

August 8, 1989

Docket Nos. 50-424  
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 NO.22 TO FACILITY OPERATING LICENSE NPF-68  
AND AMENDMENT NO. 3 TO FACILITY OPERATING LICENSE NPF-81 - VOGTLE  
ELECTRIC GENERATING PLANT, UNITS 1 AND 2 (TACS 72902/72903)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 22 to Facility Operating License No. NPF-68 and Amendment No. 3 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 April 6, 1989.

The amendments modify TS 4.5.2.h.1)b) to increase for Unit 1 the maximum total charging pump flow rate with a single pump running.

A copy of the related safety evaluation supporting Amendment No. 22 to Facility Operating License NPF-68 and Amendment No. 3 to Facility Operating License NPF-81 is enclosed.

Sincerely,



Jon B. Hopkins, Project Manager  
Project Directorate II-3  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No.22 to NPF-68
- 2. Amendment No. 3 to NPF-81
- 3. Safety Evaluation

cc w/enclosures:

See next page

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

Vogtle Electric Generating Plant

cc:

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DATED: August 8, 1989

AMENDMENT NO. 22 TO FACILITY OPERATING LICENSE NPF-68 - Vogtle Electric  
Generating Plant, Unit 1  
AMENDMENT NO. 3 TO FACILITY OPERATING LICENSE NPF-81 - Vogtle Electric  
Generating Plant, Unit 2

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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. 22  
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 April 6, 1989, 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, as amended, 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 attachments to this license amendment and paragraph 2.C.(2) of Facility Operating License No. NPF-68 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 22, 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

Original signed by:

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

Attachment:  
Technical Specification Changes

Date of Issuance: August 8, 1989

OFFICIAL RECORD COPY

LA:PDII-3  
MRood  
7/26/89

PM:PDII-3  
JHopkins:sa  
7/21/89

SRXB *[Signature]*  
W. Hedges  
~~SPLB~~  
~~CMcCracken~~  
7/21/89

OGC *[Signature]*  
MYoung  
7/31/89

*[Signature]*  
DBMatthews  
8/8/89



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

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

Amendment No. 3  
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 April 6, 1989, 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, as amended, 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 attachments to this license amendment and paragraph 2.C.(2) of Facility Operating License No. NPF-81 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 3, 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

Original signed by:

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

Attachment:  
Technical Specification Changes

Date of Issuance: August 8, 1989

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SRXB  
W. Hedges  
~~SPLB~~  
~~McCracken~~  
7/21/89

OGC  
7/31/89

DBMatthews  
8/8/89

ATTACHMENT TO LICENSE AMENDMENT NO. 22

FACILITY OPERATING LICENSE NO. NPF-68

AND LICENSE AMENDMENT NO. 3

FACILITY OPERATING LICENSE NO. NPF-81

DOCKET NO. 50-424 AND 50-425

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised page is identified by Amendment number and contains a vertical line indicating the areas of change. The corresponding overleaf page is also provided to maintain document completeness.

Amended Page

Overleaf Page

3/4 5-6

3/4 5-5

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

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- e. At least once per 18 months, during shutdown, by:
  - 1) Verifying that each automatic valve in the flow path actuates to its correct position on a Safety Injection test signal,
  - 2) Verifying that, for the RHR Semi-Automatic Switchover to Containment Emergency Sump, each automatic valve in the flow path actuates to its correct position on RWST level low-low coincident with Safety Injection test signal, and
  - 3) Verifying that each of the following pumps start automatically upon receipt of a Safety Injection actuation test signal:
    - a) Centrifugal charging pump,
    - b) Safety Injection pump, and
    - c) RHR pump.
  
- f. By verifying that each of the following pumps develops the indicated differential pressure on recirculation flow when tested pursuant to Specification 4.0.5:
  - 1) Centrifugal charging pump  $\geq$  2364 psid,
  - 2) Safety Injection pump  $\geq$  1405 psid, and
  - 3) RHR pump  $\geq$  165 psid.
  
- g. By verifying the correct position of each electrical and/or mechanical position stop for the following ECCS throttle valves:
  - 1) Within 4 hours following completion of each valve stroking operation or maintenance on the valve when the ECCS subsystems are required to be OPERABLE, and
  - 2) At least once per 18 months.

Safety Injection System  
Valve Number

1204-U4-022	1204-U4-139
1204-U4-023	1204-U4-140
1204-U4-024	1204-U4-141
1204-U4-025	1204-U4-142
1204-U4-116	1204-U4-118
1204-U4-117	1204-U4-119

## EMERGENCY CORE COOLING SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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- h. By performing a flow balance test, during shutdown, following completion of modifications to the ECCS subsystems that alter the subsystem flow characteristics and verifying that:
- 1) For centrifugal charging pump lines, with a single pump running:
    - a) The sum of the injection line flow rates, excluding the highest flow rate, is greater than or equal to 284 gpm, and
    - b) The total pump flow rate is less than or equal to 555 gpm.
  - 2) For Safety Injection pump lines, with a single pump running:
    - a) The sum of the injection line flow rates, excluding the highest flow rate, is greater than or equal to 406 gpm, and
    - b) The total pump flow rate is less than or equal to 660 gpm.
  - 3) For RHR pump lines, with a single pump running, the sum of the injection line flow rates is greater than or equal to 3788 gpm.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 22 TO FACILITY OPERATING LICENSE NPF-68  
AND AMENDMENT NO. 3 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 April 6, 1989, Georgia Power Company, et al., (the licensee) requested a change to the Technical Specifications for Vogtle Electric Generating Plant (VEGP), Units 1 and 2. The proposed change would change the Technical Specification (TS) to increase for Unit 1 the maximum total pump flow rate for the centrifugal charging pump lines with a single pump running from 550 gpm to 555 gpm. This change was approved for Unit 2 on an emergency basis on March 8, 1989, by the NRC staff.

2.0 EVALUATION

The VEGP 1 & 2 centrifugal charging pumps (CCP) are from Pacific Pump. A Pacific Pump outline drawing recommends a maximum pump runout flow rate of 550 gpm. It has been identified that the Vogtle pumps may have to operate at up to 555 gpm. The two considerations that must be evaluated for this increased runout limitation are the horsepower capability of the motor and the margin between the available and required net positive suction head (NPSH). The licensee's evaluation follows:

The pump performance curves indicate that the operation of the Vogtle charging pumps at 555 gpm will require a maximum brake horsepower of 680 HP. The charging pump motors are rated at 600 HP with a service factor of 1.15, thus the maximum horsepower for which the motor is designed is 690 HP. Therefore, the motor is capable of providing the horsepower required for pump operation at 555 gpm. The motor qualified life is based on continuous operation at 690 HP, therefore, this operation does not reduce the motor qualified life.

The charging pump performance curves provide net positive suction head (NPSH) requirements to a maximum flow rate of 555 gpm for pump #52233 and to approximately 550 gpm for the other three pumps. These performance curves show that the NPSH required at 550 gpm is approximately 22 feet for the most limiting pump. Pacific Pump has performed additional testing of this model pump which has demonstrated that the NPSH requirements remain stable through flow rates as high as 555 gpm.

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By extrapolation of the performance curves, the required NPSH at 555 gpm will not exceed 22 feet. The available NPSH at 555 gpm has been calculated to be in excess of 83 feet. Therefore, there is substantial NPSH margin, and pump operation at 555 gpm is acceptable.

Based on the evaluation of the CCP motor horsepower capabilities and the available NPSH margin, the licensee concluded that the centrifugal charging pumps are capable of operating at 555 gpm with no damage to the pumps or degradation of pump performance. No special operating precautions or maintenance requirements are necessary to support operation of the pumps at 555 gpm.

The NRC staff has reviewed the above evaluation and concurs with it.

The licensee evaluated loss of coolant accident (LOCA) analyses and determined that the large break LOCA is the limiting LOCA with regard to increased CCP flow. The licensee then evaluated their large break LOCA analysis assuming an additional 5 gpm flow from each of 2 CCPs. The licensee determined that the peak cladding temperature (PCT) would increase approximately 2° F above its value of 1995.8° F. This is a small increase and below the requirement of 2200° F. The licensee has evaluated the effect of increased CCP flow to 555 gpm on containment response following a large break LOCA. The licensee found an insignificant increase in mass and energy that does not affect the acceptability of the containment response following a large break LOCA. Therefore, the licensee has concluded that LOCA analyses are still acceptable with an increased CCP flow.

The NRC staff has reviewed the above evaluation and finds that increased CCP flow to 555 gpm is acceptable with regards to LOCA analyses. The licensee has also reviewed non-LOCA analyses and determined that increased CCP runoff flow to 555 gpm does not affect them. The NRC staff finds this acceptable.

In conclusion, the licensee has evaluated the effect of increasing CCP flow from 550 gpm to 555 gpm on CCP performance, LOCA analyses, and non-LOCA analyses and finds the increase acceptable. The NRC staff has reviewed the licensee's evaluations and finds them acceptable. Therefore, the NRC staff finds the proposed change to TS 4.5.2.h.1)b) to be acceptable.

### 3.0 ENVIRONMENTAL CONSIDERATION

These amendments involve a change in surveillance requirements. 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 exposure. The NRC staff has made a determination 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 made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register on May 31, 1989 (54 FR 23314), and consulted with the state of Georgia. 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: Jon B. Hopkins, PDII-3/DRP-I/II

Dated: August 8, 1989