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the southern electric system

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

HL-814
0384V

November 8, 1989

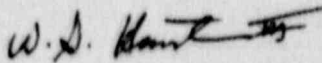
U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

PLANT HATCH - UNIT 1
NRC DOCKET 50-321
OPERATING LICENSE DPR-57
LICENSEE EVENT REPORT
PERSONNEL ERROR LEADS TO GROUP 5 ISOLATION
OF PRIMARY CONTAINMENT ISOLATION SYSTEM

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

Sincerely,


W. G. Hairston, III

SWR/ct

Enclosure: LER 50-321/1989-14

c: (See next page.)

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U.S. Nuclear Regulatory Commission

November 8, 1989

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c: Georgia Power Company

Mr. H. C. Nix, General Manager - Nuclear Plant

Mr. J. D. Heidt, Manager Nuclear Engineering and Licensing - 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

Mr. S. D. Ebnetter, Regional Administrator

Mr. J. E. Menning, Senior Resident Inspector - Hatch

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) PLANT HATCH, UNIT 1	DOCKET NUMBER (2) 0 5 1 0 1 0 1 3 1 2 1 1	PAGE (3) 1 OF 0 1 5
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TITLE (4)
PERSONNEL ERROR LEADS TO GROUP 5 ISOLATION OF PRIMARY CONTAINMENT ISOLATION SYSTEM

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)																																																									
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LICENSEE CONTACT FOR THIS LER (12)

NAME Steven B. Tipps, Manager Nuclear Safety and Compliance, Hatch	TELEPHONE NUMBER
	AREA CODE: 9112 NUMBER: 31671-1718511

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

On 10/10/89, at approximately 1020 CDT, Unit 1 was in the Run mode at an approximate power level of 2436 MWT (approximately 100% of rated thermal power). At that time, plant equipment operators (PEOs), in accordance with procedure, opened valve 1G31-F052A to place into service the Reactor Water Cleanup (RWCU) system filter/demineralizer (F/D) 1G31-D002A. Opening the valve caused a pressure transient which actuated the RWCU system high differential flow alarm. A Primary Containment Isolation System (PCIS) Group 5 isolation then occurred per design.

The root cause of this event was personnel error. Miscommunication resulted in the inability to quickly recognize and mitigate the differential flow condition, in that the PEO who opened the valve mistakenly believed communication had been established with the Main Control Room prior to the attempt to place the F/D into service. A contributing factor is the non-fault tolerant design of the RWCU system F/Ds, in that opening the F/D isolation valve can result in a pressure/flow transient.

Corrective actions for this event include counselling the involved personnel, issuing a memorandum emphasizing the need to use the verbal repeat back technique for confirming commands before executing actions, and scheduling a design change to the RWCU system.

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

PLANT AND SYSTEM IDENTIFICATION

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

SUMMARY OF EVENT

On 10/10/89, at approximately 1020 CDT, Unit 1 was in the Run mode at an approximate power level of 2436 MWT (approximately 100% of rated thermal power). At that time, plant equipment operators (PEOs) opened valve 1G31-F052A to place into service the Reactor Water Cleanup system (RWCU, EIIIS Code CE) filter/demineralizer (F/D) 1G31-D002A. Opening the valve precipitated a pressure transient which actuated the RWCU system high differential flow alarm of the RWCU Leak Detection System (LDS, EIIIS Code BD). The PEO who opened the valve mistakenly believed procedurally required communication with the Main Control Room had been established via a second PEO. Because communication had not been established, the PEOs did not know the high differential flow alarm had actuated, and hence did not close valve 1G31-F052A to mitigate the differential flow condition. A Primary Containment Isolation System (PCIS, EIIIS Code JM) Group 5 isolation then occurred per design.

The root cause of this event was personnel error. Specifically, miscommunication between the two PEOs at the remote F/D panel resulted in the inability to quickly recognize and mitigate the differential flow condition. A contributing factor to the event is the non-fault tolerant design of the RWCU system F/Ds, in that opening the F/D isolation valve can result in a pressure/flow transient.

Corrective actions for this event include counselling the involved personnel, issuing a memorandum from the Manager of Operations emphasizing the need to use the verbal repeat back technique for confirming commands before executing actions, and scheduling a design change to the RWCU system.

DESCRIPTION OF EVENT

On 10/10/89, at approximately 0700 CDT, plant operations personnel began a backwash and precoat cycle on the Unit 1 RWCU F/Ds. At 1020 CDT, plant operations personnel were returning a F/D to service in accordance with procedure 3450-G31-003-1S, "RWCU System." To accomplish this task, two PEOs were stationed at a remote F/D panel, and licensed plant operators were stationed in the Main Control Room (MCR). At the remote

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panel, one PEO was designated to operate equipment, and the other PEO was designated to relay communications between the MCR and the PEO who was operating equipment. The portion of the procedure which deals with placing the F/D into service instructs MCR operators to be prepared to instruct the PEOs to isolate the F/D should the LDS annunciator actuate due to a RWCU system high differential flow signal.

The PEOs at the remote F/D panel were aware of the requirement to establish communication with the MCR before opening the valve to the F/D to return it to service. Therefore, the PEO assigned to the communication function went to a nearby plant telephone and dialed the MCR. As the PEO assigned the communication function waited for the MCR to answer the phone, the PEO assigned to equipment operation misinterpreted a gesture made by the other PEO as a command to proceed. When he opened the isolation valve (1G31-F052A) to the F/D, a pressure/flow transient actuated the LDS annunciator in the MCR. Thus, at approximately the same moment as the telephone began ringing in the MCR, the LDS annunciator also alarmed in the MCR. MCR licensed plant operators responded to the annunciator rather than answering the telephone. Therefore, because communication was not established, the MCR operators were not aware that the F/D isolation valve had been opened, and the PEOs were not aware that the high differential flow annunciator had sounded. When the LDS 45-second time delay expired, the PCIS Group 5 valves isolated per design.

Following the event, PEOs inspected the RWCU system to verify that no leaks existed from piping or valves. The RWCU system was then returned to service without further incident.

CAUSE OF THE EVENT

The root cause of this event was personnel error. Specifically, miscommunication between the two PEOs at the remote RWCU system F/D panel resulted in the inability to quickly recognize and mitigate the differential flow condition. The PEO who opened the F/D isolation valve at the remote panel misinterpreted a gesture made by the other PEO as the latter was attempting to telephone the MCR. Therefore, the F/D isolation valve was opened before communication was established with the MCR operators. A contributing factor to the event is the non-fault tolerant design of the F/Ds. Opening the F/D isolation valve can result in a pressure/flow transient potentially of sufficient duration to activate a PCIS Group 5 isolation due to RWCU system high differential flow.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT (If more space is required, use additional NRC Form 300a's) (17)

REPORTABILITY ANALYSIS AND SAFETY ASSESSMENT

This report is required per 10 CFR 50.73 (a)(2)(iv) because an event occurred which resulted in the unplanned actuation of an Engineered Safety Feature (ESF). Specifically, the RWCU system isolation valves, 1G31-F001 and 1G31-F004 (Group 5 PCIS valves), closed in response to an indication of high differential flow between the lines entering and leaving containment.

The purpose of the RWCU LDS is to detect leakage from the RWCU system outside primary containment and to mitigate the consequences of that leakage. This system uses leak detection instrumentation which initiates closure of Primary Containment Isolation Valves (PCIVs) upon detecting a parameter indicating a leak. One of the instruments used for detecting leakage compares RWCU system influent and effluent. A high differential flow condition exists when the influent exceeds the effluent by at least 56 gpm for 45 seconds. This condition will initiate closure of the Group 5 PCIVs.

In the event addressed in this report, an actual high differential flow condition existed resulting in the isolation of the Group 5 PCIVs. The miscommunication between the PEOs who were stationed at the remote location and the operators who were in the MCR led to the premature opening of a F/D isolation valve. This caused a pressure transient which activated the RWCU LDS. The LDS annunciators, in turn, led MCR operators to deal with the task of silencing the alarms rather than establishing communication with the PEOs because they did not realize the PEOs had opened the isolation valve to the F/D. Thus the F/D was not isolated to mitigate the high differential flow condition as directed by the procedure. There was no leakage of reactor coolant outside the RWCU system.

Based on the above analysis, it is concluded that this event had no adverse impact on nuclear safety. Since the isolation occurred at rated thermal power, it is concluded that this event would not have been more severe under other operating conditions.

CORRECTIVE ACTIONS

Corrective actions for this event include:

1. The personnel involved will be counselled by 11/24/89 regarding the significance of this event and the need for constant attention to detail.

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2. Issuing a memorandum from the Manager of Operations to all operations personnel emphasizing the importance of using the repeat back technique of verifying verbal commands before executing them. This action will be completed by 12/15/89.

3. Implementing a design change to provide a small bypass valve around the outboard inlet isolation valves to the F/Ds. This will permit slow F/D pressurization and mitigate the pressure transient which was the immediate cause of this event. This action will be completed by the end of the next Unit 1 refueling outage, currently scheduled to begin 2/28/89.

ADDITIONAL INFORMATION

1. Other Affected Equipment:

No plant systems other than the RWCU system and the Group 5 PCIVs were affected by this event.

2. Previous Similar Events:

Similar events in which the RWCU system isolated due to high differential flow were previously reported in the following LERs:

- 50-321/1989-001, dated 03/06/89
- 50-321/1989-012, dated 10/31/89
- 50-366/1983-021, dated 09/28/88
- 50-366/1988-015, dated 08/26/88

The corrective actions for these events included revising defective procedures, repairing and replacing valves, and counseling involved personnel. These corrective actions would not have prevented the event addressed in this report because no procedural deficiencies were involved, there were no failed components in this event, and different personnel were involved in this event.