

May 13, 1987

Dockets Nos.: 50-321
and 50-366

Mr. James P. O'Reilly
Senior Vice President - Nuclear Operations
Georgia Power Company
P. O. Box 4545
Atlanta, Georgia 30302

Dear Mr. O'Reilly:

Subject: Issuance of Amendment Nos. 136 and 75 to Facility Operating Licenses
DPR-57 and NPF-5 - Edwin I. Hatch Nuclear Plant, Units 1 and 2
(TACS 53327/53328)

The Commission has issued the enclosed Amendments Nos. 136 and 75 to Facility Operating Licenses DPR-57 and NPF-5, for the Edwin I. Hatch Nuclear Plant, Units 1 and 2. The amendments consist of changes to the Technical Specifications in response to your application dated September 19, 1983 as supplemented by letters dated December 14, 1983, December 20, 1983, September 13, 1985 and January 6, 1986.

The amendments provide closure time requirements for the scram discharge volume vent and drain valves.

A copy of our Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's Bi-Weekly Federal Register Notice.

Sincerely,

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Lawrence P. Crocker, Project Manager
Project Directorate II-3
Division of Reactor Projects-I/II

Enclosures:

1. Amendment No. 136 to DPR-57
2. Amendment No. 75 to NPF-5
3. Safety Evaluation

cc w/enclosures:
See next page

ml
PD#II-3/DRP-I/II
LCrocker/mac
04/30/87

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PD#II-3/DRP-I/II
MDuncan
04/28/87

ml
PD#II-3/DRP-I/II
BJYoungblood
~~04/18/87~~
5/13/87

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Mr. J. P. O'Reilly
Georgia Power Company

Edwin I. Hatch Nuclear Plant,
Units Nos. 1 and 2
Docket Nos.: 50-366/321

cc:

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DATED May 13, 1987

AMENDMENT NO. 136 TO FACILITY OPERATING LICENSE DPR-57, EDWIN I. HATCH, UNITS 1 & 2
AMENDMENT NO. 75 TO FACILITY OPERATING LICENSE NPF-05, EDWIN I. HATCH, UNITS 1 & 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

DOCKET NO. 50-321

EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 136
License No. DPR-57

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Edwin I. Hatch Nuclear Plant, Unit 1 (the facility) Facility Operating License No. DPR-57 filed by Georgia Power Company, acting for itself, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia, (the licensee) dated September 19, 1983 as supplemented by letters dated December 14, 1983, December 20, 1983, September 13, 1985 and January 6, 1986, 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 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 amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-57 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 136, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

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B. J. Youngblood, Director
Project Directorate II-3
Division of Reactor Projects-I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 13, 1987

ml
PD#II-3/DRP-I/II
LCrocker/mac
04/30/87

MDuncan
PD#II-B/DRP-I/II
MDuncan
04/28/87

OGC-Bethesda
04/ /87

ml
PD#II-3/DRP-I/II
BJYoungblood
05/13/87

see Unit 2 concurrence.

ATTACHMENT TO LICENSE AMENDMENT NO. 136

FACILITY OPERATING LICENSE NO. DPR-57

DOCKET NO. 50-321

Replace the following page of the Appendix A Technical Specifications with the enclosed page. The revised page is identified by amendment number and contains vertical lines indicating the area of change.

Revised
Page

3.3-7a

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.3.I Scram Discharge Volume Vent
and Drain Valves

During reactor power operation, all scram discharge volume vent and drain valves shall be operable. If this specification cannot be met, an orderly shutdown shall be initiated and the reactor shall be placed in the Hot Shutdown Condition within 12 hours.

4.3.I Scram Discharge Volume Vent
and Drain Valves1. Valve Position Verification

Each scram discharge volume vent and drain valve shall be verified to be in the open position* at least once per 31 days.

2. Valve Testing

a. Each scram discharge volume vent and drain valve shall be operated through at least one complete cycle of full travel at least once per 92 days.

b. At least once per 18 months, it shall be verified that the scram discharge volume vent and drain valves:

1. Close within 45 seconds after receipt of a signal for control rods to scram, and

2. Open when the scram signal is reset.

*These valves may be closed intermittently for testing under administrative controls.

3.3-7a



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

GEORGIA POWER COMPANY

OGLETHORPE POWER CORPORATION

MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA

CITY OF DALTON, GEORGIA

DOCKET NO. 50-366

EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 75
License No. NPF-5

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Edwin I. Hatch Nuclear Plant, Unit 2 (the facility) Facility Operating License No. NPF-5 filed by Georgia Power Company, acting for itself, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia, (the licensee) dated September 19, 1983 as supplemented by letters dated December 14, 1983, December 20, 1983, September 13, 1985 and January 6, 1986, 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 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 amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-5 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 75, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

151

B. J. Youngblood, Director
Project Directorate II-3
Division of Reactor Projects-I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 13, 1987

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PD#II-3/DRP-I/II
LCrocker/mac
04/30/87

PD#II-3/DRP-I/II
MDuncan
04/28/87

OGC-Bethesda
m. Harman
04/01/87
[Signature]

BJ
PD#II-3/DRP-I/II
for BJYoungblood
04/13/87
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ATTACHMENT TO LICENSE AMENDMENT NO. 75

FACILITY OPERATING LICENSE NO. NPF-5

DOCKET NO. 50-366

Replace the following page of the Appendix A Technical Specifications with the enclosed page. The revised page is identified by amendment number and contains vertical lines indicating the area of change.

Revised
Page

3/4 1-21

REACTIVITY CONTROL SYSTEMS

3/4.1.6 SCRAM DISCHARGE VOLUME VENT AND DRAIN VALVES

LIMITING CONDITION FOR OPERATION

3.1.6.1 All scram discharge volume vent and drain valves shall be OPERABLE.

APPLICABILITY: Conditions 1 and 2.

ACTION: With any scram discharge volume vent or drain valve inoperable, be in at least HOT SHUTDOWN within 12 hours.

SURVEILLANCE REQUIREMENTS

4.1.6.1 The scram discharge volume vent and drain valves shall be demonstrated OPERABLE by:

- a. At least once per 31 days verifying each valve to be open*.
- b. At least once per 92 days cycling each valve through at least one complete cycle of travel.
- c. At least once per 18 months, by verifying that the drain and vent valves:
 1. Close within 60 seconds after receipt of a signal for control rods to scram, and
 2. Open when the scram signal is reset.

*These valves may be closed intermittently for testing under administrative controls.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENTS NOS. 136 AND 75 TO

FACILITY OPERATING LICENSES DPR-57 AND NPF-5

GEORGIA POWER COMPANY
OGLETHORPE POWER CORPORATION
MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA
CITY OF DALTON, GEORGIA

EDWIN I. HATCH NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-321 AND 50-366

INTRODUCTION

The Technical Specifications (TS) for Hatch Units 1 and 2 do not have a closure time requirement for the Scram Discharge Volume (SDV) vent and drain valves. By letters dated September 19, 1983 (Ref. 1) as supplemented by letters dated December 14, 1983 (Ref. 2), December 20, 1983 (Ref. 3) and September 13, 1985 (Ref. 4), the licensee proposed to include maximum closure times for the subject valves in the surveillance TS. The closure times would be 60 seconds. By letter dated January 6, 1986 (Ref. 5) the licensee further proposed to change the closure time for Hatch Unit 1 to 45 seconds. The changes would affect TS 4.3.I.2.b.1 for Unit 1 and TS 4.1.6.1.c.1 for Unit 2. The proposed change would add the specified closure times as Technical Specification requirements for the Hatch Units.

Surveillance criterion 1 of the generic Safety Evaluation Report for BWR Scram Discharge System (Ref. 6) states that closure in less than 30 seconds (a GE specification) is acceptable. However, closure tests at Hatch Units 1 and 2 indicate that closure times for the Hatch valves are very near 30 seconds and that a 30 second Technical Specification limit would leave little margin. Accordingly, the licensee has proposed longer closure times. The NRC Staff's evaluation of the licensee's justification of the proposed closure times is set forth below.

EVALUATION

During a scram, water from the control rod drive (CRD) system is released into a scram discharge volume (SDV). The SDV vent and drain valves, which are normally open, close automatically on receipt of a scram signal. Upon completion of a reactor scram, with all control rods fully inserted, water leaks past the CRD seals from the reactor and continues to flow into the SDV. This flow continues until the pressure in the SDV equals the reactor pressure.

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General Methodology

GE provided an analysis for the licensee entitled "Relaxation of Scram Discharge Volume Vent and Drain Closure Times" (Ref. 7). Major assumptions included:

- a) Scram time equals 5 seconds.
- b) A displacement volume of 0.765 gallons per individual CRD.
- c) An average expected post-scram leakage flow of 3 gpm per individual CRD.
- d) An SDV drain flow prior to isolation of 50 gpm.
- e) A minimum SDV volume of 482 gallons.

With a normal scram and closure time of 60 seconds the following major concerns were considered.

° Overfilling

During closure, overfilling is prevented if SDV inflow minus outflow is less than the SDV volume. The capacity of the SDV, bounded by Hatch 1, was shown to be adequate to prevent overflow.

° Temperature Increase

Based on GE test data, the maximum temperature prior to closure would be 212F. With the further assumption of atmospheric pressure in the SDV at valve closure, there would be no flashing. Hence there would be no steam discharge through the vent and drain valves. See Hydrodynamic Loads below for a further discussion.

° Radiation

GE stated that since the SDV will not overflow, no additional radiological concern is generated due to the longer closing time.

° Hydrodynamic Loads

GE referred to a prior qualitative analysis (Ref. 8) which concluded that the longer valve closure time would not introduce any additional hydrodynamic forces. Steam/water hammer following valve closure would be minimal since the temperature in the SDV is below flashing.

The staff accepted the GE methodology; however, additional justification was requested of the licensee to substantiate the prevention of overfilling the SDV during normal scram.

Sixty Second Closure Time

By letter dated November 18, 1985 (Ref. 9), the licensee established the following:

- The post-scrum leakage into the SDV was determined based upon measured data from two cycles of Hatch Units 1 and 2 CRD stall flow, and GE correlations of post-scrum leakage versus CRD stall flow (Ref. 10). The inflow leakage exceeded the GE assumption (Ref. 7) by 0.4 gpm.
- The drain flows of previous analyses (Ref. 7 and 8) were corrected.
- An "as built" volume of the SDV for Unit 1 of 549 gallons was provided. This value exceeds that used in previous analyses (Ref. 7 and 8).

Using the Ref. 9 post-scrum leakage and "as built" volume, the SDV was reanalyzed. For conservatism, it was further assumed that the SDV drainage flow was zero. The results showed that the SDVs for Hatch Units 1 and 2 would not overflow on the basis of a 60 second closure time.

Forty-Five Second Closure Time

After further discussion with the staff and by letter dated January 6, 1986 (Ref. 5), the licensee requested that the TS for the SDV closure time of Hatch Unit 1 be 45 seconds. The Unit 2 proposal for 60 seconds remained unchanged. Calculations were provided which addressed the staff concern of overflowing the SDVs during scram.

Major assumptions in this analysis were:

- Use of the post-scrum SDV inflow as already described above from Ref. 9. The value, extrapolated from measured data, was higher and thus more appropriate than the analyses of References 7 and 8.
- Use of individual "as built" SDV volumes for both Hatch Units 1 and 2, rather than the bounding value of Hatch Unit 1. Prior analyses of References 7 and 8 used a smaller volume. While not as conservative, the "as built" volume is acceptable to the staff.

By these analyses, the licensee demonstrated that the SDVs for Hatch Units 1 and 2 would not overflow during a normal scram.

By letter dated December 14, 1983 (Ref. 2), the licensee stated that Hatch Unit 1 had operated with a closure time of approximately 49 seconds for several years without apparent problems. This provides further evidence to support the analysis demonstrating that the SDV will not overflow.

With regard to the staff's concern for SDV inflow, the licensee further stated that post-scrum CRD leakage was limited by the licensee's program of CRD stall flow testing and drive rebuilding. The stall flow testing is performed at power on all drives during a particular cycle. Based on the results of this testing, certain drives are rebuilt during the following outage. The drives selected for rebuilding are those 10% with the highest leakage figures, as well as any other drives whose leakage exceeds 4 gpm.

We find the licensee's analyses and the CRD stall flow testing and drive rebuilding program acceptable in demonstrating that the SDV will not overflow during a normal scram for Units 1 and 2.

We have reviewed the information provided by the Georgia Power Company relative to the proposed TS modifications for Hatch Units 1 and 2 for SDV vent and drain valve closure time. Based on the considerations as discussed above, we have concluded that the proposed technical specification changes are acceptable with SDV vent and drain closure times of 45 and 60 seconds for Hatch Units 1 and 2, respectively.

ENVIRONMENTAL CONSIDERATIONS

The amendments change a requirement with respect to installation or use of a facility component 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 should be 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.

CONCLUSION

The Commission made proposed determinations that the amendments involve no significant hazards consideration which were published in the Federal Register (49 FR 7161) on February 27, 1984, (50 FR 46213) on November 6, 1985, and (51 FR 18683) on May 21, 1986, and consulted with the state of Georgia. No public comments were received, and the state of Georgia did not have any comments.

We have 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 the amendments will not be inimical to the common defense and security or to the health and safety of the public.

REFERENCES

1. Letter from G. F. Head, Georgia Power Company, to John F. Stolz, NRC, "Scram Discharge System Technical Specifications," September 19, 1983.
2. Letter from G. F. Head, Georgia Power Company, to John F. Stolz, NRC, "Change to SDV Technical Specification Submittal," dated December 14, 1983.
3. Letter from L. T. Gucwa, Georgia Power Company, to John F. Stolz, NRC, "Errata to Letter of December 14, 1983," December 20, 1983.
4. Letter from J. T. Beckham, Jr., Georgia Power Company, to John F. Stolz, NRC, "Request to Revise Technical Specifications: Add Scram Discharge Volume Vent and Drain Valve Closure Time Requirement," September 13, 1985.
5. Letter from J. T. Beckham, Jr., Georgia Power Company, to D. Muller, NRC, "Revision to Previous Submittal: SDV Vent and Drain Valve Technical Specifications," January 6, 1986.
6. Generic Safety Evaluation Report, BWR Scram Discharge System, December 1, 1986.
7. General Electric Report MDE 103 1184, Rev 1 "Edwin I. Hatch Units 1 and 2 Relaxation of Scram Discharge Volume Vent and Drain Valve Closure Times," December 1984.
8. Letter from J. T. Beckham, Jr., Georgia Power Company, to John F. Stolz, NRC, "Scram Discharge Volume Vent and Drain Closure Times," December 22, 1983.
9. Letter from J. T. Beckham, Jr., Georgia Power Company, to John F. Stolz, NRC, "Scram Discharge Volume Vent and Drain Valve Closure Time Technical Specifications," November 18, 1985.
10. General Electric Topical Report NEDO-24342, "GE Evaluation in Response to NRC Request Regarding BWR Scram System Pipe Breaks," April 1981.

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L. Crocker

Dated: May 13, 1987