

LICENSEE EVENT REPORT

CONTROL BLOCK:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
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(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0	1	G	A	E	I	H	2	2	0	0	-	0	0	0	0	0	0	0	0	3	4	1	1	1	1	4			5
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CONT

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EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 On 07/27/83, while investigating a problem with pressure transmitters,

0 3 test shop personnel discovered 12 open links in the MSIV leakage control

0 4 system 2E32. Both divisions of the MSIV leakage control system contained

0 5 open links and were considered inoperable. This is contrary to the re-

0 6 quirements of Tech. Specs. section 3.6.1.4. The health and safety of the

0 7 public were not affected by this repetitive event as last reported on

0 8 LER 50-321/1983-022. Other events are listed in the narrative report.

0	9	C	D	11	A	12	C	13	C	K	T	B	K	R	14	X	15	Z	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
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CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 Design change request 81-139 required the (2E32) transmitters to be changed.

1 1 The DCR work commenced on 05/13/83, with the transmitters out of

1 2 service and some wiring changes made, the decision was made to restore

1 3 the original transmitters, maintenance was not notified to "REDLINE" the

1 4 reinstallation. The 12 links for (2E32) transmitters were closed.

1	5	C	28	0	8	8	29	NA	30	B	31	Personnel observation	32	1	6	Z	33	Z	34	NA	35	NA	36	1	7	0	0	0	37	Z	38	NA	39	1	8	0	0	0	40	NA	41	1	9	Z	42	NA	43	2	0	N	44	NA	45	8308220367	830811	PDR	ADOCK	05000366	PDR	68	69	70	71	72	73	74	75	76	77	78	79	80
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NAME OF PREPARER H. C. Nix

PHONE: (912)367-7851

NARRATIVE REPORT
FOR LER 50-366/1983-066

LICENSEE : GEORGIA POWER COMPANY
FACILITY NAME : EDWIN I. HATCH
DOCKET NUMBER : 50-366

Tech. Specs. section(s) which requires report:

This 14 day LER is required by Tech. Specs. section 6.9.1.8.b for events 1 and 2 due to the event's showing that the unit was not meeting the requirements of Tech. Specs. section 3.6.1.4.

This 14 day LER is required by Tech. Specs. section 6.9.1.8.f for events 3 thru 8 due to the event's showing that the unit was not meeting the requirements of the following Tech. Specs. sections:

3. 3.3.1 and Table 3.3.1-1

4. 3.6.6.2

5. 3.1.5

6. 3.5.1

7. 3.7.3

8. 3.5.1

9. This LER is required by Tech. Specs. section 6.9.1.9.c due to the event's showing that the unit was not meeting the requirements of Tech. Specs. section 3.6.1.4

Plant conditions at the time of the event(s):

1. This event was discovered on 07/27/83 with the reactor mode switch in the run position and reactor power at 2145 MWt (approximately 88% power).

Events 2 thru 6 were discovered on 07/28/83 with the reactor mode switch in the run position and the following reactor powers:

2. 2261 MWt (approximately 93 % power)

3. 2295 MWt (approximately 94 % power)

4. 2295 MWt (approximately 94 % power)

5. 1177 MWt (approximately 48 % power)

6. 2281 MWt (approximately 93 % power)

Events 7 & 8 were discovered on 07/29/83 with the reactor mode switch in the run position the following reactor powers:

7. 1560 MWt (approximately 64% power).
8. 1643 MWt (approximately 67% power).
9. This event was discovered on 08/03/83 with the reactor mode switch in the shutdown position and reactor power at approximately 0% MWt.

Detailed description of the event(s):

1. On 07/27/83, while investigating a problem with a pressure transmitter, test shop personnel discovered twelve open links going to the following pressure transmitters on the MSIV Leakage Control System (2E32): 2E32-N050, 2E32-N056, 2E32-N058, and 2E32-N060.

NOTE: After the above two events were discovered on 7/27/83, a "mispositioned link inspection and evaluation program" involving main control room panels and safety related local panels was performed. The following items list the findings:

2. Two wires were found lifted in panel 2H21-P073 which went to MSIV Leakage Control System (2E32) pressure transmitters 2E32-N056. These wires should have been connected at AA7 and AA8 of 2H21-P073.
3. Reactor Pressure Hi-Hi Switches (ATWS) 2B21-N045 A & B were found to be isolated due to mispositioned instrument valves.
4. Transmitters for the following instruments for the "B" post LOCA Hydrogen recombiner were found to be isolated due to mispositioned instrument valves: 2T49-N003B, 2T49-N010B and 2T49-N013B instruments.
5. SBLC Pump Discharge Header Pressure Transmitter (2C41-N004) was found to have isolation valve (IV-1) closed.
6. Link BB-50 in Panel 2H11-P620 for the HPCI Minimum Flow Valve (2E41-F012) was found open.
7. Link AA-71 in Panel 2H11-P627 for the RCIC Turbine Exhaust Vacuum Breaker (2E51-F105) was found loose (but closed) with its screw threads stripped.
8. Link TB11-34 in Panel 2H11-P654 for the HPCI Room Cooler (2T41-B005B) was found open.

9. Root valves for MSIV LCS pressure transmitters 2E32-N051 P, K, B, & F, were found to be closed on 08/03/83.

Consequences of the event(s):

1 & 2. MSIV Leakage Control System (2E32)

- a. Off site releases would be within the limits set forth in SRP 6.4 and GDC-19. Releases would be equivalent to Unit 1 levels (no leakage control system installed).
- b. Control room dose rates would be acceptable by similar analogy to Unit 1 analyses.
- c. Thus, the inoperability of the system would not have created a problem with off site releases should an accident have occurred.

3. ATWS Switches (2B21-N045 A & B)

2B21-N045 A or C will trip the "A" recirculation pump MG set on high reactor pressure. 2B21-N045 B or D will trip the "B" recirculation pump MG set on high reactor pressure. Thus the isolation of 2B21-N045 A & B did not cause ATWS to have a loss of function.

4. Hydrogen Recombiner (2T49-Z002B)

- a. The "A" recombinder was out of service at the time of the event.
- b. The system was inoperable with the transmitters isolated.
- c. The system is not required for a number of hours post accident. Also, sufficient time is available prior to the need for operation, that corrective actions could have been taken.
- d. Analyses under consideration by NRR show recombiners are not required with inerted drywell.

5. SBLC Pump Discharge Header Pressure Transmitter (2C41-N004)

2C41-N004 feeds pressure signal to 2C41-R600 on Panel 2H11-P603 for indication only, and has no trip functions. Note: The operator would have other indications of SBLC actuation and injection: i.e., pump start indication lights, loss of squibb valve continuity lights, decrease in tank level, and a decrease in reactor power.

6. HPCI Minimum Flow Valve (2E41-F012)

This link provides a close signal to the HPCI pump minimum flow valve (2E41-F012) on a high system flow of 800 GPM (measured by instrument 2E41-N006). With the link open on the HPCI pump minimum flow valve, the conservative assumption was that HPCI would not achieve rated flow at rated pressure. However, a Test or Experiment Request which was performed on 08/02/83, verified that with the identical link opened on the HPCI pump minimum flow closing circuit (on rising system flow) and with the HPCI pump minimum flow valve open, the HPCI system was able to achieve rated flow of 4250 GPM in the automatic flow control mode. It is our belief that the HPCI system would have achieved rated flow at rated pressure had it been required to inject.

7. RCIC Turbine Exhaust Vacuum Breaker (2E51-F105)

IF this link was open, RCIC turbine exhaust vacuum breaker (2E51-F105) would not close on a coincident high drywell pressure signal and low RCIC steam line pressure signal. This link was found closed but continuity across the link was suspect. The redundant vacuum breaker in the line was operable.

8. HPCI Room Cooler (2T41-B005B)

The open link caused the High Temperature Auto Initiation signal to HPCI room cooler (2T41-B005B) to be inoperable. On an auto start signal for the HPCI system, this cooler would have come on regardless of the start signal from room high temperature. Redundant HPCI room cooler (2T41-B005A) (100% capacity) was available.

9. MSIV Leakage Control System 2E32

The inboard leakage control system was not declared inoperable because the links had been closed at this time and lifted wires installed. The system could have been placed into service with these instruments isolated if permissive conditions existed (i.e. less than 35 PSI). The degree of a single fault failure was reduced in that had the N061 pressure device (which also controls the opening of the 2E32-F001 & 2 valves) failed the system could have been inadvertently started on a improper permissive signal. No such single failure was experienced for this event. With the transmitters out of service the permissive was given for the heaters in the K, P, B, F, Inboard LCS to turn on. The heaters would not be required at all times but would function in the conservative manner (i.e. they worked when required and also when not required).

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Status of redundant or backup subsystems and/or systems:

- 1 & 2: Both divisions of the leakage control system contained open links and were considered inoperable for Tech. Specs. purposes.
3. The 2B21-N045 C & D switches were operable.
4. Both post LOCA recombiners were inoperable.
5. There are no backup systems for the SBLC pump discharge header pressure transmitter; however, other indications are available to the operator to show that SBLC is injecting to the vessel..
6. ADS was operable.
7. The redundant vacuum breaker was operable; there is no backup for RCIC.
8. Redundant cooler "A" was operable.
9. With the root valves to 2E32-N051 B, F, K, P all closed and all other links and valves restored to their normal position, then the outboard system is operable.

Justification for continued operation:

- 1 & 2. The links were closed, and the wires were reterminated.
3. Unit 2 was placed in a 6 hour LCO as required by Tech. Specs. table 3.3.1-1. ACTION 5. The isolation valves for reactor pressure switches (2B21-N045 A & B) were returned to the open position.
4. Unit 2 was placed in a 12 hour LCO as required by Tech. Specs. section 3.6.6.2. The isolation valves for Post LOCA Hydrogen transmitters (2T49-N003B), (2T49-N010B) (2T49-N013B) were returned to the open position.
5. The isolation valve (i.e., IV-1) for the SBLC pump discharge header pressure transmitter (2C41-N004) was returned to the open position.
6. Unit 2 was placed in a 14 day LCO as required by Tech. Specs. section 3.5.1. ACTION a). Link BB-50 in Panel 2H11-P620 for the HPCI minimum flow valve (2E41-F012) was closed.
7. Link AA-71 in panel 2H11-P627 for the RCIC exhaust vacuum breaker (2E51-F105) was fully closed and tightened.

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8. Unit 2 was placed in a 14 day LCO as required by Tech. Specs. section 3.5.1. Link TB11-34 in panel 2H11-P654 for the HPCI pump room cooler (2T41-B005B) hi temperature auto start was closed.
9. The root valves were opened.

If repetitive, number of previous LER:

1. Refer to LER number 50-321/1983-022.
2. Refer to LER number 50-321/1983-059.
- 3, 4, & 5 : Refer to LER number 50-366/1983-041.
6. Refer to LER number 50-321/1983-022.
7. N/A
8. Refer to LER number 50-321/1983-022.
9. Refer to LER number 50-366/1983-041.

Impact to other systems and/or Unit:

The following statement is applicable for each of the 9 items:

This event had no impact on Unit 1 or on any other Unit 2 system.

Cause(s) of the event(s):

1. DCR 81-139 includes changing out the transmitters from Rosemount to Bartons. The DCR work commenced 5-13-83 (New cables were being installed for the Bartons). With the transmitters out of service and some wiring changes already completed per ATTS design, the decision was made to discontinue the Barton installation and restore the Rosemount instruments. GE was notified to restore the system to its original design. Maintenance was not notified to "Redline" the Rosemount reinstallation. The links that were used to electrically isolate the transmitters for replacement were not reclosed after the Rosemounts were reinstalled.
2. 2E32-N056 was calibrated on 4/16/80. A review of applicable plant documentation has not revealed any reason for these wires to be lifted.

3. ATWS Switches (2B21-NO45 A & B)

The last calibration was performed on 06/05/78 per the "REACTOR PRESSURE (RECIRC. PUMP TRIP) INSTRUMENT FT AND C" procedure (HNP-2-3453). A review of applicable plant documentation has not revealed any reason for the instruments to be isolated since 06/05/78.

These instruments were not on the surveillance program due to Tech. Specs. Tables 3.1.1-1 and 4.1.1-1 not listing the instruments properly for instrument surveillance.

4. The valves were verified to be open on 06/27/83 by the "POST LOCA HYDROGEN RECOMBINER" procedure (HNP-2-1235), and they were functionally tested on 06/26/83 by the "PRIMARY CONTAINMENT HYDROGEN RECOMBINER SYSTEM FUNCTIONAL TEST (HEATUP TO 600° F)" procedure (HNP-2-3606), and on 06/29/83 by the "PRIMARY CONTAINMENT HYDROGEN RECOMBINER SYSTEM FUNCTIONAL TEST (HEATUP TO 1200 DEGREES F)" procedure (HNP-2-3607). A review of applicable plant documentation has not revealed any method for these instruments to have been isolated since 06/29/83.
5. This instrument was last demonstrated to be operable during performance of the "STANDBY LIQUID PUMP AND RELIEF VALVE OPERABILITY" PROCEDURE (HNP-2-3703) on 05/27/83. Additionally, the valves were verified to be in the correct position per the "STANDBY LIQUID CONTROL INSTRUMENT VALVE CHECKLIST" procedure (HNP-2-1400) on 06/16/83.
6. Per HNP-2-3303 Step 19 (HPCI Operability Test) the operator (on 07/14/83) confirmed the HPCI Minimum Flow Valve 2E41-F012 auto closed during the monthly operability test. A review of applicable plant documentation has not revealed any reason for this link (BB-50) being opened since 07/14/83.
7. The "RCIC AUTO ISOLATION LSFT" procedure (HNP-2-3418) was performed on 04/05/83, proving link AA-71 was closed. The nut was found in place and there is no reason to believe that continuity within the closed link was lost between 04/05/83 and the time it was repaired on 07/31/83.
8. Link TB11-34 was verified closed on 05/19/83 (per M.R. 2-83-802 and HNP-2-5932) and functionally tested on 06/29/83 (per functional test for DCR 82-004). A review of applicable plant documentation has not revealed any reason for this link to be opened since 06/29/83.

9. The cause of this event is unknown at this time. Only work pertaining to these transmitters was ATTS-DCR 81-129. Clearance 2-83-300 tagged and closed these root valves on 04/11/83. They were verified to be re-opened (by the same clearance) on 05/27/83.

Immediate Corrective Action:

The following is the systematic approach that was used for all of the items:

The twelve links (item 1) were immediately corrected per normal plant procedures when identified, and they were later reviewed in light of subsequent events.

After finding open links on MSIV leakage control system, an inspection and evaluation of main control room panels and safety-related local panels was performed.

This inspection proceeded from July 27 to August 2 on an around the clock basis for most of the period.

As each finding was identified, equipment was restored to proper operation, and an engineering analysis of potential degraded mode of operation was made.

Maintenance request closeouts and functional test procedures for DCR's completed during the recent outage were reviewed.

Instrument valve lineups were checked and valves secured.

NRC resident inspectors were informed and included in the investigations and deliberations.

PRB and SRB met to review the situation and make determination of plant status and adequacy of corrective actions on July 28, 1983 at the plant site.

A special investigative team was assigned to evaluate the underlying causes and recommend corrective action on July 28, 1983. Team chairman proceeded to site that night.

Ran ECCS and MSIV leakage control system operability surveillance tests on unit 2.

Supplemental Corrective Action:

None was required.

Scheduled (future) corrective action:

The following is the systematic approach that will be used for all of the items:

Existing controls are being upgraded to stress independent verification for the reatoration of any safety-related components that are placed in an OFF-NORMAL CONDITION.

The "LIFTED WIRE AND JUMPER CONTROL" procedure is being modified to require its use whenever specific steps in procedures or tests do not restore links, or when "RED LINE" procedures are not used.

Procedure compliance is being re-emphasized at the plant.

Administrative controls are being strengthened to ensure that the condition of interrupted work is known and accounted for in consideration of restoration of systems to operability.

System restoration is being emphasized in operations, maintenance and QA/QC training programs.

Valve lineup procedures are being revised to ensure sealing and proper position.

A proposed Tech. Specs. change will be submitted to explicitly state the surveillance requirements for the ATWS recirc. pump trip switches; additionally, these switches will be placed in the surveillance program.

Action to prevent recurrence (if different from corrective actions):

N/A

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REGION II
GEORGIA
ATLANTA

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Edwin J. Hatch Nuclear Plant



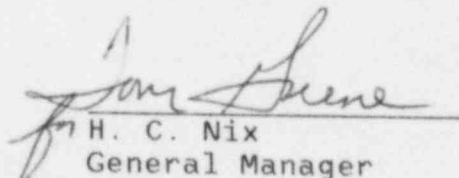
August 11, 1983
GM-83-788

PLANT E. I. HATCH
Licensee Event Report
Docket No. 50-366

United States Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region II
Suite 3100
101 Marietta Street
Atlanta, Georgia 30303

ATTENTION: Mr. James P. O'Reilly

Attached is Licensee Event Report No. 50-366/1983-066. This report is required by Hatch Unit 2 Technical Specifications Section 6.9.1.8.b. This report is being transmitted within the time extension (August 12, 1983) granted by your office on August 10, 1983.


H. C. Nix
General Manager

HCN/SBT/djs

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