

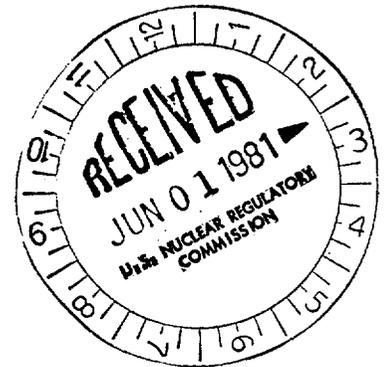
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Docket No. 50-321

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Mr. William Widner
Vice President - Engineering
Georgia Power Company
P. O. Box 4545
Atlanta, Georgia 30302

Dear Mr. Widner:

The Commission has issued the enclosed Amendment No. 86 to Facility Operating License No. DPR-57 for the Edwin I. Hatch Nuclear Plant, Unit No. 1. The amendment consists of changes to the Technical Specifications in response to your application dated March 6, 1981.

This amendment revises the Technical Specifications to enable operation of the Plant after the Cycle 5 Reload, at licensed power.

Copies of the Safety Evaluation and a related Notice of Issuance are enclosed.

Sincerely,

ORIGINAL SIGNED BY
JOHN F. STOLZ

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Enclosures:

1. Amendment No. 86
2. Safety Evaluation
3. Notice

cc w/enclosures:
See next page

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

May 28, 1981

Docket No. 50-321

Mr. William Widner
Vice President - Engineering
Georgia Power Company
P. O. Box 4545
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Sincerely,

A handwritten signature in cursive script that reads "John F. Stolz".

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Enclosures:

1. Amendment No. 86
2. Safety Evaluation
3. Notice

cc w/enclosures:
See next page

Hatch 1/2
Georgia Power Company

50-321/366

cc w/enclosure(s):

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1800 M Street, N.W.
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Ruble A. Thomas
Vice President
P. O. Box 2625
Southern Services, Inc.
Birmingham, Alabama 35202

cc w/enclosure(s) & incoming dtd.:
3/6/81

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Chairman
Appling County Commissioners
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U. S. Environmental Protection Agency
Region IV Office
ATTN: EIS COORDINATOR
345 Courtland Street, N.E.
Atlanta, Georgia 30308

Appling County Public Library
301 City Hall Drive
Baxley, Georgia 31513

Mr. R. F. Rodgers
U.S. Nuclear Regulatory Commission
Route 1, P. O. Box 279
Baxley, Georgia 31513



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. 86
License No. DPR-57

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Georgia Power Company, et al., (the licensee) dated March 6, 1981, 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;
 - 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-57 is hereby amended to read as follows:

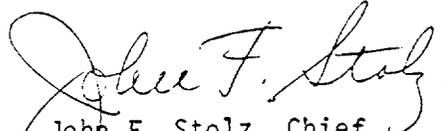
(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 86, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in cursive script, reading "John F. Stolz".

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 28, 1981

ATTACHMENT TO LICENSE AMENDMENT NO. 86

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 pages are identified by Amendment number and contain a vertical line indicating the area of change.

Remove

3.11-2

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3.11-6

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Insert

3.11-2

3.11-2a(new)

3.11-6

Fig. 3.11-4 (new)

Fig. 3.11-5 (new)

Fig. 3.11-6 (new)

3.11.3 Linear Heat Generation Rate (LHGR)
(Continued)

LHGR is not returned to within the prescribed limits within two (2) hours, then reduce reactor power to less than 25% of rated thermal power within the next four (4) hours. If the limiting condition for operation is restored prior to expiration of the specified time interval, then further progression to less than 25% of rated thermal power is not required.

C. Minimum Critical Power Ratio (MCPR)

The minimum critical power ratio (MCPR) as a function of scram time and core flow, shall be equal to or greater than shown in Figures 3.11.4, 3.11.5, or 3.11.6 multiplied by the K_f shown in Figure 3.11.3, where:

$$\tau = 0 \text{ or } \left[\frac{\tau_{ave} - \tau_B}{\tau_A - \tau_B} \right], \text{ whichever is greater}$$

$\tau_A = 0.90$ sec (Specifications 3.3.C.2.a scram time limit to 20% insertion from fully withdrawn)

$$\tau_B = 0.710 + 1.65 \left[\frac{N_1}{\sum_{i=1}^n N_i} \right]^{1/2} (0.053) [\text{Ref. 10}]$$

$$\tau_{ave} = \frac{\sum_{i=1}^n N_i \tau_i}{\sum_{i=1}^n N_i}$$

- n = number of surveillance tests performed to date in cycle
- N_i = number of active control rods measured in the i^{th} surveillance test
- τ_i = Average scram time to 20% insertion from fully withdrawn of all rods measured in the i^{th} surveillance test, and,
- N_1 = total number of active rods measured in 4.3.C.2.a.

If at any time during operation it is determined by normal surveillance that the limiting value for MCPR is being exceeded, action shall be

4.11.C.1 Minimum Critical Power Ratio (MCPR)

MCPR shall be determined to be equal to or greater than the applicable limit, daily during reactor power operation at > 25% rated thermal power and following any change in power level or distribution that would cause operation with a limiting control rod pattern as described in the bases for Specification 3.3.F.

4.11.C.2 Minimum Critical Power Ratio Limit

The MCPR limit at rated flow shall be determined for each fuel type, 8X8R, P8X8R, 7X7 from figures 3.11.4, 3.11.5, and 3.11.6 respectively using:

- a. $\tau = 1.0$ prior to initial scram time measurements for the cycle, performed in accordance with specifications 4.3.C.2.a or
- b. τ as defined in specification 3.11.C.

The determination of the limit must be completed within 72 hours of the conclusion of each scram time surveillance test required by specification 4.3.C.2.

3.11.C Minimum Critical Power Ratio (MCPR)
(Continued)

initiated within 15 minutes to restore operation to within the prescribed limits. If the steady state MCPR is not returned to within the prescribed limits within two (2) hours, then reduce reactor power to less than 25% of rated thermal power within the next four (4) hours. If the Limiting Condition for Operation is restored prior to expiration of the specified time interval, then further progression to less than 25% of rated thermal power is not required.

D. Reporting Requirements

If any of the limiting values identified in Specifications 3.11.A., B., or C. are exceeded, a Reportable Occurrence report shall be submitted.

If the corrective action is taken, as described, a thirty-day written report will meet the requirements of this specification.

3.11.E. References

1. General Electric Company Analytical Model for Loss-of-Coolant Analysis in Accordance with 10 CFR 50, Appendix K, NEDE-20566-P, November, 1975.
2. General Electric Refill Reflood Calculation (Supplement to SAFE Code Description) transmitted to USAEC by letter, G. L. Gyorey to V. Stello, Jr., dated December 20, 1974.
3. Edwin I. Hatch Nuclear Plant Unit 1 Emergency Core Cooling System Analysis - Appendix K Requirement With Modified Low Pressure Coolant Injection System, NEDO-21187, Supplement 1, April, 1976.
4. "Fuel Densification Effects on General Electric Boiling Water Reactor Fuel", Supplements 6, 7, and 8, NEDM-10735, August, 1973.
5. Supplement 1 to Technical Report on Densification of General Electric Reactor Fuels, December 16, 1974 (USA Regulatory Staff).
6. Communication: V. A. Moore to I. S. Mitchell, "Modified GE Model for Fuel Densification", Docket 50-321, March 27, 1974.
7. "Edwin I. Hatch Nuclear Plant Unit 1 Channel Inspection and Safety Analysis with Bypass Flow Holes Plugged", NEDO-21124-1, July, 1976.
8. R. B. Linford, Analytical Methods of Plant Transient Evaluations for the GE BWR, February, 1973 (NEDO-10802).
9. General Electric Boiling Water Reactor Reload No. 1 Licensing Amendment for the Edwin I. Hatch Nuclear Plant Unit 1 Full Core Drilled Conditions, NEDO-21580, February, 1977.
10. Letter from R. H. Buchholz (G. E.) to P. S. Check (NRC), "Response to NRC request for information on ODYN computer model", September 5, 1980.

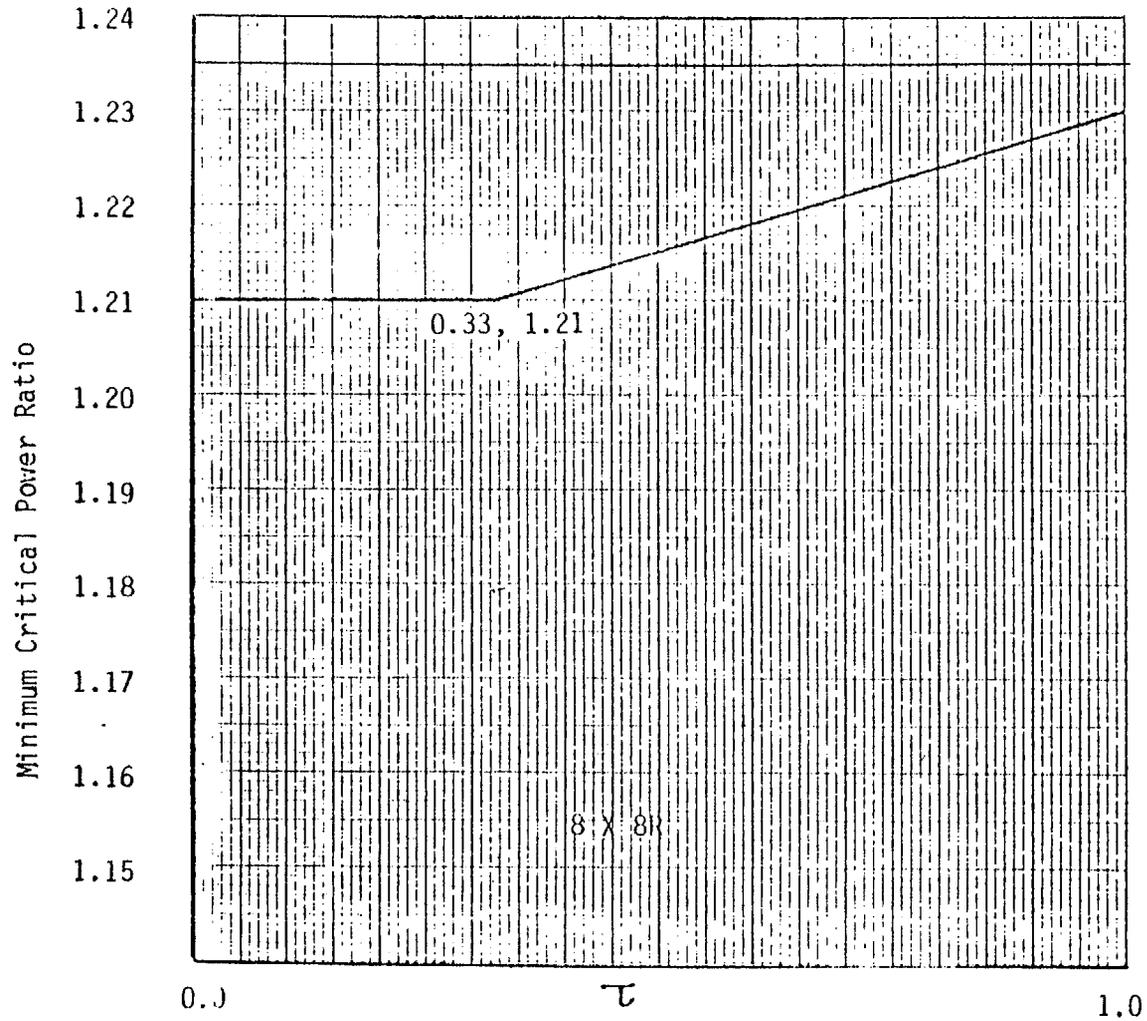


Figure 3.11.4

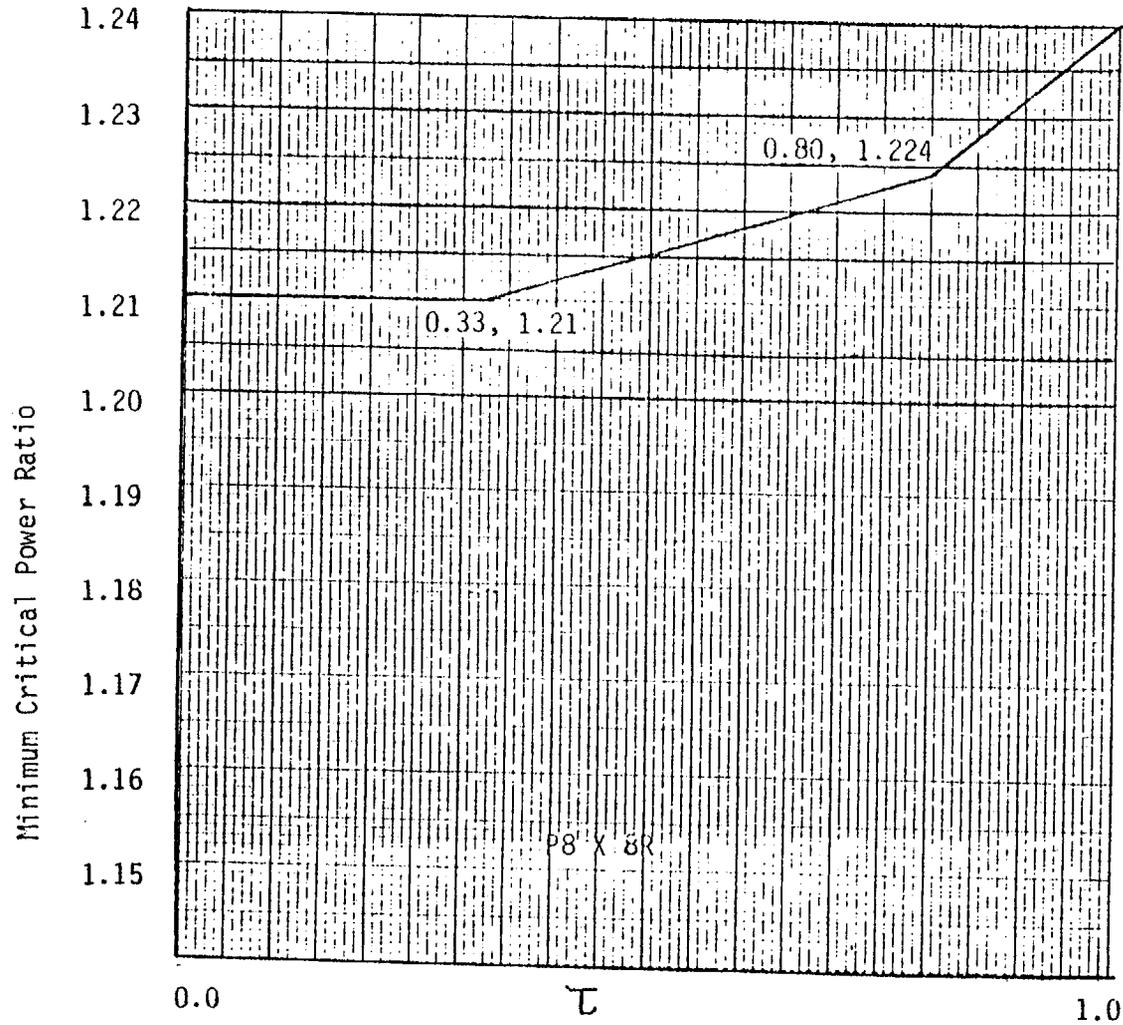


Figure 3.11.5

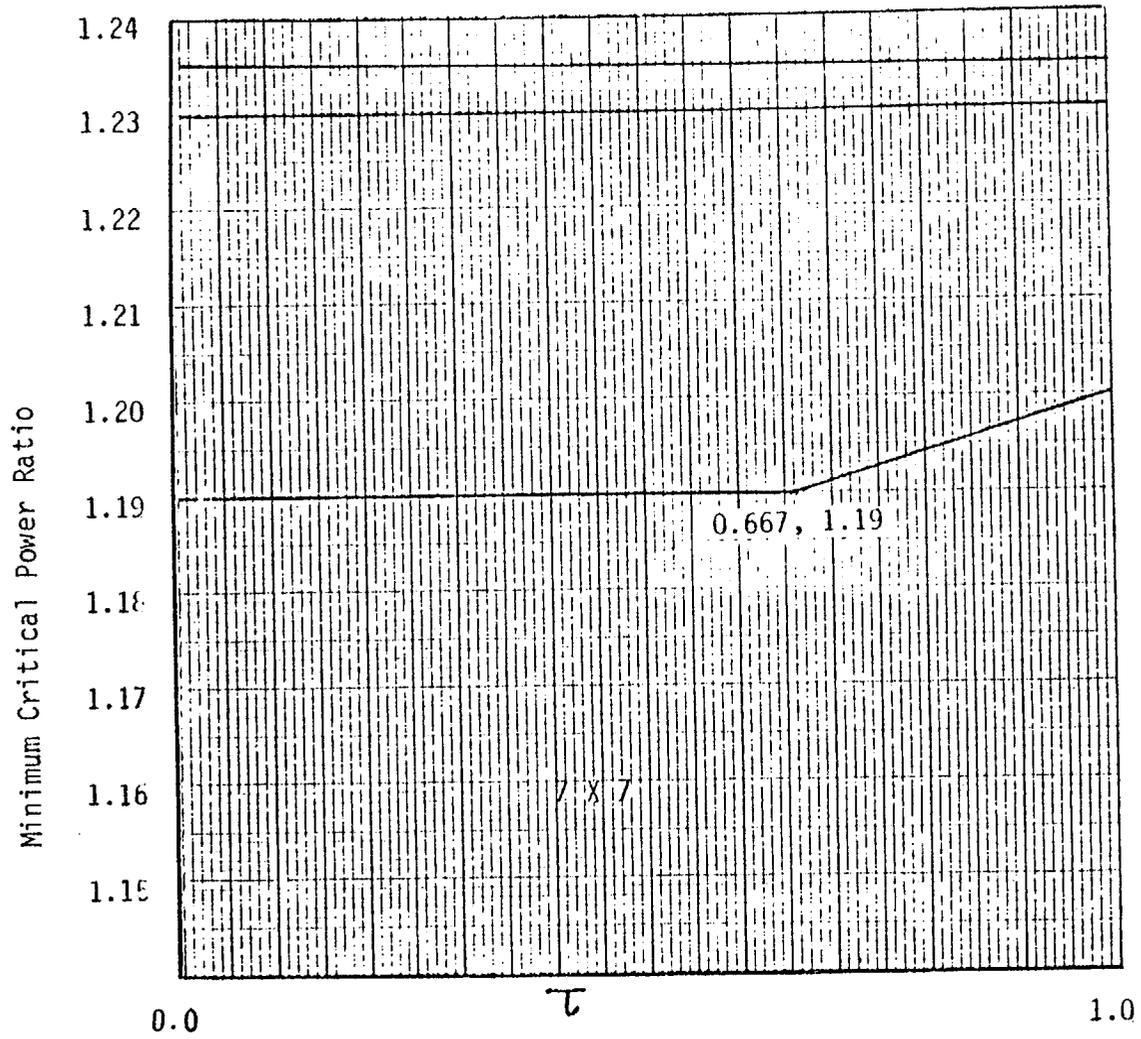


Figure 3.11.6



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 86 TO FACILITY OPERATING LICENSE NO. DPR-57

GEORGIA POWER COMPANY

OGLETHORPE POWER CORPORATION

MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA

CITY OF DALTON, GEORGIA

EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 1

DOCKET NO. 50-321

1.0 Introduction

By letter dated March 6, 1981 (Ref. 1) Georgia Power Company (the licensee) proposed changes to the Technical Specifications (TSs) of Hatch 1. The proposed changes relate to the core for Cycle 5 operation at power levels up to 2,436 MWt (100% power). In support of the reload application, the licensee enclosed proposed TS changes in Reference 1 and the General Electric (GE) BWR supplemental licensing submittal (Ref. 2).

This reload involves loading of prepressurized GE 8x8 retrofit (P8x8R) fuel. The licensee is not taking any credit in his transient or accident analyses for the prepressurized fuel. The description of the nuclear and mechanical designs of 3x3 retrofit is contained in References 3 and 4. Reference 3 also contains a complete set of references of topical reports which describe GE's analytical methods for nuclear, thermal-hydraulic, transient and accident calculations, and information regarding the applicability of these methods to cores containing a mixture of fuel. The use and safety implications of prepressurized fuel have been found acceptable per Reference 4. The conclusions of Reference 5 found that the methods of Reference 3 were generally applicable to prepressurized fuel. Therefore, unless otherwise specified, Reference 3, as supported by Reference 5, is adequate justification for the current application of prepressurized fuel.

2.0 Evaluation

2.1 Reactor Physics

The reload application follows the procedure described in NEDE-24011-P, "Generic Reload Fuel Application". We have reviewed this application and the consequent TS changes. The transient analysis input parameters are typical for BWRs and are acceptable. Core wide transient analysis results are given for the limiting transients, and the required operating limit values for minimum critical power ratio (MCPR) are given for each fuel type. The revised MCPR limits are required by the reload, and they are acceptable.

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2.2 Thermal Hydraulics

As stated in Reference 3, for BWR cores which reload with GE's retrofit 8x8R fuel, the safety limit minimum critical power ratio (SLMCPR) resulting from either core-wide or localized abnormal operational transients is equal to 1.07. When meeting this SLMCPR during a transient, at least 99.9% of the fuel rods in the core are expected to avoid boiling transition.

To assure that the fuel cladding integrity SLMCPR will not be violated during any abnormal operational transient or fuel misloading, the most limiting events have been reanalyzed for this reload by the licensee in order to determine which event results in the largest reduction in the MCPR. These events have been analyzed for the exposed fuel and fresh fuel. Addition of the largest reductions in critical power ratio to the SLMCPR were used in the MCPR TS to establish the operating limits for each fuel type.

We have found the methods used for this analysis consistent with previously approved past practice (Ref. 3). We have found the results of this analysis and the corresponding TS changes acceptable.

3.0 Environmental Considerations

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.6(d)(4), that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

4.0 Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: May 28, 1981

REFERENCES

1. Letter, Georgia Power Company to Office of Nuclear Reactor Regulation (USNRC), dated March 6, 1981.
2. "Supplemental Reload Licensing Submittal for Edwin I. Hatch Nuclear Plant, Unit 1, Reload 4", dated July 1980.
3. "General Electric Boiling Water Reactor Generic Reload Application", NEDE-24011-P-A, May 1977.
4. Letter, R. E. Engel (GE) to U. S. Nuclear Regulatory Commission, dated January 30, 1979.
5. Letter, T. A. Ippolito (USNRC) to R. Gridley (GE), April 16, 1979, and enclosed SER.

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-321GEORGIA POWER COMPANY, ET AL.NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 86 to Facility Operating License No. DPR-57, issued to Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia, which revised Technical Specifications for operation of the Edwin I. Hatch Nuclear Plant, Unit No. 1 (the facility) located in Appling County, Georgia. The amendment is effective as of the date of issuance.

The amendment revises the Technical Specifications to enable operation of the Plant after the Cycle 5 Reload, at licensed power.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

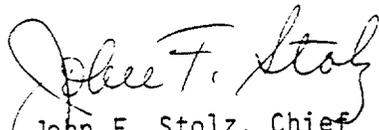
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The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR Section 51.5(d)(4) an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated March 6, 1981, (2) Amendment No. 86 to License No. DPR-57, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C., and at the Appling County Public Library, 301 City Hall Drive, Baxley Georgia 31513. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 28th day of May 1981.

FOR THE NUCLEAR REGULATORY COMMISSION



John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing