

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

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

*the southern electric system*

HL 599  
000157

January 14, 1991

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


PLANT E. I. HATCH - UNIT 2  
NRC DOCKET 50-366  
OPERATING LICENSE NPF-5  
LICENSEE EVENT REPORT  
OFFGAS RADIATION MONITOR INOPERABLE  
DUE TO INCORRECT VALVE LINEUP

Gentlemen:

In accordance with the requirements of 10CFR50.73(a)(2)(i), Georgia Power Company is submitting the enclosed Licensee Event Report (LER) concerning an inoperable offgas radiation monitor as a result of an incorrect valve lineup. This event occurred at Plant Hatch - Unit 2.

If you have any questions in this regard, please call this office at any time.

Sincerely,

  
W. G. Hairston, III

JKB/rw

Enclosure: LER 50-366/1990-013

c: (See next page.)

9101220411 910116  
PDR ADOCK 05000366  
S PDR

TF22  
11

U.S. Nuclear Regulatory Commission

January 14, 1991

Page Two

c: Georgia Power Company

Mr. H. L. Sumner, General Manager - Nuclear Plant

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

**LICENSEE EVENT REPORT (LER)**

|   |                                      |                           |
|---|--------------------------------------|---------------------------|
| FACILITY NAME (1)<br><b>PLANT HATCH, UNIT 2</b> | DOCKET NUMBER (2)<br><b>05000366</b> | PAGE (3)<br><b>1 OF 6</b> |
|---|--------------------------------------|---------------------------|

TITLE (4)  
**OFFGAS RADIATION MONITORS INOPERABLE DUE TO INCORRECT VALVE LINEUP**

| 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) |
| 12             | 20  | 90   | 90             | 013     | 00  | 01              | 18  | 91   |                               | 05000            |
|                |     |      |                |         |     |                 |     |      |                               | 05000            |

|                                |  |                  |                      |                                   |  |
|--------------------------------|--|------------------|----------------------|-----------------------------------|--|
| OPERATING MODE (9)<br><b>1</b> | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (11) |                  |                      |                                   |  |
| POWER LEVEL<br><b>100</b>      | 20.402(b)  | 20.405(c)        | 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) |  |
|                                | 20.405(a)(1)(iii)  | X 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<br><b>STEVEN B. TIPPS, MANAGER NUCLEAR SAFETY AND COMPLIANCE, HATCH</b> | TELEPHONE NUMBER<br>AREA CODE: <b>912</b> <b>367-7851</b> |
|--|---|

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

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORT TO NPRDS | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORT TO NPRDS |
|-------|--------|-----------|--------------|-----------------|-------|--------|-----------|--------------|-----------------|
|       |        |           |              |                 |       |        |           |              |                 |
|       |        |           |              |                 |       |        |           |              |                 |

SUPPLEMENTAL REPORT EXPECTED (14)

|  |  |                               |       |     |      |
|--|--|-------------------------------|-------|-----|------|
| <input type="checkbox"/> YES (if yes, complete EXPECTED SUBMISSION DATE) | <input checked="" type="checkbox"/> NO | EXPECTED SUBMISSION DATE (15) | MONTH | DAY | YEAR |
|--|--|-------------------------------|-------|-----|------|

ABSTRACT (16)

On 12/20/90, at approximately 0950 CST, Unit 2 was in the Run mode at approximately 2436 CMWT (approximately 100 percent rated thermal power). At that time, while preparing to obtain an offgas sample, a nonlicensed Chemistry technician discovered three valves misaligned in the Offgas Post-Treatment Radiation Monitoring system. Because of the valve misalignment, Offgas Post-Treatment Radiation Monitors 2D11-K615A and B were no longer monitoring Offgas system effluent and were, therefore, inoperable. Unit 2 Technical Specifications Section 3.3.6.1 requires the monitors to be operable in the Run mode. The technician, in obtaining the sample per procedure 64CH-SAM-001-OS, "Offgas Sampling," immediately configured the system such that offgas sample flow was restored to the monitors. At this time, the monitors were operable and the plant was in compliance with the Technical Specifications. A Deficiency Card was initiated and the Shift Supervisor was notified of the as-found valve misalignment. It is noted that offgas post-treatment activity remained well below Technical Specifications limits during the event.

The cause of the event is inconclusive. However, the most likely cause was cognitive personnel error in that nonlicensed personnel failed to restore the valve lineup during prior sampling. A contributing factor to the event was a less than optimal sampling procedure in that it did not require appropriate documentation and verification of as-left valve positions.

Corrective actions included verifying valve lineups, issuing a standing order requiring verifications of valve positions during sampling, issuing a memo to Chemistry personnel on the event, and revising the appropriate procedures.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

|                     |                   |                |         |     |          |    |   |
|---------------------|-------------------|----------------|---------|-----|----------|----|---|
| FACILITY NAME (1)   | DOCKET NUMBER (2) | LER NUMBER (5) |         |     | PAGE (3) |    |   |
|                     |                   | YEAR           | SEQ NUM | REV |          |    |   |
| PLANT HATCH, UNIT 2 | 05000366          | 90             | 013     | 00  | 2        | OF | 6 |

TEXT

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 12/20/90, at approximately 0950 CST, Unit 2 was in the Run mode at approximately 2436 CMWT (approximately 100 percent rated thermal power). At that time, while preparing to obtain an offgas sample, a nonlicensed Chemistry technician discovered three valves misaligned in the Offgas Post-Treatment Radiation Monitoring system. Because of the valve misalignment, Offgas Post-Treatment Radiation Monitors 2D11-K615A and B were no longer monitoring Offgas system effluent and were, therefore, inoperable. Unit 2 Technical Specifications Section 3.3.6.1 requires the monitors to be operable in the Run mode. The technician, in obtaining the sample per procedure 64CH-SAM-001-0S, "Offgas Sampling," immediately configured the system such that offgas sample flow was restored to the monitors. At this time, the monitors were operable and the plant was in compliance with the Technical Specifications. A Deficiency Card was initiated and the Shift Supervisor was notified of the as-found valve misalignment. It is noted that offgas post-treatment activity remained well below Technical Specifications limits during the event.

The cause of the event is inconclusive. However, the most likely cause was cognitive personnel error in that a nonlicensed personnel failed to restore the valve lineup during prior sampling. A contributing factor to the event was a less than optimal sampling procedure in that it did not require appropriate documentation and verification of as-left valve positions.

Corrective actions included verifying valve lineups, issuing a standing order requiring verifications of valve positions during sampling, issuing a memo to Chemistry personnel on the event, and revising the appropriate procedures.

DESCRIPTION OF THE EVENT

On 12/20/90, at approximately 0950 CST, Unit 2 was in the Run mode at approximately 2436 CMWT (approximately 100 percent rated thermal power). At that time, calibration of the Offgas System Post-Treatment radiation monitors 2D11-K615A and B (EIIIS Code WF) was in progress. This calibration is required on a quarterly basis in accordance with Unit 2 Technical Specifications Table 4.3.6.1-1, item (1). As part of the calibration, a grab sample of the offgas post-treatment effluent is obtained for isotopic analysis. At approximately 0950 CST, in preparing to obtain the sample, a nonlicensed Chemistry technician found three offgas sampling station valves to be misaligned such that monitors 2D11-K615A and B were not sampling offgas flow as designed.

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

|                     |                   |                |         |     |          |    |   |
|---------------------|-------------------|----------------|---------|-----|----------|----|---|
| FACILITY NAME (1)   | DOCKET NUMBER (2) | LER NUMBER (5) |         |     | PAGE (3) |    |   |
|                     |                   | YEAR           | SEQ NUM | REV |          |    |   |
| PLANT HATCH, UNIT 2 | 05000366          | 90             | 013     | 00  | 3        | OF | 6 |

TEXT

The Offgas Post-Treatment Radiation Monitoring system is configured such that one of two redundant sample pumps takes suction from the Offgas system supplying a continuous sample flow to monitors 2D11-K615A and B. A grab sample may be obtained upstream of the sample pumps by connecting a sample flask into a bypass sample line. With the flask installed, the inlet and outlet valves to the flask are opened, a main sample line valve is then closed, and all sample flow is then diverted through the sample flask to the monitors. In this event it was discovered that the system was aligned as if to take a grab sample but no flask was installed. Thus, with the flask connections open to atmosphere, the sample pumps were taking suction from the Waste Gas Treatment Building atmosphere instead of the Offgas system. Consequently, radiation monitors 2D11-K615A and B were not monitoring offgas effluent and, thus, were inoperable. This is contrary to Unit 2 Technical Specifications Section 3.3.6.1 which requires these monitors to be operable while in the Run mode.

When the technician found the valves to be lined up incorrectly, he connected a sample flask to the bypass sample line per procedure 64CH-SAM-001-OS, "Offgas Sampling." (Connecting the flask into the bypass sample line restores offgas sample flow to the radiation monitors via the flask.) After obtaining a grab sample, the technician restored the system to the normal lineup in accordance with procedure 64CH-SAM-001-OS.

The technician then notified the Shift Supervisor that the valves were found misaligned and were restored to their proper positions per procedure 64CH-SAM-001-OS. The technician also initiated a Deficiency Card to document the condition. No Limiting Conditions for Operations were entered since the condition was corrected at the time it was identified.

CAUSE OF THE EVENT

The cause of the event is inconclusive. However, the most likely cause of the event was cognitive personnel error on the part of nonlicensed personnel. Specifically, prior to 12/20/90, the last grab sample obtained from the offgas sample station was obtained on 11/23/90. This sample was used to perform a monthly calibration check of the radiation monitors. The Chemistry technician who obtained the sample on 11/23/90 stated that the system was restored to the normal lineup in accordance with procedure 64CH-SAM-001-OS. However, no documentation exists to confirm that the valves were restored to their proper lineup. Also, Chemistry logs do not show any other activities taking place between 11/23/90 and 12/20/90 which would have involved manipulation of the subject valves. Consequently, the technician performing the sampling activity on 11/23/90 most likely failed to follow procedure by not restoring the system to the proper valve lineup.

A contributing factor to the event was a less than optimal procedure. Specifically, procedure 64CH-SAM-001-OS does not require documenting the as-left valve positions for those valves manipulated during the sampling activity. Also, it does not require independent verification that the valves were left in the correct position.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

|                     |                   |                |         |     |          |      |
|---------------------|-------------------|----------------|---------|-----|----------|------|
| FACILITY NAME (1)   | DOCKET NUMBER (2) | LER NUMBER (5) |         |     | PAGE (3) |      |
|                     |                   | YEAR           | SEQ NUM | REV |          |      |
| PLANT HATCH, UNIT 2 | 05000366          | 90             | 013     | 00  | 4        | OF 6 |

TEXT

REPORTABILITY ANALYSIS AND SAFETY ASSESSMENT

This report is required per 10 CFR 50.73(a)(2)(i) because an event occurred which resulted in Unit 2 operating in a condition prohibited by the Unit 2 Technical Specifications. Specifically, radiation monitors 2D11-K615A and B were inoperable apparently from 11/23/90 to 12/20/90 due to sample valves being mispositioned. Unit 2 Technical Specifications Section 3.3.6.1 requires these monitors to be operable in the Run and the Startup/Hot Standby mode. It further requires that the reactor be in at least Hot Shutdown and the Offgas system discharge and drain valves be closed within 12 hours of both radiation monitors 2D11-K615A and B becoming inoperable. However, since the actual condition of the monitors was not known during this time, Unit 2 continued to operate in the Run mode and the Offgas system discharge and drain valves continued to remain open.

The purpose of the Offgas system is to process and control the release of gaseous radioactive wastes in order to limit offsite concentrations from routine station releases to within the limits established in the Unit 2 Technical Specifications, which are based on the limits specified in 10 CFR 20. Offgas Post-Treatment Radiation Monitors 2D11-K615A and B monitor the instantaneous releases from the Offgas system and provide an isolation signal to Offgas system discharge and drain valves when a predetermined setpoint is exceeded thus limiting offgas releases. The setpoint is designed such that the release limit specified in Unit 2 Technical Specifications Section 3.11.2.1 is not exceeded.

In this event, the Offgas Post-Treatment Radiation Monitoring system valves were aligned such that Waste Gas Treatment Building atmosphere was supplied to the monitors instead of Offgas system effluent, rendering radiation monitors 2D11-K615A and B inoperable. Had an increase in offgas activity occurred which could have resulted in exceeding the Technical Specifications limit, radiation monitors 2D11-K615A and B would not have been available to perform their design function. However, Offgas Pre-Treatment Radiation Monitors 2D11-K601/K602, which monitor gaseous radioactivity prior to the offgas entering the system carbon adsorbers, were operable during the event and showed no appreciable increases in activity between 11/23/90 and 12/20/90. Also, the Main Stack Radiation Monitoring system was operable during the event and would have functioned to assist in limiting releases. Main Stack Radiation Monitors 1D11-K600A and B monitor both the Unit 1 and Unit 2 offgas effluent activity as it is discharged via the units' common Main Stack. The monitors initiate an alarm in the Control Room prior to the releases exceeding the limit specified in Unit 2 Technical Specifications Section 3.11.2.1. Annunciator Response procedure 34AR-601-412-1S, "Offgas Vent Radiation High-High," would then have directed licensed personnel to take appropriate actions to limit releases to the environs.

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

|                     |                   |                |         |     |          |      |
|---------------------|-------------------|----------------|---------|-----|----------|------|
| FACILITY NAME (1)   | DOCKET NUMBER (2) | LER NUMBER (5) |         |     | PAGE (3) |      |
|                     |                   | YEAR           | SEQ NUM | REV |          |      |
| PLANT HATCH, UNIT 2 | 0 5 0 0 0 3 6 6   | 9 0            | 0 1 3   | 0 0 | 5        | OF 6 |

TEXT

Also, due to the incorrect valve line-up, Offgas system effluent was being discharged at low pressure into the Waste Gas Treatment Building via 1/4 inch tubing. However, the Waste Gas Treatment Building atmosphere was being sampled continuously and analyzed daily during the event. No appreciable increases in airborne activity were noted during the period of the valving error. In addition, it should be noted that exhaust ventilation for the building is routed to the main stack for dilution and elevated release.

When sample flow was reestablished on 12/20/90, control room licensed personnel noted that the Post-Treatment Radiation Monitor readings did not change on either the monitor or the recorder. This indicated that the offgas post-treatment activity level was so low as to be indistinguishable from detector background readings. Since offgas pretreatment activity remained essentially constant during the suspected duration of the valving error, it is reasonable to assume that post-treatment activity levels remained relatively constant and well below Technical Specifications limits during that time also.

Based on the above information, it is concluded that this event had no adverse impact on nuclear safety. This analysis applies to all power levels.

CORRECTIVE ACTIONS

Offgas sample flow was restored to monitors 2D11-K615A and B on 12/20/90, at approximately 0950 CST.

On 12/20/90, subsequent to the event, the following systems were checked for proper valve positions:

- Unit 1 and 2 Fission Product Monitoring Systems (EIIS Code IL).
- Main Stack Radiation Monitoring System (EIIS Code IL, Unit common system).
- Unit 1 Recombiner Building Vent Stack Radiation Monitoring System (EIIS Code IL, Unit 2 does not have such a system).
- Units 1 and 2 Reactor Building Vent Stack Radiation Monitoring Systems (EIIS Code IL).
- Units 1 and 2 Offgas Pre-treatment Radiation Monitoring Systems (EIIS Code IL).
- Units 1 and 2 Offgas Post-treatment Radiation Monitoring Systems (EIIS Code IL).

No valves were found to be out of their proper alignment during the check.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

| FACILITY NAME (1)   | DOCKET NUMBER (2) | LER NUMBER (5) |         |     | PAGE (3) |      |
|---------------------|-------------------|----------------|---------|-----|----------|------|
|                     |                   | YEAR           | SEQ NUM | REV |          |      |
| PLANT HATCH, UNIT 2 | 05000366          | 90             | 013     | 00  | 6        | OF 6 |

TEXT

A Health Physics/Chemistry Department Standing Order was issued on 12/20/90 requiring a Chemistry foreman to be in attendance during gaseous sampling activities associated with specific systems in order to verify proper valve line-ups during and after sampling. The foreman is also to document the acceptability of the line-ups on the appropriate sampling data sheets.

A training memo was issued to Chemistry personnel on 12/21/90, which: described this particular event, emphasized the importance of procedural compliance, emphasized the importance of step-by-step performance of procedures, emphasized the importance of attention to detail, and described the valve verification activity implemented under the aforementioned standing order.

A review of the appropriate Chemistry procedures will be performed to determine which procedures should include signoffs and independent verification for valve manipulations. The procedures identified will be revised and made effective by 4/30/91. The Chemistry standing order will be terminated only after the appropriate procedures have been revised and made effective.

ADDITIONAL INFORMATION

No system other than the Offgas Post-Treatment Radiation Monitoring system was effected by this event.

Similar events have occurred in the previous two years in which a failure to follow plant procedures resulted in a condition prohibited by the plant's Technical Specifications. These events were addressed in the following reports:

366/89-001, dated 02/02/89  
 366/89-003, dated 02/22/89  
 321/89-004, dated 03/29/89  
 366/90-004, dated 06/15/90

Corrective actions resulting from the above referenced events would not have prevented this event because personnel involved in this event are unique to the event. Also, the previous similar events did not involve valve manipulations as part of Chemistry department procedures.