

August 30, 1990

Docket Nos. 50-424
and 50-425

DISTRIBUTION:
See next page

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 NO. 34 TO FACILITY OPERATING LICENSE NPF-68
AND AMENDMENT NO. 14 TO FACILITY OPERATING LICENSE NPF-81 - VOGTLE
ELECTRIC GENERATING PLANT, UNITS 1 AND 2 (TACs 76883/76884)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 34 to Facility Operating License No. NPF-68 and Amendment No. 14 to Facility Operating License No. NPF-81 for the Vogtle Electric Generating Plant, Units 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated May 29, 1990.

The amendments revise TS Tables 2.2-1 and 3.3-3 to add a second set of values for Steam Generator (SG) low-low and high-high instrumentation. The changes are in accordance with a plant modification to be performed next refueling outage for each unit. The modification relocates the lower SG level instrument tap from 438 inches to 333 inches as measured from the top of the SG tubesheet.

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,

187

Timothy A. Reed, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

00005

Enclosures:

1. Amendment No. 34 to NPF-68
2. Amendment No. 14 to NPF-81
3. Safety Evaluation

cc w/enclosures:
See next page

OFFICIAL RECORD COPY

Document Name: VOGTLE AMEND SG

PA: PM13
Ringram
8/7/90

PM: PM13
TReed:sa
8/7/90

OGC
Sturke
8/17/90

DE: ED13
DMatthews
8/28/90

*1501
11
CP-1*

9009070099 900830
PDR ADOCK 05000424
F PDC

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

Mr. J. Leonard Ledbetter, Director
Environmental Protection Division
Department of Natural Resources
205 Butler Street, SE., Suite 1252
Atlanta, Georgia 30334

Mr. G. Bockhold, Jr.
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 the County Commissioner
Burke County Commission
Waynesboro, Georgia 30830

Mr. Dan Smith
Program Director of
Power Production
Oglethorpe Power Corporation
100 Crescent Centre
Tucker, Georgia 30085

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

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

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

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

Mr. R. P. McDonald
Executive Vice President -
Nuclear Operations
Georgia Power Company
P. O. Box 1295
Birmingham, Alabama 35201

DATED: August 30, 1990

AMENDMENT NO. 34 TO FACILITY OPERATING LICENSE NPF-68 - Vogtle Electric
Generating Plant, Unit 1

AMENDMENT NO. 14 TO FACILITY OPERATING LICENSE NPF-81 - Vogtle Electric
Generating Plant, Unit 2

DISTRIBUTION:

Docket File

NRC & Local PDRs

PDII-3 R/F

Vogtle R/F

SVarga 14-E-4

GLainas 14-H-3

DMatthews 9-H-3

RIngram 9-H-3

TReed 9-H-3

OGC-WF 15-B-18

DHagan

EJordan MNBB-3302

GHI1(8) P1-137

ACRS (10) P-135

WJones P-130A

J Calvo 11-F-22

GPA/PA 17-F-2

OC/LFMB AR-2015



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. 34
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 May 29, 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.

9009070105 900830
PDR ADDCK 05000424
P PDC

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. 34, 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.

FOR THE NUCLEAR REGULATORY COMMISSION



David B. Matthews, Director
Project Directorate II-3
Division of Reactor Projects - 1/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification Changes

Date of Issuance: August 30, 1990



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. 14
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 May 29, 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. 14, 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.

FOR THE NUCLEAR REGULATORY COMMISSION



David B. Matthews, Director
Project Directorate II-3
Division of Reactor Projects - 1/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification Changes

Date of Issuance: August 30, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 34

FACILITY OPERATING LICENSE NO. NPF-68

AND LICENSE AMENDMENT NO. 14

FACILITY OPERATING LICENSE NO. NPF-81

DOCKET 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 number and contain vertical lines indicating the areas of change. The corresponding overleaf pages are also provided to maintain document completeness.

Amended Page

2-5

3/4 3-31

Overleaf Page

2-6

3/4 3-32

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
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)	18.5 (21.8)***	17.18 (18.21)***	1.67	>18.5% (37.8)*** of narrow range instrument span	>17.8% (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 = 95,700 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.

***The value stated inside the parenthesis is for instrument that has the lower tap at elevation 333"; the value stated outside the parenthesis is for instrumentation that has the lower tap at elevation 438".

VOGTLE UNITS - UNIT 1 & 2
2-5
Amendment No. 34 (Unit 1)
Amendment No. 14 (Unit 1)

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>
16. Turbine Trip					
a. Low Fluid Oil Pressure (PT-6161, PT-6162, PT-6163)	N.A.	N.A.	N.A.	≥580 psig	≥500 psig
b. Turbine Stop Valve Closure	N.A.	N.A.	N.A.	≥96.7% open	≥96.7% open
17. Safety Injection Input from ESF	N.A.	N.A.	N.A.	N.A.	N.A.
18. Reactor Trip System Interlocks					
a. Intermediate Range Neutron Flux, P-6 (NI-0035B, NI-0036B)	N.A.	N.A.	N.A.	≥1 x 10 ⁻¹⁰ amp	≥6 x 10 ⁻¹¹ amp
b. Low Power Reactor Trips Block, P-7					
1) P-10 input (NI-0041B&C, NI-0042B&C, NI-0043B&C, NI-0044B&C)	N.A.	N.A.	N.A.	≤10% of RTP#	≤12.3% of RTP#
2) P-13 input (PI-0505, PI-0506)	N.A.	N.A.	N.A.	<10% RTP# Turbine Impulse Pressure Equivalent	<12.3% RTP# Turbine Impulse Pressure Equivalent
c. Power Range Neutron Flux, P-8 (NI-0041B&C, NI-0042B&C, NI-0043B&C, NI-0044B&C)	N.A.	N.A.	N.A.	≤48% of RTP#	≤50.3% of RTP#

#RTP = RATED THERMAL POWER

TABLE 3.3-3 (Continued)

FUNCTIONAL UNIT		TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
5. Turbine Trip and Feedwater Isolation (Continued)						
c.	Steam Generator Water Level--High-High (P-14)	5.1 (14.0)*	2.18 (8.62)*	1.67	<78.0% (86.0)* of instrument span.	<79.9% (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	18.5 (21.8)*	17.18 (18.21)*	1.67	>18.5% (37.8)* of narrow range instrument span.	>17.8% (35.9)* of narrow range instrument span.
2.	Start Turbine-Driven Pump	18.5 (21.8)*	17.18 (18.21)*	1.67	>18.5% (37.8)* of narrow range instrument span.	>17.8% (35.9)* of narrow range instrument span.

*The value stated inside the parenthesis is for instrumentation that has the lower tap at elevation 333"; the value stated outside the parenthesis is for instrumentation that has the lower tap at elevation 438".

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

VOGTLE UNITS - 1 & 2

3/4 3-32

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
6. Auxiliary Feedwater (Continued)					
c. Safety Injection Start Motor-Driven Pumps	See Functional Unit 1. above for all Safety Injection Trip Setpoints and Allowable Values.				
d. Loss of or degraded 4.16 kV ESF Bus Voltage					
1. Start Motor-Driven Pumps	N.A.	N.A.	N.A.	Degraded >3746 volts with <20 s time delay	Degraded >3683 volts with <20 s time delay
				Loss >2975 volts with a <0.8s time delay	Loss >2912 volts with a <0.8s time delay
2. Turbine Driven Pump	N.A.	N.A.	N.A.	Degraded >3746 volts with <20 s time delay	Degraded >3683 volts with <20 s time delay
				Loss >2975 volts with a <0.8s time delay	Loss >2912 volts with a <0.8s time delay
e. Trip of All Main Feedwater Pumps, Start Motor-Driven Pumps	N.A.	N.A.	N.A.	N.A.	N.A.
f. Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
7. Semi-Automatic Switchover to Containment Emergency Sump					
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 34 TO FACILITY OPERATING LICENSE NPF-68
AND AMENDMENT NO. 14 TO FACILITY OPERATING LICENSE NPF-81
GEORGIA POWER COMPANY, ET AL.
DOCKETS NOS. 50-424 AND 50-425
VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2

1.0 INTRODUCTION

By letter dated May 29, 1990, Georgia Power Company (GPC), et al. (the licensee), requested a Technical Specification (TS) amendment to revise the steam generator (SG) level instrumentation setpoints described in TS Tables 2.2-1 and 3.3-3. Additional information regarding this TS amendment request was provided on July 6, 1990. The TS amendment request stems from a proposed modification that will relocate the level of the SG lower tap from 438 inches elevation to 333 inches, as measured from the top of the SG tubesheet, increasing the water level span from 128 inches to 233 inches. The wider instrumentation span changes the low-low, high-high and nominal operating level settings and enables GPC to increase the operating margin to the low-low and high-high setpoints. The low-low to nominal level increases by about 20 inches and the high-high to nominal increases by about 9 inches. The proposed change should reduce the number of spurious reactor and turbine trips from the low-low and high-high level trips.

2.0 EVALUATION

Because the TS amendment request and the associated plant modification affects the high-high and the low-low SG level trip setpoints and the nominal water level, many loss of coolant accident (LOCA) and non-LOCA transient analyses described in Chapter 15 of the Vogtle Electric Generating Plant (VEGP) Updated Final Safety Analysis Report (FSAR) are also potentially affected. In the following, each category is examined separately with a brief description of the result and justification.

2.1 Non-LOCA Evaluations

- Mass/energy release from secondary system pipe rupture inside containment (FSAR 6.2.1.4)

The objective is to assure that the peak containment pressure limit is not exceeded. The peak pressure depends (among other parameters) on SG inventory. However, the revised inventory is estimated to be slightly lower than the current value, thus, no reanalysis is required.

- Mass/energy release from secondary system pipe rupture outside containment (FSAR 6.2.1.4)

The objective is to assure that no adverse environmental conditions are created for equipment qualification. The revised mass/energy release calculations were reviewed and the limiting temperature profile was not exceeded.

- Feedwater system malfunctions which result in decreased feedwater temperature (FSAR 15.1.1)

This transient is bounded by the "feedwater system malfunctions that result in increased feedwater flow" (15.1.2), thus no reanalysis is required.

- Feedwater system malfunction that results in an increase in feedwater flow (zero power) (FSAR 15.1.2)

The existing analysis demonstrates that the reactivity input is bounded by the "uncontrolled rod cluster control assembly bank withdrawal from a subcritical or low-power startup condition" (15.4.1), thus, no reanalysis is required.

The following transients do not need a reanalysis because the SG trip functions are not challenged or are not modeled, thus not affected by the proposed modifications.

- Excessive increase in secondary steam flow (FSAR 15.1.3)
- Steam system piping failure (FSAR 15.1.5)
- Steam pressure regulator malfunction or failure that results in decreasing steam flow (FSAR 15.2.1)
- Loss of external electrical load (FSAR 15.2.2)
- Turbine trip (FSAR (15.2.3)
- Inadvertent closure of main steam isolation valves (FSAR 15.2.4)
- Loss of condenser vacuum and other events resulting in turbine trip (FSAR 15.2.5)
- Partial loss of forced reactor coolant flow (FSAR 15.3.1)
- Complete loss of forced reactor coolant flow (FSAR 15.3.2)
- Reactor coolant pump shaft seizure and locked rotor (FSAR 15.3.3)
- Reactor coolant pump shaft break (FSAR 15.3.4)

- Uncontrolled rod cluster control assembly bank withdrawal from a subcritical or low-power startup condition (FSAR 15.4.1)
- Uncontrolled rod cluster control assembly bank withdrawal at power (FSAR 15.4.2)
- Rod cluster control assembly misalignment (FSAR 15.4.3)
- Startup of an inactive reactor coolant pump (FSAR 15.4.4)
- Chemical and volume control system malfunction which results in a decrease in the boron concentration in the reactor coolant (FSAR 15.4.6)
- Inadvertent loading and operation of a fuel assembly in an improper position (FSAR 15.4.7)
- Spectrum of rod cluster control assembly ejection accidents (FSAR 15.4.8)
- Inadvertent operation of emergency core cooling system during power operation (FSAR 15.5.1)
- Chemical and volume control system malfunction that increases reactor coolant inventory (FSAR 15.5.2)
- Inadvertent opening of a pressurizer safety relief valve (FSAR 15.6.1)

2.1.1 Non-LOCA Transients, Requiring Reanalysis

The following transients required reanalysis since the requested TS change and associated plant modification impact the initial assumptions for the low-low, high-high and nominal water level for these analyses.

- Feedwater system malfunctions which result in an increase in feedwater flow (full power) (FSAR 15.1.2)

The objective of this analysis is to demonstrate that the MDNBR does not fall below the limiting value. Using the same FSAR assumption (i.e., high-high level trip setpoint at 100 percent of the narrow range span) it was estimated that the MDNBR does not fall below its limiting value.

- Loss of non-emergency AC power to the station auxiliaries/loss of normal feedwater (FSAR 15.2.6 and 15.2.7)

The objective in this analysis is to demonstrate that neither the primary nor the secondary systems will overpressurize following reactor trip, i.e., there is adequate heat removal capability. The assumptions include: 510 gpm auxiliary feedwater at 103°F, pressurizer spray and relief valves are assumed operable, the SG low-low level setpoint is at 30 percent, and 10 percent of the SG tubes are plugged. The results demonstrate that the capacity of the auxiliary feedwater is sufficient to prevent overpressurization.

° Feedwater system pipe break (FSAR 15.2.8)

The objectives of this analysis are the same as above. The assumptions, in addition to those listed above, include: power level of 3636 MWT, SG low-low water level at 16 percent of the narrow range span and a conservative decay heat model. The results demonstrate that the auxiliary feedwater is adequate to remove decay heat and prevent overpressurization and for the loss of offsite power, natural circulation is sufficient to prevent secondary overpressurization and fuel clad damage.

2.2 LOCA Evaluation

2.2.1 Large Break LOCA (FSAR 15.6.5)

The secondary trip setpoints are not modeled in the large break LOCA analysis, thus, a change in the SG level tap, associated trip setpoints, and initial water level will not have any affect on the large break LOCA.

2.2.2 Small Break LOCA (FSAR 15.6.5)

As in the large break LOCA, the trip setpoints are not modeled, thus, a change in the trip setpoint does not affect the small break LOCA analysis. However, the initial SG water level could affect the pressurizer low pressure trip which is modeled in the Westinghouse WFLASH (Refs. 3 and 4) Vogtle FSAR analysis. A conservative decrease of 10 inches in the nominal SG level was investigated, and existing sensitivity studies showed an 11°F penalty in the peak cladding temperature. The peak cladding temperature for both units remains well below the 10 CFR 50.46 limit of 2200°F.

2.2.3 LOCA Blowdown Forces, Boron Precipitation Due to Hot Leg Switchover and Post-LOCA Long Term Cooling

The following parts of LOCA related analyses do not depend on the SG level trips nor the initial SG level, thus are not affected by the proposed modifications:

- ° The hydraulic forcing functions on the reactor vessel, vessel internals and the RCS loop piping. The peak forces occur well before the generation of any SG level trip signals, therefore, the proposed changes do not affect the hydraulic forcing functions.
- ° The calculation of hot leg switchover time (ensures no boron precipitation following core boiling) depends primarily on power level but is independent of the proposed modifications.
- ° The post-LOCA long term cooling calculation (to demonstrate the reactor remains shutdown) is independent of the assumptions of the secondary system, thus, the proposed modifications do not affect this calculation.

2.2.4 Rod Ejection Mass Release

The rod ejection mass release transient is similar to the small break LOCA transient. The small break LOCA sensitivity analysis showed that the rod ejection is bounded by the small LOCA for the proposed SG tap modifications.

2.3 Steam Generator Tube Rupture

The proposed modification to narrow range level indication increases the instrument span, thus, a SG tube rupture will be more easily detected at an earlier time in the transient, ultimately resulting in an earlier termination and reduction of off-site radiation doses.

2.4 Radiological Consequences

From the preceding discussion, we have seen that the proposed SG water level modifications do not affect primary mass releases and consequently do not affect off-site radiological doses. The FSAR findings remain valid.

2.5 Containment Integrity

The proposed modifications do not affect the limiting conditions in the containment analyses, thus, the FSAR conclusions remain valid.

2.6 Conclusions

Review of the impact of the proposed changes on non-LOCA and LOCA accident analyses indicates that either the current analysis of record remains bounding and reanalysis is not required, or that the Standard Review Plan requirements are satisfied for those analyses reanalyzed. In addition, the SG tube rupture, the off-site radiological consequences and the effect on containment integrity have been reviewed with the conclusion that the FSAR findings remain valid. Thus, we find the proposed TS changes resulting from the modification to lower the SG level tap to be acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

The amendments involve changes in requirements with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20. The 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. 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.

4.0 CONCLUSION

The Commission's proposed determination that the amendments involve no significant hazards consideration was published in the Federal Register on July 25, 1990 (55 FR 30299). No public comments were received, and the State of Georgia did not have any comments.

The staff 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, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: L. Lois, SRXB/DST

Dated: August 30, 1990