

Georgia Power Company
333 Piedmont Avenue
Atlanta, Georgia 30308
Telephone 404 526 3195

Mailing Address:
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, Alabama 35201
Telephone 205 868 5581

THE SOUTHERN ELECTRIC SYSTEM

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

HL-2182
003322

April 23, 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
PERSONNEL ERROR RESULTS IN
LOW REACTOR WATER LEVEL AND A REACTOR SCRAM

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 personnel error which resulted in low reactor water level and a reactor scram. This event occurred at Plant Hatch - Unit 1.

Sincerely,


W. G. Hairston, III

MCM/cr

Enclosure: LER 50-321/1992-009

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

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Handwritten initials/signature

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) **PLANT E. I HATCH UNIT 1** DOCKET NUMBER (2) **0 5 0 0 0 3 2 1** PAGE (3) **1** OF **4**

TITLE (4) **PERSONNEL ERROR RESULTS IN LOW REACTOR WATER LEVEL AND A REACTOR SCRAM**

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)
0 3	2 8	9 2	9 2	0 0 9	0 0	0 4	2 3	9 2		0 5 0 0 0
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THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (11)

OPERATING MODE (9)	20.402(b)	20.405(c)	X	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL 1 0 0	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)
	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	TELEPHONE NUMBER
STEVEN B. TIPPS, MANAGER NUCLEAR SAFETY AND COMPLIANCE, HATCH	AREA CODE 912 NUMBER 367-7851

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

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

ABSTRACT (16)

On 3/28/92 at 0432 CST, Unit 1 was in the Run mode at a power level of 2436 CMWT (100% rated thermal power). At that time, reactor water level decreased as a result of operator actions in response to a feedwater flow transient caused by a momentary loss of power to the Reactor Feedwater Pump Turbine (RFPT) control system. When power was interrupted, flow from both Reactor Feedwater Pumps (RFPs) began to decrease causing water level to decrease. A licensed Operator took manual control of the RFPs, but was unable to prevent water level from decreasing to the scram and Group 2 PCIS isolation setpoint. The reactor scrammed and the Group 2 Primary Containment Isolation Valves closed per design. Water level reached a minimum of 12 inches below instrument zero (146 inches above the top of the active fuel). Operations personnel restored water level with the RFPs. No Emergency Core Cooling Systems initiated nor were any required to do so. Reactor pressure was controlled automatically with the Main Turbine Bypass Valves. No Safety Relief Valves were required to lift.

The causes of this event are personnel error and a less than adequate procedure. The Unit 1 Shift Supervisor mistakenly opened the supply breaker to 600V bus 1B thereby causing a loss of power to the RFPT control system. Procedure 34SO-R23-004-1S, "Hot Transfer of 600V AC System," did not require Danger tags to be hung on breaker control switches before breaker racking operations were performed. Corrective actions for this event include counseling involved personnel and revising appropriate procedures.

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TEXT

PLANT AND SYSTEM IDENTIFICATION

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

DESCRIPTION OF EVENT

On 3/28/92 at 0700 CST, Unit 1 was in the Run mode at a power level of 2436 CMWT (100% rated thermal power). At that time, work was in progress to replace the oil in various plant transformers as part of the project to eliminate polychlorinated biphenyl (PCB) from the transformers. Each transformer was to be de-energized, its oil drained, new oil added, and the transformer re-energized. Work on Unit 1 non-class 1E 4160V/600V transformer 1A had been completed and the transformer re-energized. Plant personnel were preparing to replace the oil in Unit 1 non-class 1E 4160V/600V transformer 1B.

In order to de-energize transformer 1B to replace its oil, its load, 600V bus 1B (E/IS Code EA), had to be transferred to alternate 4160V/600V transformer 1AB. Per procedure 34SO-R23-004-1S, "Hot Transfer of 600V AC System," the 4160V supply breaker to alternate transformer 1AB had to be physically relocated from 4160V bus 1C to 4160V bus 1D. (Having only one movable supply breaker for the two 4160V supplies to transformer 1AB prevents 4160V busses 1C and 1D from inadvertently being crossconnected.) To that end, the Unit 1 Operator opened the 4160V supply breaker to alternate transformer 1AB with the control switch in the Main Control Room. Maintenance personnel then proceeded to move the 4160V supply breaker from 4160V bus 1C to 4160V bus 1D per procedure 34SO-R23-004-1S. The breaker was successfully moved to its proper location in bus 1D and its control power was turned on.

At approximately 0432 CST, the Unit 1 Shift Supervisor was standing at the Unit 1 control panel reviewing the electrical line-up. He felt, based on his observation of the breaker indicating lights on the panel, that the 4160V supply breaker to alternate transformer 1AB was not open. However, he had mistaken the indicating lights for the closed normal supply breaker to 600V bus 1B for the lights for the supply breaker to alternate transformer 1AB. Believing that maintenance personnel were in the process of moving the 4160V supply breaker, and being concerned for their safety, he asked for and received concurrence from the Unit 1 Operator to open the breaker. Then thinking he was opening the alternate transformer 1AB supply breaker, the Unit 1 Shift Supervisor opened the 600V bus 1B normal supply breaker de-energizing the 600V bus.

This action momentarily de-energized the power supply to the A and B Reactor Feedwater Pump Turbine (RFPT, E/IS Code SJ) control system. Power to the RFPT control system was restored approximately 1.5 seconds later when its power supply automatically transferred to 600V bus 1A (E/IS Code EA) per design. Flow from the A and B Reactor Feedwater Pumps (RFPs, E/IS Code SJ) immediately began to decrease resulting in reactor water level decreasing as well. About eight

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sec. RFP flow and reactor water level began to increase as the
 F. stabilized and demand to the now energized RFPT control
 in response to the low water level condition.

Unit 1 operator took manual control of the RFPs in an effort to prevent a
 high water condition and avoid the resulting RFPT and Main Turbine high
 water level trips. He decreased RFP flow and prevented water level from
 reaching and Main Turbine trip setpoint. In doing so, however, he
 reduced flow to the point where water level decreased to the scram and Group 2
 Primary Containment Isolation System (PCIS, EIIS Code JM) isolation setpoint of
 15 inches above instrument zero (171 inches above the top of the active fuel)
 before he could increase flow again. At 0432 CST, the reactor scrammed and the
 Group 2 Primary Containment Isolation Valves (EIIS Code JM) closed per design.
 Water level reached a minimum of 12 inches below instrument zero (156 inches
 above the top of the active fuel) before being recovered with the RFPs. No
 Emergency Core Cooling Systems initiated nor were any required to do so.

Reactor pressure was controlled automatically with the Main Turbine Bypass
 Valves (EIIS Code 50). No Safety Relief Valves lifted nor were any required to
 lift.

CAUSE OF EVENT

This event was caused by personnel error and a less than adequate procedure.
 The Unit 1 Shift Supervisor, a licensed individual, mistook the 600V bus 1B
 normal supply breaker, which was closed, for the alternate transformer 1.B
 supply breaker. He knew the transformer supply breaker should have been open
 and, after getting concurrence from the Unit 1 Operator, opened what he thought
 was the correct breaker. He instead opened the 600V bus 1B normal supply
 breaker thereby de-energizing the bus and causing a loss of power to the RFPT
 control system. In attempting to manually adjust feedwater flow, the operator
 inadvertently reduced flow to the point that reactor water level reached the
 scram and Group 2 isolation setpoints.

Procedure 3480-R23-004-1S was less than adequate in that it did not require
 Danger tags to be hung on breaker control switches before breaker racking
 operations were performed. A Danger tag is an administrative device which
 prevents equipment from being operated when doing so might damage the equipment
 and/or injure personnel. In this event, a Danger tag hung on the control switch
 for the transformer 1AB supply breaker would have served to identify more
 clearly the breaker being moved. Furthermore, it would have assured the Shift
 Supervisor that the breaker was in the open position in addition to providing
 greater personnel safety.

REPORTABILITY ANALYSIS AND SAFETY ASSESSMENT

This report is required per 10 CFR 50.73(a)(2)(iv) because unplanned actuations
 of the Reactor Protection System (RPS, EIIS Code JC) and the Group 2 RFP, an
 Engineered Safety Feature system, occurred. Specifically, the RPS and the Group

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2 PCIS were initiated automatically on low reactor water level per design. Water level decreased when power to the RFPT control system was momentarily lost when the supply breaker to 600V bus 1B was opened inadvertently.

The RPS provides timely protection against the onset and consequences of conditions that could threaten the integrity of the fuel carriers and the nuclear system process barrier. A reactor scram initiated by a low water level condition protects the fuel by reducing the fission heat generation within the core.

In this event, reactor water level decreased as a result of a momentary loss of power to the RFPT control system. The RPS and the Group 2 PCIS functioned per design. Reactor water level was restored quickly by using the RFPs. At no time was water level less than 146 inches above the top of the active fuel. Based on this information, it is concluded that this event had no adverse impact on nuclear safety. The above analysis is applicable to all power levels.

CORRECTIVE ACTIONS

The Unit 1 Shift Supervisor who opened the wrong breaker was counseled.

Procedure 34SO-R23-004-1S has been temporarily revised to require Danger tags to be hung on breaker control switches before breaker racking operations are performed. This revision will become permanent by 6/8/92.

Other Unit 1 and Unit 2 procedures which provide instructions for breaker racking operations also will be revised to require Danger tags to be hung on breaker control switches before such operations are performed. These revisions will be effective by 9/30/92.

ADDITIONAL INFORMATION

No systems other than those previously mentioned were affected by this event.

No failed components caused or resulted from this event.

Previous similar events in the last two years in which a scram was caused by personnel error were reported in the following Licensee Event Reports:

- 50-321/1990-011, dated 6/22/91
- 50-321/1991-007, dated 3/27/91
- 50-321/1991-017, dated 10/9/91
- 50-321/1991-026, dated 12/4/91
- 50-366/1991-005, dated 3/15/91.

Corrective actions for the previous events would not have prevented this event because the previous events involved different persons performing different activities.