

Georgia Power Company  
40 Inverness Center Parkway  
Post Office Box 1295  
Birmingham, Alabama 35201  
Telephone 205 877-7279

J. T. Beckham, Jr.  
Vice President—Nuclear  
Hatch Project



Georgia Power

the southern electric system

HL-2277  
003620

June 22, 1992

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

PLANT HATCH - UNIT 2  
NRC DOCKET 50-366  
OPERATING LICENSE NPF-5  
LICENSEE EVENT REPORT  
PERSONNEL ERRORS AND INADEQUATE COMMUNICATION  
RESULT IN NONCOMPLIANCE WITH TECHNICAL SPECIFICATIONS

Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(i), Georgia Power Company is submitting the enclosed Licensee Event Report (LER) concerning personnel errors and inadequate communication which resulted in a condition of noncompliance with the Technical Specifications. This event occurred at Plant Hatch - Unit 2.

Sincerely,

J. T. Beckham, Jr.

JKB/cr

Enclosure: LER 50-366/1992-006

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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**LICENSEE EVENT REPORT (LER)**

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TITLE (4)  
**PERSONNEL ERRORS AND INADEQUATE COMMUNICATION RESULT IN NONCOMPLIANCE WITH TECHNICAL SPECIFICATIONS**

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)
05	22	92	92	006	00	05	22	92		05000
										05000

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (11)										
OPERATING MODE (9)	1	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)					
POWER LEVEL	100	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					
		20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	Abstract below)					
		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 <b>Steven B. Tipps, Manager Nuclear Safety and Compliance, Hatch</b>	TELEPHONE NUMBER 912 367-7851
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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)

YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (16)

On 05/22/92 at 0243 CDT, Unit 2 was in the Run mode at a power level of 2436 CMWT (100% rated thermal power). At that time, a volume of Liquid Radioactive Waste (LRW) was discharged without the monthly/quarterly composite sample having been updated in accordance with the Unit 2 Technical Specifications, Table 4.11.1-1. On 5/21/92, a technician responsible for updating the monthly composite LRW sample found that a sample pertaining to a tank which had already been analyzed and approved for discharge appeared to have been inadvertently discarded. She informed her foreman about the missing sample, but took no other action. However, her foreman erroneously understood that the discarded sample was one from a tank which had not yet been approved for discharge. Therefore, no action was taken to replace the sample, and the tank approved for discharge was discharged on 5/22/92 without another sample having been obtained. This resulted in noncompliance with the requirement to retain a sample for addition to the monthly/quarterly composite for analysis of LRW discharges.

The causes of this event were personnel errors and inadequate communication between the technician and her foreman. Personnel errors resulted in the sample being inadvertently discarded and another sample not being obtained before the tank was discharged. The inadequate communication occurred when the chemistry foreman did not understand that the missing sample required immediate action in order to prevent noncompliance with Technical Specifications.

Corrective actions for this event included counseling the responsible personnel and substituting a conservative estimate in place of data from the lost sample.

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PLANT AND SYSTEM IDENTIFICATION

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

DESCRIPTION OF EVENT

On 05/22/92 at 0243 CDT, Unit 2 was in the Run mode at a power level of 2436 MWt (100% rated thermal power). At that time, a tank of Liquid Radioactive Waste (LRW) was discharged without a sample of the tank's contents having been retained for addition to the monthly/quarterly composite as required by the Unit 2 Technical Specifications, Table 4.11.1-1.

On 05/21/92 at 0445 CDT, non-licensed Chemistry Department personnel were engaged in routine sampling of LRW from the Chemical Waste System (EIIIS Code WD) per procedure 64CH-ADM-001-0S, "CHEMISTRY PROGRAM." LRW is normally collected in one of two chemical waste sample tanks designated CWST-A and CWST-B. Each time a CWST is filled, the Chemistry Department is notified and a chemistry technician is dispatched to obtain a sample of the contents. This may occur several times daily. Each sample is normally drawn into two or three plastic bottles. Once filled, the sample bottles are taken to the chemistry laboratory for a chemical analysis. Since these CWSTs are usually discharged to the Altamaha River, a gamma isotopic analysis is performed concurrently with the chemical analysis. The gamma isotopic analysis is used to generate pre-release data for the Liquid Effluents Discharge Permit, and includes information related to the radionuclide activity, dose projections, and the discharge monitor high radiation isolation setpoint. When these analyses are complete and the results show discharge is acceptable, the sample may be authorized for discharge to the Altamaha River. A portion of the sample is required to be retained so that the plant's composite sample may be updated later as required by the Unit 2 Technical Specifications Table 4.11.1-1. The technician is required to initial a form confirming that a sample has been retained for this purpose and to affix an identifying label to the sample bottle.

Following LRW discharge to the Altamaha River, discharge information (for example, gallons released, duration of release, etc.) is used to update the composite sample. This takes place some hours after the sample is first drawn and usually involves a second chemistry technician who confirms the identity of the sample and then adds a representative portion of it to the composite. The amount of the portion added is determined by the volume that was actually discharged.

In this event, samples were drawn from Unit 2 CWST-A and transported to the chemistry laboratory as required, whereupon the chemical and gamma isotopic analyses were performed. This provided the pre-release data used to authorize

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discharge of the tank. The remainder of the sample was then retained for later addition to the composite following discharge of the tank, but was not placed in the proper location. While the discharge of CWST-A was delayed due to a chlorination process underway at the time, it is believed that the remainder of the sample was mistakenly disposed of, apparently because it had not been stored in the proper location. Subsequently, another technician came to verify the fact that composite samples from tanks awaiting discharge had been retained as required. However, she misidentified one of the samples and then initialed the forms indicating that the composite samples were retained. Later, when the technician had completed the task of updating the composite, she observed that one more sample than she actually possessed was required. Remembering that Unit 2 CWST-A had been approved for discharge but was still awaiting release to the Altamaha River, she realized that the sample bottle pertaining to this tank was missing. She verified that the missing sample pertained to Unit 2 CWST-A by referring to the Liquid Effluents Discharge Permits and the labels affixed to the other sample bottles that were retained, and concluded she had incorrectly identified one of the composite samples.

The technician then notified her foreman that a sample required for updating the composite was missing. However, the foreman erroneously understood that the sample was from a tank which had not yet been approved for discharge. Since a sample must be drawn from a tank before the Liquid Effluents Discharge Permit can be completed to authorize release, he concluded that the tank could not be released without first drawing and retaining the sample. Meanwhile, the technician corrected the forms she had earlier completed, to reflect the fact that no composite sample had been found for this particular CWST discharge. Later, the technician telephoned her foreman once again to be certain that he was informed about the missing sample. However, on the basis of the previous conversation, the foreman again believed her to be referring to a CWST which had not yet been approved for discharge. On 5/22/92 at 0243 CDT, following completion of the chlorination processes, Unit 2 CWST-A was discharged without a replacement sample having been drawn. Therefore, the monthly/quarterly composite was not updated for this discharge as required by the Unit 2 Technical Specifications, Table 4.11.1-1.

On 5/26/92, a different chemistry foreman was preparing completed Liquid Effluents Discharge Permits for final storage in the plant Document Control facility. As he was reviewing the documentation, he observed the forms which the technician had corrected, and noted a blank where the missing sample should have been indicated. He informed his supervisor about the omission. Since there had been a 21-hour time lapse between sampling and discharge, the supervisor believed a replacement sample should have been drawn and added to the composite as required. However, the involved personnel were not on shift at that time, and therefore were not contacted to explain the circumstances. When they returned to work on 5/29/92, discussions with the involved personnel confirmed that the composite sample had been lost; a replacement sample had not been obtained, and therefore the composite had not been updated as required. Consequently, Deficiency Card 2-92-1671 was initiated to document the event in accordance with plant administrative control procedures.

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CAUSES OF EVENT

The causes of this event were personnel errors and inadequate communication. Specifically, a personnel error occurred when a chemistry technician mistakenly placed a composite sample from Unit 2 CWST-A in an inappropriate location from where it was later discarded by mistake. A second personnel error occurred when another chemistry technician misidentified a composite sample. She later discovered her error; however, she only amended the Liquid Effluents Discharge Permit to indicate that no composite sample existed instead of halting the discharge or drawing a replacement sample herself. Inadequate communication occurred when the technician who discovered that the sample was missing reported this fact to her foreman. Her foreman did not realize she was referring to a sample from a tank which had already been approved for discharge to the river. Therefore, he did not conclude that the problem she was describing required immediate action in order to prevent noncompliance with the plant's Technical Specifications. Consequently, no action was taken to obtain another sample, and the contents of Unit 2 CWST-A were released to the Altamaha River without a representative portion of it being added to the plant's monthly/quarterly composite.

REPORTABILITY ANALYSIS AND SAFETY ASSESSMENT

This event is reportable per 10 CFR 50.73 (a)(2)(i) because the plant was in a condition prohibited by the Technical Specifications. Specifically, a sample from a tank of Liquid Radioactive Waste which had been discharged to the Altamaha River was not retained and added to the plant's composite as required by Unit 2 Technical Specifications section 4.11.1.1.1 and Table 4.11.1-1.

Sampling and analysis of radioactive effluents are performed to ensure that releases to unrestricted areas do not contain concentrations of radioactive materials which would result in violation of 10 CFR 20 limits. Analysis consists of two separate operations. The first is an isotopic analysis designed to identify radionuclides emitting gamma radiation. This analysis is performed on-site on a sample from each tank of LRW, and is performed prior to its being released to the environment. The gamma isotopic analysis was in fact performed on the sample from Unit 2 CWST-A before the sample was inadvertently discarded. The results of this analysis were entered on the proper forms authorizing discharge to the Altamaha River and the discharge monitor's high radiation isolation setpoint was set so that the release satisfied the applicable prerequisites.

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The second operation is an analysis designed to quantify the content of certain radioactive materials which emit radiation other than gamma (beta and alpha). In accordance with the Unit 2 Technical Specifications, Table 4.11.1-1, a composite sample of LRW tanks which have been discharged is accumulated and analyzed. A composite sample is one in which the quantity of liquid sampled is proportional to the quantity of liquid waste discharged and which results in a specimen that is representative of the liquids released. A proper composite sample is achieved by measuring the actual quantity of LRW discharged and then adding the appropriate aliquot portion of the sample to a single container. As succeeding portions of samples are added to this container, the resulting solution will be composed of representative fractions of each discharge. At the end of a specified period, i.e., monthly and quarterly, the composite solution is sent to a laboratory for analysis in fulfillment of the requirements of the Unit 2 Technical Specifications, Table 4.11.1-1.

In the monthly sampling period covered by this report, 70 aliquot portions were added to the composite solution, but one aliquot portion of 247 milliliters was omitted from the composite sample due to its having been inadvertently discarded. During the period in question, the total composite volume was about 20,000 milliliters. Therefore, the missing volume was 1.2% of the total. Based on the gamma isotopic analysis, the activity of this sample was not significantly different from other samples collected from 5/18/92 to 5/22/92, which was the period covering this release. Therefore, it is concluded that the induced error in composite activity is approximately equal to the error in volume, or about 1.2%. This error is significantly less than other measurement errors which are inherent to the discharge analysis process. For example, measurement of the concentration of tritium can have an error of up to 37%; measurement of dissolved and entrained gases can have an error of up to 100%, and measurement of levels of gross alpha radiation can have an error of up to 120%. Since the error introduced by the omission of one sample is significantly less than these inherent measurement errors, the event is considered to have negligible impact on the results of the composite analysis.

Based on the above analysis, it is concluded that this event had no adverse impact on nuclear safety or on the health and safety of the public. The analysis is applicable to all power levels.

CORRECTIVE ACTION

The responsible personnel have been counseled regarding the event.

The Chemistry Department will develop a conservative estimate of the content of the lost sample concerning its concentration of the radionuclides targeted by the composite analysis. This conservative estimate will then be used where necessary in lieu of data from the actual sample.

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ADDITIONAL INFORMATION

1. Other Systems Affected: No systems were affected other than those mentioned in this report.
2. Previous Similar Events: Events reported in the past two years in which personnel error resulted in a noncompliance with the Technical Specifications were reported in the following LERs:

- 50-321/1990-014, dated 08/08/90,
- 50-321/1990-018, dated 10/01/90,
- 50-321/1991-019, dated 10/23/90,
- 50-321/1990-024, dated 01/25/91,
- 50-321/1991-032, dated 01/27/92,
- 50-321/1992-002, dated 02/06/92,
- 50-321/1992-008, dated 04/20/92,
- 50-366/1990-004, dated 06/15/90,
- 50-366/1990-007, dated 10/12/90,
- 50-366/1990-010, dated 11/20/90,
- 50-366/1990-011, dated 11/29/90,
- 50-366/1990-013, dated 01/14/91,
- 50-366/1990-014, dated 01/15/91,
- 50-366/1991-016, dated 06/28/91,
- 50-366/1991-021, dated 12/04/91.

Corrective actions for these events included counseling personnel, revising procedures, reviewing an amendment to the Technical Specifications, issuing a clarification to the Technical Specifications, training personnel, issuing a memorandum from plant management regarding compliance with administrative controls, issuing new written procedures, issuing a department directive, and other corrective actions intended as remedial actions for the consequences of specific events. These corrective actions would not have prevented this event because the personnel, procedures, and systems involved were all different from this event.

3. Failed Components Information: No failed components contributed to or resulted from this event.