reactor coolant conductivity.

2. Other Systems Affected:

No systems, other than PCIS valve Group 5 and the RWCU system, were affected by this event. These systems have no secondary functions.

3. Method of Discovery:

Licensed personnel discovered the isolation of the PCIS Group 5 valves by observation of control room indications.

4. Operator Actions:

Licensed plant operations personnel responded to the event as required by the applicable annunciator response procedures.

D. CAUSE OF EVENT

1. Immediate Cause:

The immediate cause of this event is excessive pump vibration which caused premature seal failure.

2. Root/Intermediate Cause

The probable intermediate and root cause of this event is premature oil degradation which caused abnormal pump bearing wear resulting in excessive pump vibration. The degradation is potentially due to a bad batch of oil. This oil had been put into the pump on 05/05/88 when the pump was replaced.

E. ANALYSIS OF EVENT

The objective of the RWCU containment isolation system is to provide protection by preventing releases to the environment of radioactive materials. This is accomplished by the complete isolation of system lines that penetrate the containment. The line contains two isolation valves and only one of these valves is required to ensure the isolation capability.

The high temperature and high differential temperature isolations are designed to detect a break in the process piping which would allow radioactive fluid to be released. A process pipe rupture is indicative of a breach of the reactor coolant pressure boundary and a potential accident situation.

In this event, the pump seal failed and allowed some of the process fluid to flash to steam. While the actual process piping did not rupture, the failure of the seal resulted in a room temperature increase that was similar to that which would have occurred had the process piping ruptured. In response to the increased room temperature, the two primary containment isolation valves closed per design to isolate the RWCU system.

Based on the above information, it is concluded that this event had no adverse impact on nuclear plant safety. Additionally, since the PCIS valves are designed to close under full reactor power conditions (as occurred in this event), it is concluded that the consequences of this event would not have been more severe under other reactor power conditions.

F. CORRECTIVE ACTIONS

The following corrective actions were taken in response to this event:

1. The "A" RWCU pump was placed into service to control reactor coolant conductivity.

2. Damaged components of the "B" RWCU pump were replaced as required.

3. A sample of the oil which is suspected to be bad will be sent offsite for further analysis by September 29, 1988.

4. The suspected batch of oil was placed on hold and will not be released for use in the plant unless the test results prove it acceptable.

5. Replacing the oil in the RWCU pump with a different type (synthetic) provided by a different vendor.

6. It has been determined that no equipment with similar operating conditions contains this batch of oil.

7. This report will be revised by approximately 12/08/88 after the test results of the oil sample have been received and evaluated.

G. ADDITIONAL INFORMATION

1. FAILED COMPONENT(s) IDENTIFICATION

MPL (Plant Index Identifier): 1G31-C001B
Manufacturer: Ingersoll-Rand Company
Model Number: 204
Type: Bearing-Ball (Thrust)
EIIS: P

MPL (Plant Index Identifier): 1G31-C001B
Manufacturer: Ingersoll-Rand Company
Model Number: 363
Type: Gasket
EIIS: Seal

2. PREVIOUS SIMILAR EVENTS

Previous LERs have described events where the RWCU system isolated on a high temperature signal. These LERs are: 50-321/1986-040, (dated 10/5/86), 50-366/1987-005 (dated 3/20/87), 50-366/1987-012 (dated 9/06/87), and 50-321/1988-004 (dated 5/16/88).

These events were caused for a variety of reasons such as: 1) valve and heat exchanger tube leakage, 2) calcium fouling of a water chiller, and 3) high cycle fatigue of a drain line.

Corrective actions for these events included: 1) repairing leaks, 2) removing calcium deposits, 3) installing a chemical treatment system, 4) replacing the drain line, and 5) scheduling the replacement of a RWCU pump.

These corrective actions would not have prevented the event described in this report because they either did not deal with the kind of oil used in the pump or in the case of a RWCU pump replacement, have not yet been implemented. The replacement of a RWCU pump with a different type of pump is scheduled for the upcoming Unit 1 refueling outage.

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

the southern electric system

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September 6, 1988

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
DEGRADED OIL CAUSES
REACTOR WATER CLEANUP ISOLATION

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 an unanticipated actuation of an Engineered Safety Feature. This event occurred at Plant Hatch - Unit 1.

Sincerely,

W. G. Hairston, III

BF/ct

Enclosure: LER 50-321/1988-006

c: (see next page)

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Georgia Power

c: Georgia Power Company
Mr. H. C. Nix, General Manager - Plant Hatch
Mr. L. T. Gucwa, Manager, Licensing and Engineering - Hatch
GO-NORMS

U. S. Nuclear Regulatory Commission, Washington, D. C.
Mr. L. P. Crocker, Licensing Project Manager - Hatch

U. S. Nuclear Regulatory Commission, Region II
Dr. J. N. Grace, Regional Administrator
Mr. J. E. Menning, Senior Resident Inspector - Hatch

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