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

November 1, 1991

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 AMENDMENT NOS. 48 AND 49 TO FACILITY OPERATING LICENSE NPF-68 AND AMENDMENT NOS. 27 AND 28 TO FACILITY OPERATING LICENSE NPF-81, VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2 (TACS 77508 and 77509)

The Nuclear Regulatory Commission has issued the enclosed Amendment Nos. 48 and 49 to Facility Operating License No. NPF-68 and Amendment Nos. 27 and 28 to Facility Operating License NPF-81 for the Vogtle Electric Generating Plant, Units 1 and 2. These amendments consist of changes to the Technical Specifications (TS) in response to your application dated August 14, 1990, to delete the Negative Flux Rate Trip (NFRT) function from tables specifying Reactor Trip System instrumentation requirements.

The TS changes proposed in your application affect TS pages for previous license amendments associated with the use of VANTAGE-5 reload fuel and the removal of the Resistance Temperature Detection (RTD) bypass system. Amendments associated with the VANTAGE-5 reload fuel and RTD bypass removal will take effect in two phases - Phase 1 began with Vogtle Unit 1 Cycle 4, and Phase 2 will become effective with Vogtle Unit 2 Cycle 3. Accordingly, the TS changes associated with the NFRT deletion should be implemented in two phases. The TS changes for Amendments 48 (Unit 1) and 27 (Unit 2) are effective beginning with Unit 1 Cycle 4. The TS changes for Amendments 49 (Unit 1) and 28 (Unit 2) are effective beginning with Unit 2 Cycle 3 and should be inserted into the Vogtle TS only after first having inserted TS changes for Amendments 44 and 46 (Unit 1), and 24 and 25 (Unit 2).

We have discussed TS updating with members of your staff and they are aware that any future amendments affecting the TS pages changed by Amendment Nos. 49 and 28 will require appropriate changes to these TS pages if NRC approval is requested prior to Unit 2 Cycle 3. If you have any questions regarding this, please call me at (310) 492-3049 or L. Raghavan at (301) 492-0019.

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

Sincerely,

Darl Hood

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

cc w/enclosures:
See next page

Enclosures:
1. Amendment Nos. 48 and 49 to NPF-68
2. Amendment Nos. 27 and 28 to NPF-81
3. Safety Evaluation

A copy of the related Safety Evaluation is also enclosed. Notice of Issuance of the amendments 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

cc w/enclosures:
See next page

Enclosures:
1. Amendment Nos. 48 and 49 to NPF-68
2. Amendment Nos. 27 and 28 to NPF-81
3. Safety Evaluation

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Georgia Power Company

Vogtle Electric Generating Plant

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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. 48
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 August 14, 1990, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations 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 license 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.

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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. 48 , 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 beginning with the initial loading of VANTAGE-5 fuel into Unit 1 Cycle 4.

FOR THE NUCLEAR REGULATORY COMMISSION

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

Attachment: Technical Specification Changes

Date of Issuance: November 1, 1991

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. 27
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 1 (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 August 14, 1990, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations 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 license 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. 27 , 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 beginning with the initial loading of VANTAGE-5 fuel into Vogtle Unit 1 Cycle 4.

FOR THE NUCLEAR REGULATORY COMMISSION

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

Attachment: Technical Specification Changes

Date of Issuance: November 1, 1991

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. 49
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 August 14, 1990, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations 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 license 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. 49, 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 beginning with the initial loading of VANTAGE-5 fuel into Vogtle Unit 2 Cycle 3.

FOR THE NUCLEAR REGULATORY COMMISSION

Eileen M McKenna for

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

Attachment: Technical Specification Changes

Date of Issuance: November 1, 1991

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. 28
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 1 (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 August 14, 1990, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations 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 license 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. 28, 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 beginning with the initial loading of VANTAGE-5 fuel into Vogtle Unit 2 Cycle 3.

FOR THE NUCLEAR REGULATORY COMMISSION

Eileen M. McKenna for

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

Attachment: Technical Specification Changes

Date of Issuance: November 1, 1991

ATTACHMENT TO LICENSE AMENDMENT NOS. 48 AND 49

FACILITY OPERATING LICENSE NO. NPF-68

AND LICENSE AMENDMENTS NOS. 27 AND 28

FACILITY OPERATING LICENSE NO. NPF-81

DOCKETS NOS. 50-424 AND 50-425

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

Remove Pages	Insert Pages
PHASE 1 (Effective beginning with the initial loading of VANTAGE-5 fuel into Vogtle Unit 1 Cycle 4)	
2-4	2-4
2-12	2-12
B 2-4	B 2-4
3/4 3-1* and 3/4 3-2	3/4 3-1* and 3/4 3-2
3/4 3-9 and 3/4 3-10*	3/4 3-9 and 3/4 3-10*
PHASE 2 (Effective beginning with the initial loading of VANTAGE-5 fuel into Vogtle Unit 2 Cycle 3. INSERT THESE PAGES AFTER INSERTING AMENDMENT NOS. 44 AND 46 (Unit 1), 24 AND 25 (Unit 2))	
2-4	2-4
3/4 3-9 and 3/4 3-10*	3/4 3-9 and 3/4 3-10*

*Overleaf pages without changes (not enclosed)

PHASE 1

Effective beginning with Unit 1 Cycle 4

THIS PAGE APPLICABLE TO UNIT 1 ONLY

TABLE 2.2-1 - UNIT 1

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
1. Manual Reactor Trip	N.A.	N.A.	N.A.	N.A.	N.A.
2. Power Range, Neutron Flux (NI-0041B&C, NI-0042B&C, NI-0043B&C, NI-0044B&C)					
a. High Setpoint	7.5	4.56	0	≤109% of RTP#	≤111.3% of RTP#
b. Low Setpoint	8.3	4.56	0	≤25% of RTP#	≤27.3% of RTP#
3. Power Range, Neutron Flux, High Positive Rate (NI-0041B&C, NI-0042B&C, NI-0043B&C, NI-0044B&C)	1.6	0.50	0	≤5% of RTP# with a time constant ≥2 seconds	≤6.3% of RTP# with a time constant ≥2 seconds
4. DELETED					
5. Intermediate Range, Neutron Flux (NI-0035B, NI-0036B)	17.0	8.41	0	≤25% of RTP#	≤31.1% of RTP#
6. Source Range, Neutron Flux (NI-0031B, NI-0032B)	17.0	10.01	0	$\leq 10^5$ cps	$\leq 1.4 \times 10^5$ cps
7. Overtemperature ΔT (TDI-411C, TDI-421C, TDI-431C, TDI-441C)	10.7 (UNIT 1)	7.04 (UNIT 1)	1.96 + 1.17 (UNIT 1)	See Note 1	See Note 2
8. Overpower ΔT (TDI-411B, TDI-421B, TDI-431B, TDI-441B)	4.3 (UNIT 1)	1.54	1.96 (UNIT 1)	See Note 3	See Note 4

#RTP = RATED THERMAL POWER

THIS PAGE APPLICABLE TO UNIT 2 ONLY

TABLE 2.2-1a - UNIT 2

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
1. Manual Reactor Trip	N.A.	N.A.	N.A.	N.A.	N.A.
2. Power Range, Neutron Flux (NI-0041B&C, NI-0042B&C, NI-0043B&C, NI-0044B&C)					
a. High Setpoint	7.5	4.56	0	≤109% of RTP#	≤111.3% of RTP#
b. Low Setpoint	8.3	4.56	0	≤25% of RTP#	≤27.3% of RTP#
3. Power Range, Neutron Flux, High Positive Rate (NI-0041B&C, NI-0042B&C, NI-0043B&C, NI-0044B&C)	1.6	0.50	0	≤5% of RTP# with a time constant ≥2 seconds	≤6.3% of RTP# with a time constant ≥2 seconds
4. Deleted					
5. Intermediate Range, Neutron Flux (NI-0035B, NI-0036B)	17.0	8.41	0	≤25% of RTP#	≤31.1% of RTP#
6. Source Range, Neutron Flux (NI-0031B, NI-0032B)	17.0	10.01	0	$\leq 10^5$ cps	$\leq 1.4 \times 10^5$ cps
7. Overtemperature ΔT (TDI-411C, TDI-421C, TDI-431C, TDI-441C)	6.6 (UNIT 2)	3.37 (UNIT 2)	1.95 + 0.50 (UNIT 2)	See Note 1	See Note 2
8. Overpower ΔT (TDI-411B, TDI-421B, TDI-431B, TDI-441B)	4.9 (UNIT 2)	1.54	1.95 (UNIT 2)	See Note 3	See Note 4

#RTP = RATED THERMAL POWER

REACTOR TRIP SYSTEM INSTRUMENTATION SETPOINTS (Continued)

The various Reactor trip circuits automatically open the Reactor trip breakers whenever a condition monitored by the Reactor Trip System reaches a preset or calculated level. In addition to redundant channels and trains, the design approach provides a Reactor Trip System which monitors numerous system variables, therefore providing Trip System functional diversity. The functional capability at the specified trip setting is required for those anticipatory or diverse Reactor trips for which no direct credit was assumed in the safety analysis to enhance the overall reliability of the Reactor Trip System. The Reactor Trip System initiates a Turbine trip signal whenever Reactor trip is initiated. This prevents the reactivity insertion that would otherwise result from excessive Reactor Coolant System cooldown and thus avoids unnecessary actuation of the Engineered Safety Features Actuation System.

Manual Reactor Trip

The Reactor Trip System includes manual Reactor trip capability.

Power Range, Neutron Flux

In each of the Power Range Neutron Flux channels there are two independent bistables, each with its own trip setting used for a High and Low Range trip setting. The Low Setpoint trip provides protection during subcritical and low power operations to mitigate the consequences of a power excursion beginning from low power, and the High Setpoint trip provides protection during power operations to mitigate the consequences of a reactivity excursion from all power levels.

The Low Setpoint trip may be manually blocked above P-10 (a power level of approximately 10% of RATED THERMAL POWER) and is automatically reinstated below the P-10 Setpoint.

Power Range, Neutron Flux, High Rates

The Power Range Positive Rate trip provides protection against rapid flux increases which are characteristic of a rupture of a control rod drive housing. Specifically, this trip complements the Power Range Neutron Flux High and Low trips to ensure that the criteria are met for rod ejection from mid-power.

TABLE 3.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
1. Manual Reactor Trip	2	1	2	1, 2	1
	2	1	2	3[a], 4[a], 5[a]	11
2. Power Range, Neutron Flux (NI-0041B&C, NI-0042B&C, NI-0043B&C, NI-0044B&C)					
a. High Setpoint	4	2	3	1, 2	2[b]
b. Low Setpoint	4	2	3	1[d], 2	2[b]
3. Power Range, Neutron Flux, High Positive Rate (NI-0041B&C, NI-0042B&C, NI-0043B&C, NI-0044B&C)	4	2	3	1, 2	2[b]
4. (Deleted)					
5. Intermediate Range, Neutron Flux (NI-0035B,D&E NI-0036B,D&G)					
a. Power Operation	2	1	2	1[d]	3
b. Startup	2	1	2	2	3
6. Source Range, Neutron Flux (NI-0031B,D&E, NI-0032B,D&G)					
a. Startup	2	1	2	2[c]	4
b. Shutdown	2	1	2	3[j], 4, 5	5

TABLE 4.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
1. Manual Reactor Trip	N.A.	N.A.	N.A.	R(14)	N.A.	1, 2, 3[a], 4[a], 5[a]
2. Power Range, Neutron Flux (NI-0041B&C, NI-0042B&C, NI-0043B&C, NI-0044B&C)						
a. High Setpoint	S	D(2, 4), M(3, 4), Q(4, 6), R(4, 5)	Q(17)	N.A.	N.A.	1, 2
b. Low Setpoint	S	R(4)	S/U(1)	N.A.	N.A.	1[d], 2
3. Power Range, Neutron Flux, High Positive Rate (NI-0041B&C, NI-0042B&C, NI-0043B&C, NI-0044B&C)	N.A.	R(4)	Q(17)	N.A.	N.A.	1, 2
4. (Deleted)						
5. Intermediate Range, Neutron Flux (NI-0035B,D&E, NI-0036B,D&G)	S	R(4, 5)	S/U(1)	N.A.	N.A.	1[d], 2
6. Source Range, Neutron Flux (NI-0031B,D&E, NI-0032B,D&G)	S	R(4, 5)	S/U(1),Q(9,17)	N.A.	N.A.	2[c], 3, 4, 5
7. Overtemperature ΔT (TDI-0411C, TDI-0421C, TDI-0431C, TDI-0441C)	S	R(12)	Q(17)	N.A.	N.A.	1, 2

PHASE 2

Effective beginning with Unit 2 Cycle 3

TABLE 2.2-1

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
1. Manual Reactor Trip	N.A.	N.A.	N.A.	N.A.	N.A.
2. Power Range, Neutron Flux (NI-0041B&C, NI-0042B&C, NI-0043B&C, NI-0044B&C)					
a. High Setpoint	7.5	4.56	0	≤109% of RTP#	≤111.3% of RTP#
b. Low Setpoint	8.3	4.56	0	≤25% of RTP#	≤27.3% of RTP#
3. Power Range, Neutron Flux, High Positive Rate (NI-0041B&C, NI-0042B&C, NI-0043B&C, NI-0044B&C)	1.6	0.50	0	≤5% of RTP# with a time constant ≥2 seconds	≤6.3% of RTP# with a time constant ≥2 seconds
4. DELETED					
5. Intermediate Range, Neutron Flux (NI-0035B, NI-0036B)	17.0	8.41	0	≤25% of RTP#	≤31.1% of RTP#
6. Source Range, Neutron Flux (NI-0031B, NI-0032B)	17.0	10.01	0	$\leq 10^5$ cps	$\leq 1.4 \times 10^5$ cps
7. Overtemperature ΔT (TDI-411C, TDI-421C, TDI-431C, TDI-441C)	10.7	7.04	1.96 + 1.17	See Note 1	See Note 2
8. Overpower ΔT (TDI-411B, TDI-421B, TDI-431B, TDI-441B)	4.3	1.54	1.96	See Note 3	See Note 4

#RTP = RATED THERMAL POWER

TABLE 4.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
1. Manual Reactor Trip	N.A.	N.A.	N.A.	R(14)	N.A.	1, 2, 3[a], 4[a], 5[a]
2. Power Range, Neutron Flux (NI-0041B&C, NI-0042B&C, NI-0043B&C, NI-0044B&C)						
a. High Setpoint	S	D(2, 4), M(3, 4), Q(4, 6), R(4, 5)	Q(17)	N.A.	N.A.	1, 2
b. Low Setpoint	S	R(4)	S/U(1)	N.A.	N.A.	1[d], 2
3. Power Range, Neutron Flux, High Positive Rate (NI-0041B&C, NI-0042B&C, NI-0043B&C, NI-0044B&C)	N.A.	R(4)	Q(17)	N.A.	N.A.	1, 2
4. Deleted						
5. Intermediate Range, Neutron Flux (NI-0035B,D&E, NI-0036B,D&G)	S	R(4, 5)	S/U(1)	N.A.	N.A.	1[d], 2
6. Source Range, Neutron Flux (NI-0031B,D&E, NI-0032B,D&G)	S	R(4, 5)	S/U(1),Q(9,17)	N.A.	N.A.	2[c], 3, 4, 5
7. Overtemperature ΔT (TDI-0411C, TDI-0421C, TDI-0431C, TDI-0441C)	S	R	Q(17)	N.A.	N.A.	1, 2

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 48 AND 49 TO FACILITY OPERATING LICENSE NPF-68

AND AMENDMENT NOS. 27 AND 28 TO FACILITY OPERATING LICENSE NPF-81

GEORGIA POWER COMPANY, ET AL.

DOCKET NOS. 50-424 AND 50-425

VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2

1.0 INTRODUCTION

By letter dated August 14, 1990, Georgia Power Company, et al. (GPC or the licensee), proposed licensing amendments to change the Technical Specifications (TS) for Vogtle Electric Generating Plant (Vogtle or the facility), Units 1 and 2. The proposed changes would delete the Negative Flux Rate Trip (NFRT) function from the Reactor Trip System instrumentation requirements specified in TS Tables 2.2.1, 2.2.1a, 3.3.1, and 4.3.1, and TS Bases 2.2.1.

2.0 EVALUATION

The current design of the Reactor Protection System for Vogtle Units 1 and 2 includes an NFRT function. The purpose of the NFRT function, when first incorporated into the trip system design, was to prevent unconservative local departure from nucleate boiling (DNB) due to local flux peaking in the event of a single or multiple Rod Cluster Control Assembly (RCCA) drop. The licensee now proposes to delete the NFRT function on the basis of analyses performed with the Westinghouse Owners Group Topical Report, "Methodology for the Analysis of the Dropped Rod Event," WCAP-11394-P-A (proprietary) and WCAP-11395-P-A (non-proprietary). These reports provided generic justification for NFRT removal by demonstrating that the DNB design basis is met during the dropped RCCA transient without taking credit for a power reduction due to dropped rods or actuation of any automatic trip features. These WCAP documents have been previously reviewed and found to be acceptable by the NRC for plant-specific applications. The licensee indicated that the deletion of the NFRT function would provide a benefit to plant safety by eliminating unnecessary automatic reactor trips and resulting challenges to safety systems.

To justify deletion of the NFRT function for Vogtle Units 1 and 2, the licensee applied the WCAP-11394-P-A methodology and performed plant-specific evaluations to demonstrate that the DNB design basis is met during the dropped RCCA transient. The licensee evaluated Vogtle FSAR (Final Safety Analysis Report) Loss-of-Coolant Accidents (LOCA) and non-LOCA transients/accidents, including steam generator tube rupture, and LOCA-related conditions; fluid systems; containment integrity; and systems interaction. The licensee's analyses did not assume any actuation of power reduction features due to dropped RCCAs. The licensee determined that only one non-LOCA transient would be affected by the NFRT function and therefore, would require evaluation. This was the "RCCA Misalignment (System Malfunction or Operator Error)," which involved two scenarios: (1) one or more dropped RCCAs within the same group, and (2) a dropped RCCA bank. All other LOCA and non-LOCA events are not associated with the NFRT protective function, and therefore, would not be affected by deletion of the NFRT function.

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The licensee applied the WCAP-11394-P-A methodology to analyze the "RCCA Misalignment" transient for the case of one or more dropped RCCAs within the same group. The analyses demonstrated that the DNB design limits are met without the NFRT function. The licensee's analyses also showed that the power overshoot which may occur in the automatic rod control mode of operation and the asymmetric power change assumptions made for the one or more dropped RCCAs within the same group would bound the case of a dropped RCCA bank.

The NRC staff has reviewed the proposed changes and concludes that the licensee's analyses are based on input and assumptions appropriate for Vogtle, and upon approved methodologies. The results demonstrate that DNB design basis continues to be met in the absence of the NFRT function. Further, the licensee has committed to perform similar analyses in advance of each fuel reload to verify that DNB design limits are not exceeded during the respective cycles of operation. Therefore, the proposed TS changes, which reflect the NFRT function removal, are 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 and change surveillance requirements. 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 (56 FR 20035). 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.

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Date: November 1, 1991