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HL-4760

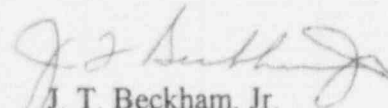
U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D. C. 20555

Edwin I. Hatch Nuclear Plant  
Reply to a Notice of Violation

Gentlemen:

In response to your letter dated December 2, 1994, and in accordance with the requirements of 10 CFR 2.201, Georgia Power Company (GPC) is providing the enclosed response to the Notice of Violation associated with Inspection Report 94-27. In the enclosure, a transcription of the NRC violation precedes GPC's response.

Sincerely,



J. T. Beckham, Jr.

JKB/et

Enclosures:

1. Violation 94-27-01 and GPC Response
2. Violation 94-27-02 and GPC Response
3. Violation 94-27-03 and GPC Response

cc: Georgia Power Company

Mr. H. L. Sumner, Nuclear Plant General Manager  
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. B. L. Holbrook, Senior Resident Inspector - Hatch

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Enclosure 1  
Edwin I. Hatch Nuclear Plant

Violation 94-27-01 and GPC Response

VIOLATION 94-27-01

Hatch Unit 1 Technical Specification 6.8.1.b requires, in part, that written procedures be established, implemented and maintained covering the activities delineated during refueling operations.

Procedure 10AC-MGR-003-0S, Preparation and Control of Procedures, step 5.3.2.2, requires that procedures be followed step by step in the order written, unless the procedure specifically allows deviation.

Procedure 42FH-ERP-014-0S: Fuel Movement, section 7.2.1.3, General Fuel Movements, requires confirmation and double verification that the fuel bundle in a specified location is moved to a specified new location.

Contrary to the above, written procedures were not implemented in that:

1. On September 24, 1994, Procedure 10AC-MGR-003-0S was not implemented during the performance of Procedure 42FH-ERP-014-0S. Procedure steps were not followed step by step in the order written in that refueling personnel moved fuel assemblies delineated in steps 19 and 20 prior to performing steps 17 and 18. Procedure 42FH-ERP-014-0S did not specifically allow this deviation.
2. On September 24, 1994, procedure 42FH-ERP-014-0S, section 7.2.1.3 was not completed. Two fuel bundles, that were not specified by the applicable specific procedural steps, were moved to the spent fuel pool. These movements were not verified to be correct.

This is a Severity Level IV violation (Supplement 1)

This violation is applicable to Unit 1 only.

RESPONSE TO VIOLATION 94-27-01

Admission or denial of the violation:

The violation occurred as described in the Notice of Violation.

Reason for the violation:

The violation was caused by personnel error and less than adequate human factors. Plant personnel were following applicable fuel movement procedures step-by-step as required by administrative control procedure 10AC-MGR-003-0S, "Preparation and Control of Procedures," and were verifying the fuel assembly moves were correct as required by procedure 42FH-ERP-014-0S, "Fuel Movement." However, due to the aforementioned reasons, two fuel assemblies inadvertently were moved out of the sequence given on the fuel movement data sheets.

The Senior Reactor Operator erroneously read the core map and, as a result, directed the licensed operator to the incorrect core location resulting in two fuel assemblies being moved out of sequence. Due to some missing core coordinate numbers on the core map, the Senior Reactor Operator mistakenly directed the operator to core location 21-02 instead of 23-02 and to core location 23-04 instead of 21-04. Based upon the Senior Reactor Operator's direction, the licensed operator moving the fuel assemblies thought he was moving the fuel assemblies in core locations 23-02 and 21-04 and signed the fuel movement data sheets accordingly.

The core map being used by the Senior Reactor Operator to verify the fuel moves was less than adequate for the task in that some of the core coordinates were missing due to a reproduction error. Specifically, the odd core coordinate numbers were missing on the map's x-axis. As a result of this problem, the Senior Reactor Operator misread the map and directed the licensed operator to the wrong core location; two fuel assemblies were moved out of sequence as a result.

Additionally, the fuel movement data sheets and the core position marks on the refueling bridge were less than adequate. The data sheets did not provide useful information, such as fuel assembly orientation in the core, which the licensed operator and the Senior Reactor Operator could have used to help ensure that the correct fuel assemblies were moved. The core position marks on the refueling bridge were inaccurate and therefore could not be used to determine if the refueling bridge mast was located over the correct core location.

Corrective steps which have been taken and the results achieved:

As a result of this event, the following corrective actions have been taken:

1. This event was investigated per the requirements of plant administrative control procedure 10AC-MGR-004-0S, "Deficiency Control System," in order to determine its root causes and propose corrective actions to help minimize its recurrence. The results of this investigation were discussed with site management prior to the resumption of fuel movements.

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Violation 94-27-01 and GPC Response

2. The Senior Reactor Operator and the licensed operator were temporarily removed from fuel movement duties. In addition, they were counseled regarding their actions and the adverse consequences of those actions.
3. Complete core maps were provided to the licensed operator and to the Senior Reactor Operator. This action was completed 9/25/94 prior to the resumption of fuel movements.
4. A third person was assigned to the refueling floor for fuel movements involving core alterations as a matter of management discretion. The licensed operator was no longer required to act as one of the two verifiers. Instead, the third person assigned to fuel movement activities assumed that role. This action was completed 9/25/94 prior to the resumption of fuel movements.
5. Personnel assigned to fuel movement activities were trained regarding this event, its causes, and its consequences. Management expectations for verification of fuel movements were reiterated.
6. The fuel movement data sheets have been changed to provide fuel assembly orientation in the core.
7. Management personnel were present periodically on the refueling bridge during subsequent fuel movement activities to ensure all procedural requirements were met, verifications were done properly, and fuel movements were made in a controlled manner.

During the remainder of the Unit 1 refueling outage, approximately 1100 fuel moves were completed with no errors.

Corrective steps which will be taken to avoid further violations:

Complete, legible core maps will be provided for future fuel movements. Additionally, more accurate methods of determining the position of the refueling bridge mast are being considered. Methods being considered include installing a video camera on the end of the mast to improve visibility of the fuel assembly before moving it. Another method being considered is a more accurate refueling bridge core positioning system. Other methods may be considered as well. These methods will be evaluated by management for implementation.

Date when full compliance will be achieved:

Full compliance was achieved on 9/24/94 when the fuel movement data sheets were revised per the requirements of procedure 42FH-ERP-014-0S, "Fuel Movement," to reflect the order in which the fuel assemblies were actually moved. Since fuel assemblies were being discharged from the core, no actual movement of the fuel assemblies was required to correct these errors.

## Enclosure 2

### Edwin I. Hatch Nuclear Plant Violation 94-27-02 and GPC Response

#### VIOLATION 94-27-02

Criterion XVI of Appendix B of 10 CFR 50 requires, in part, that corrective action measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.

Contrary to the above, effective corrective actions were not established for a deficiency identified following fuel movement errors on April 15, 1994, involving personnel error and failure to follow procedures. This failure to take effective corrective action contributed to a second similar event on September 24, 1994. Personnel error and failure to follow procedure resulted in two fuel bundles being moved out of the required sequence.

This is a Severity Level IV violation (Supplement 1)

#### RESPONSE TO VIOLATION 94-27-02

##### Admission or denial of the violation:

The violation occurred as described in the Notice of Violation in that a fuel movement error involving personnel error and failure to follow procedures occurred subsequent to the fuel movement errors on April 15, 1994. The April fuel movement errors were caused by miscommunication between the involved personnel, a failure by the involved personnel to verify that the correct fuel bundle was obtained, and a failure to follow required steps to ensure a fuel bundle was attached to the grapple prior to lifting it. GPC's corrective actions were centered on the involved personnel and were specific to that event.

In addition to the actions associated with the personnel involved in the April 1994 errors, GPC took additional programmatic actions prior to fuel movement activities in September 1994 in order to minimize further the possibility of errors. Operations management personnel conducted meetings with fuel movement team members to remind them of their responsibilities during fuel movement activities and to reinforce expectations for following procedural requirements and performing verifications. Furthermore, an Operating Order was issued to Operations department personnel covering management expectations for fuel movement activities. The Operating Order reinforced in writing some of those items discussed in the meetings with fuel movement team members. Additional preventive maintenance was performed on the refueling bridge per recommendations of a committee formed following the previous refueling outage to investigate refueling bridge performance. The committee was formed and the additional maintenance was done, in



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part, to minimize mechanical problems which, in the past, have prevented personnel from devoting their complete attention to fuel movement activities.

One of the two individuals involved in this event was also involved in the April 1994 event. Prior to being allowed to move fuel, that individual will review the prerequisite procedures and requirements of fuel movement. The individual has been required to make a presentation to the General Manager on causes of errors and to provide recommendations to reduce the chances of fuel movement errors.

Reason for the violation:

As previously noted, one of the two individuals was involved in the April 1994, event. Accordingly, previous corrective actions, for the individual involved in both events, were not effective in preventing fuel movement errors. Specifically, the violation was caused by personnel error in failing to properly verify that fuel moves were correct. Additionally, the second individual did not properly verify the fuel movement. As a result, two fuel assemblies were moved out of sequence from the reactor core to the spent fuel pool subsequent to the fuel move errors on April 15, 1994.

Corrective steps which have been taken and the results achieved:

As a result of the fuel movement errors in September 1994, the corrective actions delineated in the response to violation 94-27-01 were taken.

Corrective steps which will be taken to avoid further violations:

The corrective actions delineated in the response to violation 94-27-01 will be taken. Additionally, the individual involved in both the April 1994 event and this event will be required to have additional training as discussed previously.

Date when full compliance will be achieved:

Full compliance was achieved as described in the response to violation 94-27-01. Should the individual who was involved in both events be allowed to move fuel in the future, he will be subjected to further training as previously discussed.

### Enclosure 3

#### Edwin I. Hatch Nuclear Plant Violation 94-27-03 and GPC Response

##### VIOLATION 94-27-03

Criterion V of Appendix B of 10 CFR 50 requires, in part, that activities affecting quality shall be documented by procedures of a type appropriate to the circumstances and shall be accomplished in accordance with the procedures.

Contrary to the above, two examples of inadequate procedures were identified as follows:

1. Procedure 34SO-P33-003-2S, Drywell and Torus Atmosphere Oxygen Analyzer System, was inadequate in that it did not give instructions for the proper lineup of safety system valves necessary to monitor oxygen concentration in the torus. This resulted in a Unit 2 torus oxygen concentration sample that was not always indicative of the actual torus oxygen concentration. The torus oxygen concentration exceeded the Technical Specification 3.6.6.4 limit of 4 percent on three separate occasions between July 4, 1994, and September 27, 1994.
2. Procedure 34SO-P33-001-2S, Primary Containment Atmosphere H<sub>2</sub>O<sub>2</sub> Analyzer, was inadequate in that it contained an inapplicable compensation curve. The application of this curve to oxygen concentration sample results caused the values to indicate acceptable Technical Specification values on July 4, 1994, and September 6, 1994, when in fact they were outside required limits. This resulted in a violation of Technical Specification 3.6.6.4.

This is a Severity Level IV violation (Supplement 1)

This violation is applicable to Unit 2 only.

##### RESPONSE TO VIOLATION 94-27-01

###### Admission or denial of the violation:

The violation occurred as described in the Notice of Violation, except the number of the procedure cited in Example 1 should be 34SO-P33-002-2S.

Reason for the violation:

The violation was caused by personnel error.

Responsible personnel failed to ensure procedure 34SO-P33-002-2S, "Drywell and Torus Atmosphere Oxygen Analyzer System," was revised to include the correct valve lineup to monitor oxygen concentration in the torus atmosphere. During the Spring 1994 Unit 2 outage, a modification was implemented to install an oxygen sampling line from the torus to the commercial grade oxygen analyzer. As a result of the modification, the procedure was revised. However, the instructions for monitoring oxygen concentration in the torus atmosphere using the new line did not include opening or verifying open the isolation valves from the torus atmosphere to the new sampling line.

Procedure 34SO-P33-001-2S, "Primary Containment Atmosphere H<sub>2</sub>O<sub>2</sub> Analyzer System," was inadequate due to personnel error by vendor and nonlicensed plant personnel. In August, 1986, a Comsip-Delphi field representative inappropriately corrected nonlinearity problems with some of the H<sub>2</sub>O<sub>2</sub> analyzer oxygen cells by generating a correction factor curve to be applied to readings from the nonlinear cells. A more appropriate resolution to this problem would have been to replace the bad oxygen cells.

Plant personnel failed to understand that the correction factor curve was unique to the nonlinear oxygen cells and that the curve should not have been used after the cells were replaced. Instead, the curve was used after the nonlinear oxygen cell for the Unit 2 "A" H<sub>2</sub>O<sub>2</sub> analyzer was replaced in January 1987, and was incorporated into procedure 34SO-P33-001-2S in December 1988. Also, plant personnel erroneously expanded the use of the correction factor curve to the oxygen cell for the Unit 2 "B" H<sub>2</sub>O<sub>2</sub> analyzer in a revision to procedure 34SO-P33-001-2S in August 1989. The curve was never intended to be used with this oxygen cell since it did not have nonlinearity problems; therefore, applying the correction factor curve to the readings from this cell was incorrect and should not have been incorporated into plant procedures.

Corrective steps which have been taken and the results achieved:

Plant procedure 34SO-P33-002-2S has been revised to specify the correct valve lineup to monitor the torus atmosphere using the commercial grade oxygen analyzer. Plant procedure 34SO-P33-003-1S, "Drywell and Torus Atmosphere Oxygen Analyzer System," was verified to have been revised properly following the implementation of a similar design change during the Fall 1994 Refueling Outage to allow the Unit 1 torus atmosphere to be monitored using the Unit 1 commercial grade oxygen analyzer. Plant procedures 34SO-P33-001-2S and 34SO-P33-001-1S, "Primary Containment Atmosphere H<sub>2</sub>O<sub>2</sub> Analyzer," have been revised to eliminate the use of the correction factor curves.



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Involved personnel still employed with GPC have been made aware of these errors and their consequences.

Corrective steps which will be taken to avoid further violations:

No further corrective actions are necessary because the cited procedure errors have been corrected, and the corresponding Unit 1 procedures have been corrected or verified to be correct.

Date when full compliance will be achieved:

Full compliance was achieved by 10/28/94 following revisions to plant procedure 34SO-P33-002-2S to specify the correct valve lineup for torus atmosphere monitoring and plant procedures 34SO-P33-001-1S and 34SO-P33-001-2S to eliminate the use of the correction factor curves.