

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) EDWIN I. HATCH, UNIT 2										DOCKET NUMBER (2) 0 5 0 0 0 3 6 6				PAGE (3) 1 OF 4			
TITLE (4) OPEN VALVES AND/OR DRAINED SYSTEM CAUSE RWCU ISOLATION ON HIGH DIFFERENTIAL FLOW																	
EVENT DATE (5)			LER NUMBER (8)				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	1	0	8	6	8	6	0	1	8	0	0	0	0	0		
0	8	1	0	8	6	8	6	0	0	0	9	0	8	8	6		
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)															
1		20.402(b)				20.405(c)				X		50.73(a)(2)(iv)		73.71(b)			
POWER LEVEL (10)		20.405(a)(1)(i)				50.36(e)(1)						50.73(a)(2)(v)		73.71(c)			
0		20.405(a)(1)(ii)				50.36(e)(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							
Raymond D. Baker, Nuclear Licensing Manager - Hatch										AREA CODE 4 0 4 5 2 6 7 0 1 6							
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																	
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs	CAUSE		
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)		MONTH		DAY		YEAR	
YES (If yes, complete EXPECTED SUBMISSION DATE)										X NO							

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

On 8/10/86 at approximately 2110 CDT, Unit 2 was in the run mode at an approximate power level of 1552 MWt (64 percent of rated thermal power). Plant personnel were in the process of placing the "2A" Reactor Water Cleanup (RWCU) demineralizer into service when the RWCU system isolated on a high differential flow signal. The isolation caused the inboard and outboard isolation valves, 2G31-F001 and 2G31-F004, to close. This was an unplanned Engineered Safety Feature (ESF) actuation.

Investigation of the event showed that there was no break of the system piping. It is concluded that the isolation signal was caused either by: 1) the RWCU resin trap not being filled and vented prior to placing the system in service, or 2) the resin trap isolation valves being partially open. These valves are ball valves and the position indications are sometimes inaccurate.

Other LERs have reported high differential flow isolations of the RWCU system. The corrective actions for this LER to prevent recurrence include: 1) modifying the demineralizer procedure to insure the resin trap and associated piping are filled and vented, 2) modifying the ball valves to ensure proper positioning, and 3) forming a RWCU team to investigate and present recommendations on improving the operation and maintenance of the system and decreasing the number of isolations.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

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TEXT (If more space is required, use additional NRC Form 306A's) (17)

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.

B. UNIT(s) STATUS AT TIME OF EVENT

Unit 2 was in the run mode at an approximate power level of 1552 MWt (64 percent of rated thermal power).

C. DESCRIPTION OF EVENT

On 8/10/86 at approximately 2110 CDT, the Reactor Water Cleanup (RWCU) system isolated due to a high differential flow signal. The differential flow network compares the RWCU pump discharge pressure to the return flow to the reactor and condenser. A flow mismatch of 65 gpm for a duration of 45 seconds will initiate a system isolation. The inboard and outboard isolation valves (2G31-F001 and 2G31-F004) closed and the "2B" RWCU pump tripped per design. At the time that the isolation occurred, plant personnel were in the process of placing the "2A" RWCU demineralizer in service.

D. CAUSE OF EVENT

The differential flow trip was valid even though there was no break in the system piping. Plant engineering personnel investigated the problem and determined that there were two possible causes for the trip:

1) The "Reactor Water Cleanup Demineralizer" procedure 34SO-G31-002-2 requires the demineralizer resin trap to be blown down prior to placing the demineralizer in service. The procedure does not call for the trap and its associated piping to be filled and vented after blow down. The filling of this piping when the system is placed in service could possibly cause a differential flow of sufficient duration to cause a trip. A differential flow signal of 65 gpm which persists for 45 seconds will initiate a system isolation.

2) The resin trap isolation valves 2G31-F126 and 2G31-F127 are remotely operated ball valves. They are operated by handwheels through a wall. Since these valves will rotate through 360°, it is possible for them to overtravel. Additionally the position indication is unreliable. If these valves were partially open when the system was placed in service, they would cause a flow differential sufficient to initiate the isolation.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

There is an operator aid requiring these valves to be visually verified closed. However, the location of these valves makes it difficult to determine their exact position.

E. ANALYSIS OF EVENT

There were no safety consequences as a result of this event nor were the health and safety of the public affected since the RWCU system isolated as it should have had there been an actual breach in system integrity.

F. CORRECTIVE ACTIONS

The isolation was cleared and the system was returned to service at 2200 CDT on 8/10/86.

The "Reactor Water Cleanup Demineralizer" procedure 34SO-G31-002-2 is being revised to require the resin trap and its associated piping to be filled and vented after blowdown. This revision is expected to be in place by 10/31/86.

The ball valves will be modified to ensure proper positioning. This modification is expected to be completed by the end of the upcoming outage.

A RWCU team has been chartered by plant management to investigate the operational and maintenance problems associated with the system. This team was formed on 8/8/86 and will formulate recommendations on how to improve the system and decrease the number of isolations.

G. ADDITIONAL INFORMATION

1. FAILED COMPONENTS IDENTIFICATION

None

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

2. PREVIOUS SIMILAR EVENTS

Previous similar events where the RWCU system isolated on a high flow signal were reported in the following LERs: 50-366/1984-010 (dated 10/24/84), 50-321/1985-012 (dated 4/19/85), 50-366/1985-008 (dated 5/20/85), 50-366/1985-021 Rev. 1 (dated 10/18/85), 50-366/1985-020 (dated 8/21/85), 50-366/1985-031 (dated 10/7/85), 50-366/1985-032 (dated 11/1/85), 50-366/1986-002 (dated 2/14/86), 50-366/1986-008 (dated 3/20/86), and 50-366/1986-005 (dated 4/28/86).

The events described by these LERs showed a variety of causes for the isolations, such as flow fluctuations, mis-aligned position indicators on valves, valves left partially opened after operations, leaking valves, and operator in-attention to detail.

The corrective actions for these LERs included replacing manual isolation valves with air operated valves, realigning local position indicators, posting operator aids to aid in the correct operation of the system, repairing damaged valves, counseling of personnel and observation of personnel in the course of valve lineups.

Based on the high numbers of isolations of the system, plant management has formed a RWCU team. This team was formed on 8/8/86 and consists of engineering, operations, and maintenance personnel. This team is chartered to develop a plan for resolving the RWCU operational and maintenance problems, both long term and short term. They are tasked with addressing system isolations, pump seal failures, leaks, demineralizer/valve operability, and system modification.

This team could not have prevented the event described in this LER because the event occurred only two days after they received their charter. It is anticipated that once the team has completed its review and investigation into the RWCU system operational problems, that spurious isolations will be minimized.

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		8 6	0 1 8	0 0	0 3	OF	0 4

TEXT (If more space is required, use additional NRC Form 368A's) (17)

There is an operator aid requiring these valves to be visually verified closed. However, the location of these valves makes it difficult to determine their exact position.

E. ANALYSIS OF EVENT

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The ball valves will be modified by installing overtravel stops to ensure proper positioning. This modification is expected to be completed by the end of the upcoming outage.

A RWCU team has been chartered by plant management to investigate the operational and maintenance problems associated with the system. This team was formed on 8/8/86 and will formulate recommendations on how to improve the system and decrease the number of isolations.

G. ADDITIONAL INFORMATION

1. FAILED COMPONENTS IDENTIFICATION

None

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September 8, 1986

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

Attached is Licensee Event Report 50-366/1985-018. This report meets the reporting requirements of 10 CFR 50.73(a)(2)(iv).

Sincerely,

L. T. Gucwa

LGB/lc

Enclosure

c: Georgia Power Company
Mr. J. P. O'Reilly
Mr. J. T. Beckham, Jr.
Mr. H. C. Nix, Jr.
GO-NORMS

Nuclear Regulatory Commission
Dr. J. N. Grace, Regional Administrator
Mr. P. Holmes-Ray

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