

June 7, 1993

Docket Nos. 50-424
and 50-425

Mr. W. G. Hairston, III
Senior Vice President -
Nuclear Operations
Georgia Power Company
P. O. Box 1295
Birmingham, Alabama 35201

Distribution

Docket File #
PDII-3 R/F
NRC/Local PDRs
S.Varga
D.Matthews
D.Hood
L.Berry
OGC 15B18

D.Hagan MNBB4702
G.Hill(4) P1-37
W.Jones MNBB7103
C.Grimes 11F23
ACRS(10) P-135
PA 17F2
OC/LFMB MNBB4702
E.Merschhoff, R-II

Dear Mr. Hairston:

SUBJECT: ISSUANCE OF AMENDMENTS - VOGTLE NUCLEAR GENERATING PLANT,
UNITS 1 AND 2 (TAC NOS. M85698 AND M85699)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 65 to Facility Operating License NPF-68 and Amendment No. 44 to Facility Operating License NPF-81 for the Vogtle Nuclear Generating Plant, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated January 22, 1993.

The amendments modify the TS by revising the statistical summation of errors ("Z" value) assumed in analyses for steam generator level setpoints.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

ORIGINAL SIGNED BY:

Darl S. Hood, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 65 to NPF-68
2. Amendment No. 44 to NPF-81
3. Safety Evaluation

cc w/enclosures:

See next page

OFFICE	PDII-3/LA <i>LB</i>	PDII-3/PM	HICB	OGC <i>RS</i>	PDII-3 <i>DM</i>
NAME	L. BERRY <i>LB</i>	D.HOOD <i>DSH</i>	J. WERMIEL <i>JW</i>	R. Bachmann <i>RB</i>	D. MATTHEWS
DATE	5/14/93	5/13/93	5/17/93	5/19/93	6/7/93

OFFICIAL RECORD COPY

FILE NAME: G:\VOGTLE\VOG85698.AMD

FOI CP-1
11

9306150284 930607
PDR ADOCK 05000424
P PDR

OFFICIAL RECORD COPY



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

June 7, 1993

Docket Nos. 50-424
and 50-425

Mr. W. G. Hairston, III
Senior Vice President -
Nuclear Operations
Georgia Power Company
P. O. Box 1295
Birmingham, Alabama 35201

Dear Mr. Hairston:

SUBJECT: ISSUANCE OF AMENDMENTS - VOGTLE ELECTRIC GENERATING PLANT,
UNITS 1 AND 2 (TAC NOS. M85698 AND M85699)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 65 to Facility Operating License NPF-68 and Amendment No. 44 to Facility Operating License NPF-81 for the Vogtle Electric Generating Plant, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated January 22, 1993.

The amendments modify the TS by revising the statistical summation of errors ("Z" value) assumed in analyses for steam generator level setpoints.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

A handwritten signature in black ink that reads "Darl Hood".

Darl S. Hood, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 65 to NPF-68
2. Amendment No. 44 to NPF-81
3. Safety Evaluation

cc w/enclosures:
See next page

Mr. W. G. Hairston, III
Georgia Power Company

Vogtle Electric Generating Plant

cc:

Mr. J. A. Bailey
Manager - Licensing
Georgia Power Company
P. O. Box 1295
Birmingham, Alabama 35201

Harold Reheis, Director
Department of Natural Resources
205 Butler Street, SE. Suite 1252
Atlanta, Georgia 30334

Mr. J. B. Beasley
General Manager, Vogtle Electric
Generating Plant
P. O. Box 1600
Waynesboro, Georgia 30830

Attorney General
Law Department
132 Judicial Building
Atlanta, Georgia 30334

Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
101 Marietta Street, NW., Suite 2900
Atlanta, Georgia 30323

Mr. Alan R. Herdt
Project Branch #3
U. S. Nuclear Regulatory Commission
101 Marietta Street, NW. Suite 2900
Atlanta, Georgia 30323

Office of Planning and Budget
Room 615B
270 Washington Street, SW.
Atlanta, Georgia 30334

Mr. Dan H. Smith, Vice President
Power Supply Operations
Oglethorpe Power Corporation
2100 East Exchange Place
Tucker, Georgia 30085-1349

Mr. C. K. McCoy
Vice President - Nuclear
Vogtle Project
Georgia Power Company
P. O. Box 1295
Birmingham, Alabama 35201

Charles A. Patrizia, Esquire
Paul, Hastings, Janofsky & Walker
12th Floor
1050 Connecticut Avenue, NW.
Washington, DC 20036

Office of the County Commissioner
Burke County Commission
Waynesboro, Georgia 30830

Art Domby, Esquire
Troutman Sanders
600 Peachtree Street
NationsBank Plaza
Suite 5200
Atlanta, Georgia 30308-2210

Resident Inspector
U. S. Nuclear Regulatory Commission
P. O. Box 572
Waynesboro, Georgia 30830



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

GEORGIA POWER COMPANY
OGLETHORPE POWER CORPORATION
MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA
CITY OF DALTON, GEORGIA
VOGTLE ELECTRIC GENERATING PLANT, UNIT 1
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 65
License No. NPF-68

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Vogtle Electric Generating Plant, Unit 1 (the facility) Facility Operating License No. NPF-68 filed by the Georgia Power Company, acting for itself, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia (the licensees), dated January 22, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-68 is hereby amended to read as follows:

Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 65 , and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. GPC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



David B. Matthews, Director
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: **June 7, 1993**



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

GEORGIA POWER COMPANY
OGLETHORPE POWER CORPORATION
MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA
CITY OF DALTON, GEORGIA
VOGTLE ELECTRIC GENERATING PLANT, UNIT 2
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 44
License No. NPF-81

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Vogtle Electric Generating Plant, Unit 2 (the facility) Facility Operating License No. NPF-81 filed by the Georgia Power Company, acting for itself, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia (the licensees), dated January 22, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-81 is hereby amended to read as follows:

Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 44 , and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. GPC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



David B. Matthews, Director
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: June 7, 1993

ATTACHMENT TO LICENSE AMENDMENT NO.65

FACILITY OPERATING LICENSE NO. NPF-68

DOCKET NO. 50-424

AND

TO LICENSE AMENDMENT NO. 44

FACILITY OPERATING LICENSE NO. NPF-81

DOCKET NO. 50-425

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change.

Remove Pages

2-5
3/4 3-31

Insert Pages

2-5
3/4 3-31

TABLE 2.2-1 (Continued)
REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TOTAL ALLOWANCE (TA)</u>	<u>Z</u>	<u>SENSOR ERROR (S)</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
9. Pressurizer Pressure-Low (PI-0455A,B&C, PI-0456 & PI-0456A, PI-0457 & PI-0457A, PI-0458 & PI-0458A)	3.1	0.71	1.67	>1960 psig**	>1950 psig
10. Pressurizer Pressure-High (PI-0455A,B&C, PI-0456 & PI-0456A, PI-0457 & PI-0457A, PI-0458 & PI-0458A)	3.1	0.71	1.67	<2385 psig	<2395 psig
11. Pressurizer Water Level-High (LI-0459A, LI-0460A, LI-0461)	8.0	2.18	1.67	<92% of instrument span	<93.9% of instrument span
12. Reactor Coolant Flow-Low (LOOP1 LOOP2 LOOP3 LOOP4 FI-0414 FI-0424 FI-0434 FI-0444 FI-0415 FI-0425 FI-0435 FI-0445 FI-0416 FI-0426 FI-0436 FI-0446)	2.5	1.87	0.60	>90% of loop design flow*	>89.4% of loop design flow*
13. Steam Generator Water Level Low-Low (LOOP1 LOOP2 LOOP3 LOOP4 LI-0517 LI-0527 LI-0537 LI-0547 LI-0518 LI-0528 LI-0538 LI-0548 LI-0519 LI-0529 LI-0539 LI-0549 LI-0551 LI-0552 LI-0553 LI-0554)	21.8	17.6	1.67	> 37.8% of narrow range instrument span	>35.9% of narrow range instrument span
14. Undervoltage - Reactor Coolant Pumps	6.0	0.58	0	>9600 volts (70% bus voltage)	>9481 volts (69% bus voltage)
15. Underfrequency - Reactor Coolant Pumps	3.3	0.50	0	>57.3 Hz	>57.1 Hz

*Loop design flow = 93,600 gpm

**Time constants utilized in the lead-lag controller for Pressurizer Pressure-Low are 10 seconds for lead and 1 second for lag. CHANNEL CALIBRATION shall ensure that these time constants are adjusted to these values.

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TOTAL ALLOWANCE (TA)</u>	<u>Z</u>	<u>SENSOR ERROR (S)</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
5. Turbine Trip and Feedwater Isolation (Continued)					
c. Steam Generator Water Level--High-High (P-14)	14.0	10.47	1.67	< 86.0% of instrument span.	< 87.9% of narrow range instrument span.
(LOOP1 LOOP2 LOOP3 LOOP4					
LI-0517 LI-0527 LI-0537 LI-0547					
LI-0518 LI-0528 LI-0538 LI-0548					
LI-0519 LI-0529 LI-0539 LI-0549					
LI-0551 LI-0552 LI-0553 LI-0554)					
d. Safety Injection	See Functional Unit 1. above for all Safety Injection Trip Setpoints and Allowable Values.				
6. Auxiliary Feedwater					
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
b. Steam Generator Water Level--Low-Low					
(LOOP1 LOOP2 LOOP3 LOOP4					
LI-0517 LI-0527 LI-0537 LI-0547					
LI-0518 LI-0528 LI-0538 LI-0548					
LI-0519 LI-0529 LI-0539 LI-0549					
LI-0551 LI-0552 LI-0553 LI-0554)					
1. Start Motor-Driven Pumps	21.8	17.6	1.67	> 37.8% of narrow range instrument span.	> 35.9% of narrow range instrument span.
2. Start Turbine-Driven Pump	21.8	17.6	1.67	> 37.8% of narrow range instrument span.	> 35.9% of narrow range instrument span.

VOGTLE UNITS - UNIT 1 & 2

3/4 3-31

Amendment No. 65 (Unit 1)
Amendment No. 44 (Unit 2)



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 65 TO FACILITY OPERATING LICENSE NPF-68
AND AMENDMENT NO. 44 TO FACILITY OPERATING LICENSE NPF-81
GEORGIA POWER COMPANY, ET AL.
VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2
DOCKET NOS. 50-424 AND 50-425

1.0 INTRODUCTION

By letter dated January 22, 1993, Georgia Power Company, et al. (the licensee) proposed license amendments to change the Technical Specifications (TS) for Vogtle Electric Generating Plant (Vogtle), Units 1 and 2. The proposed change would revise TS Table 2.2-1, "Reactor Trip System Instrumentation Trip Setpoints," and TS Table 3.3-3, "Engineered Safety Features Actuation System Instrumentation Trip Setpoints," to delete information that became obsolete once all steam generator (SG) instrumentation taps were relocated to elevation 333 inches. The proposed change would also revise the value of "Z" for the SG level instrumentation. The Z-value represents the statistical summation of errors assumed for the instrument setpoints in various analyses (excluding errors associated with the sensor and rack drift and the accuracy of their measurement). The Z-value is used in the TSs to determine reporting requirements.

Specifically, the change would delete the footnotes in TS Table 2.2-1 and TS Table 3.3-3 that read: "... the value stated inside the parenthesis is for instrumentation that has the lower tap at elevation 333 [inches]; the value stated outside the parenthesis is for instrumentation that has the lower tap at elevation 438 [inches]." The associated values within these tables that are outside the parenthesis, and their reference to these footnotes, would be deleted. The changes to TS Table 2.2-1 apply to reactor trip due to Steam Generator Water Level Low-Low; this Z-value would be changed to 17.6. The changes to TS Table 3.3-3 apply to turbine trip and feedwater isolation due to Steam Generator Water Level High-High; this Z-value would be changed to 10.47. The changes to TS Table 3.3-3 also apply to auxiliary feedwater actuation (start motor-driven pumps and start turbine driven pump) due to Steam Generator Water Level Low-Low; these Z-values would be changed to 17.6.

2.0 EVALUATION

2.1 CHANGE IN Z-VALUES

Original calculations for determining SG level instrument settings and instrument-loop uncertainties were performed for the licensee by Westinghouse. For these calculations, Westinghouse used a value of $\pm 2\%$ of span for the

process measurement accuracy. This value of $\pm 2\%$ of span was based upon Westinghouse's best engineering judgement and was applied to their various models of SG design. This value was based on density variation as a function of power and level and the assumption that the calibration would be performed at 50% power.

More recently, an improved understanding of errors associated with differential pressure measurement systems has prompted the licensee and Westinghouse to reexamine the process measurement accuracy terms for the SG level instrumentation loop. This improved understanding is based upon an Instrument Society of America paper, "Delta-P Level Measurement Systems," by G. E. Lang and J. P. Cunningham, presented in Instrumentation, Controls, and Automation in the Power Industry, Volume 34, Proceedings of the Thirty-Fourth Power Instrumentation Symposium, June 1991. Unlike the previous calculations, the revised calculations explicitly accounted for the effects of downcomer subcooling and changes in reference leg temperature from the calibration temperature. The revised calculations continue to account for fluid velocity effects. The previous assumption of calibration at 50% power conditions was replaced with an analysis based on the actual conditions assumed by the plant at the time of calibration. The licensee found that the revised calculations resulted in the need for small changes (less than 2.0 percent span) to the value of Z as given in existing TS Tables 2.2-1 and 3.3-3.

The licensee stated that it has removed unverified assumptions from the earlier SG level instrument-loop calculation and revised the calculation using the latest setpoint methodology, to determine loop uncertainty and setpoint. The proposed change to the Z value does not affect setpoints or allowable values. The Z value is used only for determining when excessive instrument setpoint drift needs to be reported to NRC. The change in Z will not affect safety analyses or plant responses to accidents or transients, and will not affect any of the current operating requirements.

The NRC staff finds the newer method used to calculate the Z values to be acceptable. The resulting change to the Z values does not have an adverse affect upon safety and is, therefore, acceptable.

2.2 REMOVAL OF OBSOLETE INSTRUMENTATION VALUES FOR STEAM GENERATOR LEVEL

On August 30, 1990, the NRC issued Amendments 34 (Vogtle Unit 1) and 14 (Vogtle Unit 2). These amendments added footnotes and additional values for SG level instruments to provide for a plant modification to relocate the lower instrumentation tap from an elevation of 438 inches to 333 inches (as measured from the top of the SG tubesheet). Because the plant modifications were to be implemented on the two Vogtle units at different times, Amendments 34 and 14 specified appropriate setpoints, allowable values, and data for instrumentation utilizing either a lower tap at 333 inches or a lower tap at 438 inches.

Plant modifications have now been completed for both Vogtle units. Thus, the information in the TS for the instrumentation tap at 438 inches is obsolete and the licensee has requested that this information be deleted.

The NRC staff finds that the removal of this information is of an administrative nature and has no adverse affect upon safety. This proposed change is, therefore, acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Georgia State official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (58 FR 16861 dated March 31, 1993). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: D. Hood
S. Athavale

Date: June 7, 1993