

November 24, 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. 148 and 85 to Facility Operating Licenses  
DPR-57 and NPF-5 - Edwin I. Hatch Nuclear Plant, Units 1 and 2  
(TACS 60732/60733)

The Commission has issued the enclosed Amendments Nos. 148 and 85 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 January 6, 1986, and clarified May 16, 1986.

The amendments modify the Technical Specifications to allow operating personnel to work 12-hour shifts.

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,

LSI

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

Enclosures:

1. Amendment No. 148 to DPR-57
2. Amendment No. 85 to NPF-5
3. Safety Evaluation

cc w/enclosures:  
See next page

<p><i>me</i></p> <p>PD#II-3/DRP-I/II MDunCan/rad 09/3/87</p>	<p><i>me</i></p> <p>PD#II-3/DRP-I/II LCrocker 09/3/87</p>
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~~09/3/87~~  
 11/17/87

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Mr. James P. O'Reilly  
Georgia Power Company

Edwin I. Hatch Nuclear Plant,  
Units Nos. 1 and 2

cc:  
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Department of Natural Resources  
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Atlanta, Georgia 30334

Chairman  
Appling County Commissioners  
County Courthouse  
Baxley, Georgia 31513

50-321

DATED November 24, 1987

AMENDMENT NO. 148 TO FACILITY OPERATING LICENSE DPR-57, EDWIN I. HATCH, UNITS 1 & 2  
AMENDMENT NO. 85 TO FACILITY OPERATING LICENSE NPF-05, EDWIN I. HATCH, UNITS 1 & 2

DISTRIBUTION:

~~EDWIN I. HATCH~~

- NRC PDR
- Local PDR
- PRC System
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- T. Barnhart (8)
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- F. Allenspach



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. 148  
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 January 6, 1986, and clarified May 16, 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. 148, 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

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

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: November 24, 1987

PD#II-3/DRP-I/II  
MDuncan/rad  
09/3/87

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PD#II-3/DRP-I/II  
LCrocker  
09/3/87

*CB out*  
OGC-Bethesda  
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11-5-8

*ML*  
PD#II-3/DRP-I/II  
LCrocker, Acting PD  
11/17/87

ATTACHMENT TO LICENSE AMENDMENT NO. 148

FACILITY OPERATING LICENSE NO. DPR-57

DOCKET NO. 50-321

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 area of change.

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Page

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Page

6-1a

6-1a

## 6.0 ADMINISTRATIVE CONTROLS

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- f. A Fire Team of at least five members shall be maintained onsite at all times. The Fire Team shall not include the minimum shift crew necessary for safe shutdown on Units 1 and 2 or any personnel required for other essential functions during a fire emergency.
- g. Administrative procedures shall be developed and implemented to limit the working hours of Unit staff who perform safety-related functions; e.g., senior reactor operators, reactor operators, auxiliary operators, health physicists, and key maintenance personnel.

Adequate shift coverage shall be maintained without routine heavy use of overtime. The objective shall be to have operating personnel work a nominal 40-hour week while the plant is operating. However, in the event that unforeseen problems require substantial amounts of overtime to be used or during extended periods of shutdown for refueling, major maintenance, or major plant modifications, the following guidelines shall be followed on a temporary basis:

- (1) An individual should not be permitted to work more than 16 hours straight, excluding shift turnover time.
- (2) An individual should not be permitted to work more than 16 hours in any 24-hour period, nor more than 24 hours in any 48-hour period, nor more than 72 hours in any seven day period, all excluding shift turnover time.
- (3) A break of at least eight hours should be allowed between work periods, including shift turnover time.
- (4) Except during extended shutdown periods, the use of overtime should be considered on an individual basis and not for the entire staff on a shift.

Any deviation from the above guidelines shall be authorized by the Plant Manager or higher levels of management, in accordance with established procedures and with documentation of the basis for granting the deviation. Controls shall be included in the procedures such that individual overtime shall be reviewed monthly by the Plant Manager or his designee to assure that excessive hours have not been assigned. Routine deviation from the above guidelines is not authorized.



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. 85  
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 January 6, 1986, and clarified May 16, 1986, complies with the 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. NPF-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. 85, 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

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

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: November 24, 1987

PD#II-3/DRP-I/II  
MDuncan/rad  
09/3/87

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PD#II-3/DRP-I/II  
LCrocker  
09/3/87

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OGC-Bethesda  
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09/22/87  
also  
11-9-87

*LC*  
PD#II-3/DRP-I/II  
LCrocker, Acting PD  
11/17/87

ATTACHMENT TO LICENSE AMENDMENT NO. 85

FACILITY OPERATING LICENSE NO. NPF-5

DOCKET NO. 50-366

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 area of change.

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6-1a

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- f. A Fire Team of at least five members shall be maintained onsite at all times. The Fire Team shall not include the minimum shift crew necessary for safe shutdown on Units 1 and 2 or any personnel required for other essential functions during a fire emergency.
- g. Administrative procedures shall be developed and implemented to limit the working hours of Unit staff who perform safety-related functions; e.g., senior reactor operators, reactor operators, auxiliary operators, health physicists, and key maintenance personnel.

Adequate shift coverage shall be maintained without routine heavy use of overtime. The objective shall be to have operating personnel work a nominal 40-hour week while the plant is operating. However, in the event that unforeseen problems require substantial amounts of overtime to be used or during extended periods of shutdown for refueling, major maintenance, or major plant modifications, the following guidelines shall be followed on a temporary basis:

- (1) An individual should not be permitted to work more than 16 hours straight, excluding shift turnover time.
- (2) An individual should not be permitted to work more than 16 hours in any 24-hour period, nor more than 24 hours in any 48-hour period, nor more than 72 hours in any seven day period, all excluding shift turnover time.
- (3) A break of at least eight hours should be allowed between work periods, including shift turnover time.
- (4) Except during extended shutdown periods, the use of overtime should be considered on an individual basis and not for the entire staff on a shift.

Any deviation from the above guidelines shall be authorized by the Plant Manager or higher levels of management, in accordance with established procedures and with documentation of the basis for granting the deviation. Controls shall be included in the procedures such that individual overtime shall be reviewed monthly by the Plant Manager or his designee to assure that excessive hours have not been assigned. Routine deviation from the above guidelines is not authorized.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENTS NOS. 148 AND 85 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

I. INTRODUCTION

By letter dated January 6, 1986 (Reference 1), Georgia Power Company (the licensee) requested changes to the Technical Specifications (TS) for the Edwin I. Hatch Nuclear Plant, Units 1 and 2. The requested changes would provide flexibility to allow the licensee to have operating personnel work 12-hour shifts. By letter dated May 16, 1986 (Reference 2), in response to NRC staff questions, the licensee supplemented the initial request (Reference 1) with details regarding preliminary planning for 12-hour shift operations and shift staffing. The supplemental information furnished in Reference 2 did not in any way modify the request for change submitted in Reference 1.

II. EVALUATION

Sections 6.2.2.g of the TS for Unit 1 and 2 now state, in part, "The objective shall be to have operating personnel work a normal 8-hour day, 40-hour week while the plant is operating." The licensee proposes to change this sentence to read, "The objective shall be to have operating personnel work a nominal 40-hour week while the plant is operating." The change would eliminate the reference to an 8-hour day, thereby providing for a more flexible shift schedule with normal shift durations of up to 12 hours. Other provisions of the TS regarding overtime, maximum shift lengths, and minimum break time between work periods would remain unchanged.

A study performed for the NRC (Reference 3) recommended that the NRC consider applications for use of 12-hour shift scheduling or a plant-by-plant basis using a number of criteria for evaluating the licensee's request. The study noted the potential advantages and disadvantages of 12-hour shift schedules, but without firmly concluding that 12-hour schedules are either better or worse than 8-hour shift schedules. A more recent study performed for the Department of Energy (Reference 4) reported on the results of 12-hour shift operations at the Fast Flux Test Facility. The study concluded that the longer shift length did not increase either the number or severity of off-normal events at the FFTF and that the error rate during 12-hour shifts was even lower than it had been on 8-hour shifts. There was an increased productivity of craft personnel and a decreased attrition rate, resulting in more experienced personnel being on shift.

The Commission previously has approved the use of routine 12-hour shift schedules for other nuclear plants. The three Duke Power Company plants (Oconee, McGuire and Catawba) and Alabama Power's Farley plant are presently operating with 12-hour shift schedules similar to the schedule proposed by the licensee for the Hatch Units 1 and 2. Each of these 12-hour shift operations has been conducted successfully, resulting in improved operator morale, with no decrease in efficiency and no adverse impact on accident rates.

The Commission now has under consideration a revised Policy Statement on Working Hour Limits which specifically provides for 12-hour shift schedules. The guidelines proposed in the new Policy Statement for the use of 12-hour shifts, which generally follow the recommendations of Reference 3, are:

1. The schedule should contain a maximum of 4 consecutive 12-hour work days.
2. Four consecutive 12-hour work days should be followed by no fewer than 4 days off.
3. The basic 12-hour day schedule should be "2-on, 2-off," "3-on, 3-off," "4-on, 4-off," or a systematic combination of these such as the "every-other-weekend-off-schedule" which combines "2-on, 2-off" with "3-on, 3-off."
4. The plant should have the capability to cover unexpected absences without requiring any individual to work more than 16 hours per day.
5. The average number of hours worked per week should be 40.

The preliminary planning information submitted by the licensee in Reference 2 is generally in accordance with these guidelines. Thus, the proposed 12-hour shift scheduling for Hatch Units 1 and 2 is not in conflict with the guidance of the draft revised Policy Statement.

Further, the NRC staff notes that, as stated in the draft revised Policy Statement, the NRC is moving away from prescriptive requirements in licenses to control work hours because reactor operating experience indicates that abuse of work hours has not been connected with safety-related incidents. Rather, the NRC intends to emphasize that it is the licensee's responsibility to set and enforce limits on excessive work hours as necessary to assure safe operations and maintenance.

On the bases that studies have not indicated any deleterious effects resulting from 12-hour shift operation, that the licensee's proposed 12-hour shift scheduling is similar to shift rotations now being used successfully at several other nuclear power plants, and that it is in conformance with the guidelines for 12-hour shift scheduling contained in the draft revised Policy Statement on control of working hours, and in light of the NRC intent to move away from prescriptive requirements in the TS governing work hours, the staff finds acceptable the licensee's proposed changes to the TS for Hatch Units 1 and 2.

### ENVIRONMENTAL CONSIDERATION

The amendments involve a change in use of facility components located within the restricted area as defined in 10 CFR Part 20 and changes in reporting 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 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 a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (51 FR 10460) on March 26, 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 J.T. Beckham, Jr., Georgia Power Company, to D. Muller, NRC, dated January 6, 1986.
2. Letter from L.T. Gucwa, Georgia Power Company, to D. Muller, NRC, dated May 16, 1986.
3. Report, NUREG/CR-4248, "Recommendations for NRC Policy on Shift Scheduling and Overtime at Nuclear Power Plants," issued July 1985.
4. Report, PNL-6017, "Evaluation of 12-Hour Shift Schedules at the Fast Flux Test Facility," issued September 1986.

Principal Contributor: L. Crocker  
F. Allenspach

Dated: November 24, 1987