

NOVEMBER 13 1981

NOVEMBER 13 1981

DISTRIBUTION:
Docket File
NRC PDR
L PDR

TERA
NSIC
ORB#4 Rdg
DEisenhut
MFairtile
RIngram
OELD
AEOD
IE-4

ACRS-10
Gray File+4
RDiggs
CMiles
BScharf-10
TBarnhart-4
DBrinkman
ASLAB, Chairman

Docket No. 50-321



Mr. J. T. Beckham, Jr.
Vice President - Engineering
Georgia Power Company
P. O. Box 4545
Atlanta, Georgia 30302

Dear Mr. Beckham:

The Commission has issued the enclosed Amendment No. 87 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 October 27, 1981.

This amendment revises the Technical Specifications to enable operation of the Plant after the replacement of 168 fuel assemblies. This fuel replacement does not constitute a reload and was made necessary by fuel leakages occurring after the June 21, 1981, restart from the Cycle 5 reload outage.

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

CP
1

Enclosures:

1. Amendment No. 87
2. Safety Evaluation
3. Notice

cc w/enclosures:
See next page

8111250038 811113
PDR ADOCK 05000321
P PDR

*Concur
ambt + notice
only*

| | | | | | | | |
|---------|----------|--------------|------------|----------|----------|--|--|
| OFFICE | ORB#4:DL | ORB#4:DL | C-ORB#4:DL | AD OR:DL | OELD | | |
| SURNAME | RIngram | MFairtile/cb | JStolz | TNovak | haddow | | |
| DATE | 11/18/81 | 11/17/81 | 11/17/81 | 11/17/81 | 11/17/81 | | |

Hatch 1/2
Georgia Power Company

50-321/366

cc w/enclosure(s):

G. F. Trowbridge, Esq.
Shaw, Pittman, Potts and Trowbridge
1800 M Street, N.W.
Washington, D. C. 20036

Ruble A. Thomas
Vice President
P. O. Box 2625
Southern Services, Inc.
Birmingham, Alabama 35202

cc w/enclosure(s) & incoming dtd.:
10/27/81

Ozen Batum
P. O. Box 2625
Southern Services, Inc.
Birmingham, Alabama 35202

Charles H. Badger
Office of Planning and Budget
Room 610
270 Washington Street, S.W.
Atlanta, Georgia 30334

Chairman
Appling County Commissioners
County Courthouse
Baxley, Georgia 31513

Mr. L. T. Gucwa
Georgia Power Company
Engineering Department
P. O. Box 4545
Atlanta, Georgia 30302

Mr. Max Manry
Georgia Power Company
Edwin I. Hatch Plant
P. O. Box 442
Baxley, Georgia 31513

Regional Radiation Representative
EPA Region IV
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. 87
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 October 27, 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. 87, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

811250043 811113
PDR ADDCK 05000321
PDR

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

FOR THE NUCLEAR REGULATORY COMMISSION



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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 13, 1981

ATTACHMENT TO LICENSE AMENDMENT NO. 87

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

3.2-16

3.11-1

--

Fig. 3.11.4

Fig. 3.11.5

Fig. 3.11.6

Insert

3.2-16

3.11-1

Fig. 3.11-1 (Sheet 3)(New)

Fig. 3.11.4

Fig. 3.11.5

Fig. 3.11.6

Table 3.2-7 (Continued)

| Ref. No. (a) | Instrument | Trip Condition Nomenclature | Required Operable Channels per Trip System (b) | Trip Setting | Remarks |
|--------------|------------|-----------------------------|--|-----------------------------|---|
| 3 | APRM | Downscale | 2(e) | $\geq 3/125$ of full scale | Not required while performing low power physics test as atmospheric pressure during or after refueling at power levels not to exceed 5 MWt. |
| | | 12% Flux | 2(e) | $\leq 12/125$ of full scale | This function is bypassed when the Mode Switch is placed in the RUN position. |
| | | High Flux | 2(e) | $\leq 0.66W + 42\%$ | W is the loop recirculation flow rate in percent of rated. Trip level setting is in percent of rated power. Not required while performing low power physics tests at atmospheric pressure during or after refueling at power levels not to exceed 5MWt. |
| 4 | RBM | Inoperative | 1(e)(f) (g)(h) | Not applicable | Inoperative trip produced by switch not in operate, circuit boards not in circuit, fails to null, less than required number of LPRM inputs for rod selected. |
| | | Downscale | 1(e)(f) (g)(h) | $\geq 3/125$ of full scale | |
| | | High Flux | 1(e)(f) | $\leq 0.66W + 41\%$ | W is the loop recirculation flow rate in percent of rated. Trip level setting is in percent of rated thermal power. |

3.11 FUEL RODS

Applicability

The Limiting Conditions for Operation associated with the fuel rods apply to those parameters which monitor the fuel rod operating conditions.

Objective

The Objective of the Limiting Conditions for Operation is to assure the performance of the fuel rods.

Specifications

A. Average Planar Linear Heat Generation Rate (APLHGR)

During power operation, the APLHGR for each type of fuel as a function of average planar exposure shall not exceed the limiting value shown in Figure 3.11-1, sheets 1, 2 and 3. If at any time during operation it is determined by normal surveillance that the limiting value for APLHGR is being exceeded, action shall be initiated within 15 minutes to restore operation to within the prescribed limits. If the APLHGR 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.

B. Linear Heat Generation Rate (LHGR)

During power operation, the LHGR as a function of core height shall not exceed the limiting value shown in Figure 3.11-2 for 7 x 7 fuel or the limiting value of 13.4 kw/ft for 8 x 8/8 x 8R fuel. If at any time during operation it is determined by normal surveillance that the limiting value for LHGR is being exceeded, action shall be initiated within 15 minutes to restore operation to within the prescribed limits. If the

4.11 FUEL RODS

Applicability

The Surveillance Requirements apply to the parameters which monitor the fuel rod operating conditions.

Objective

The Objective of the Surveillance Requirements is to specify the type and frequency of surveillance to be applied to the fuel rods.

Specifications

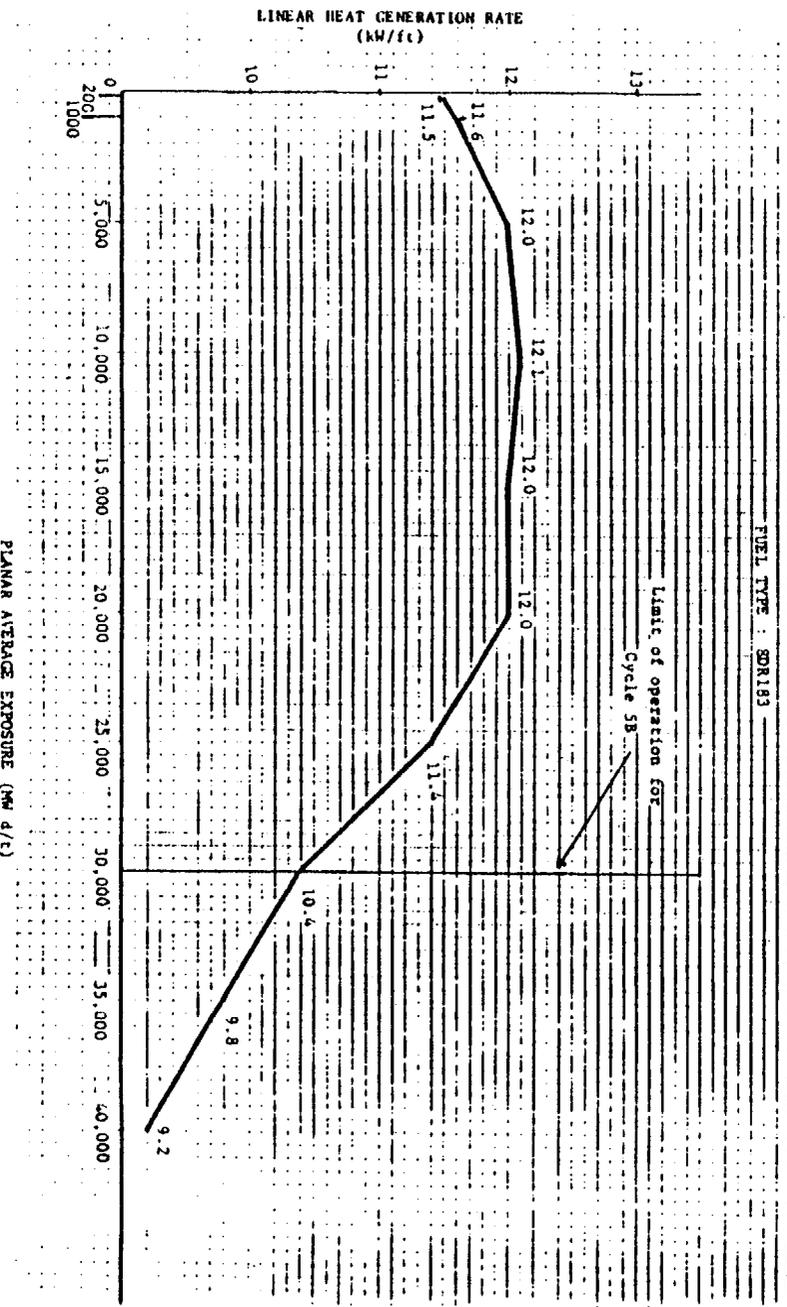
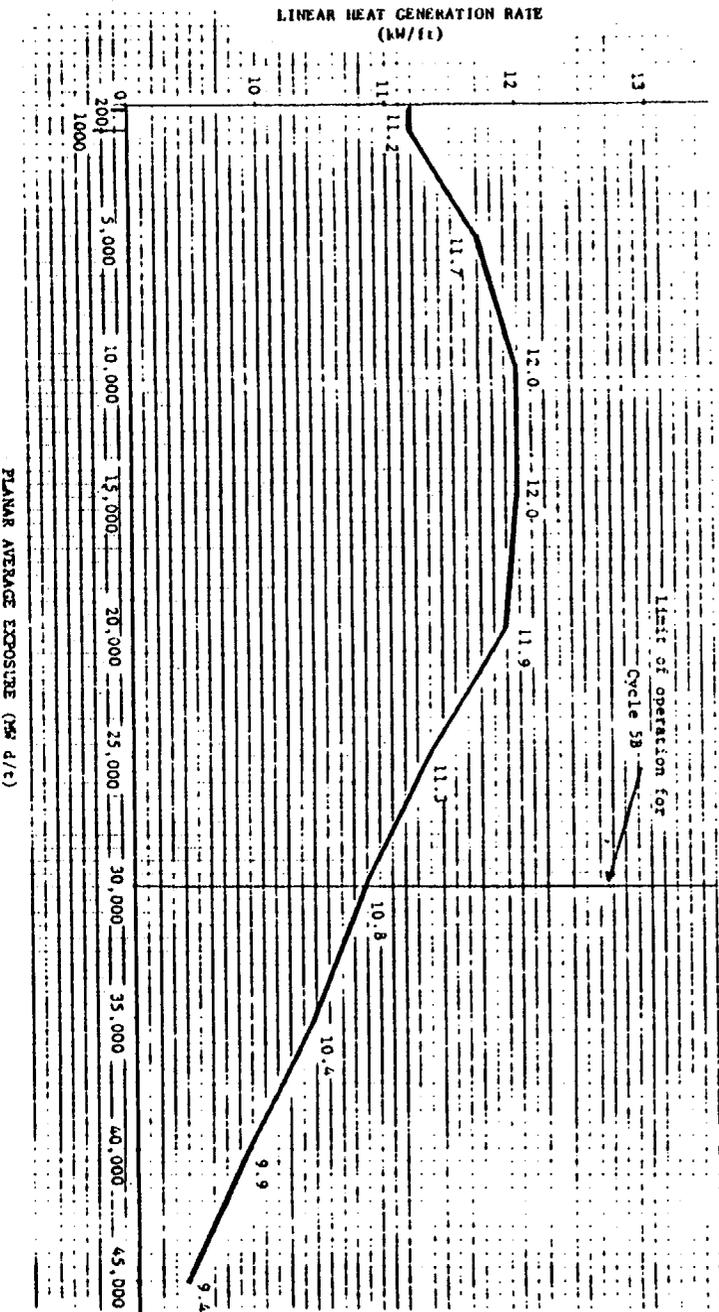
A. Average Planar Linear Heat Generation Rate (APLHGR)

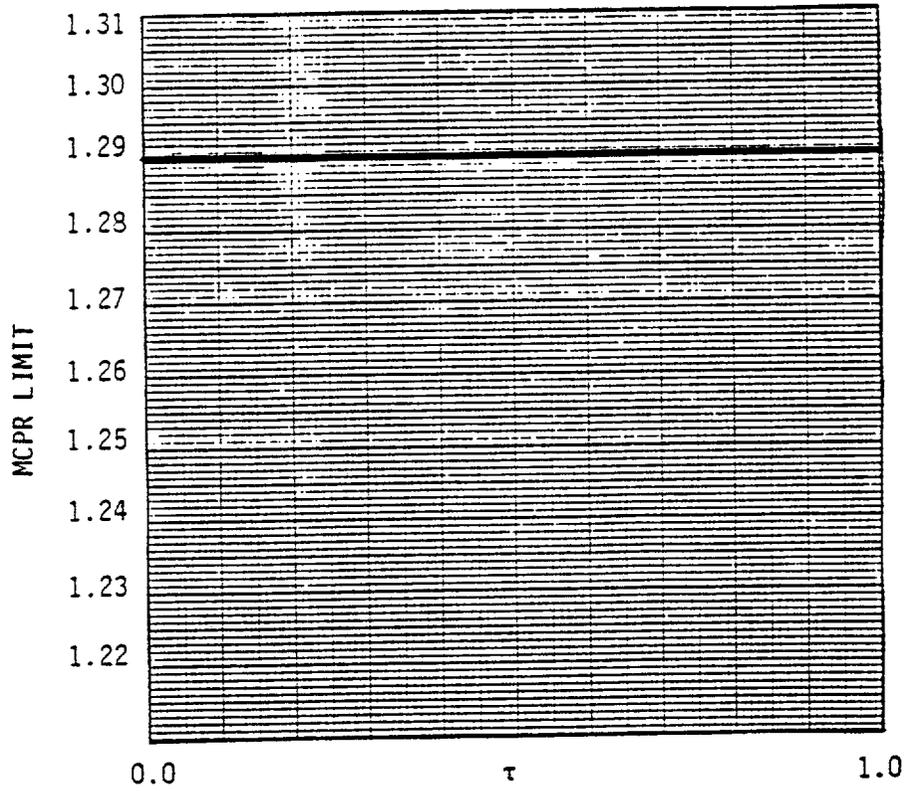
The APLHGR for each type of fuel as a function of average planar exposure shall be determined daily during reactor operation at \geq 25% rated thermal power.

B. Linear Heat Generation Rate (LHGR)

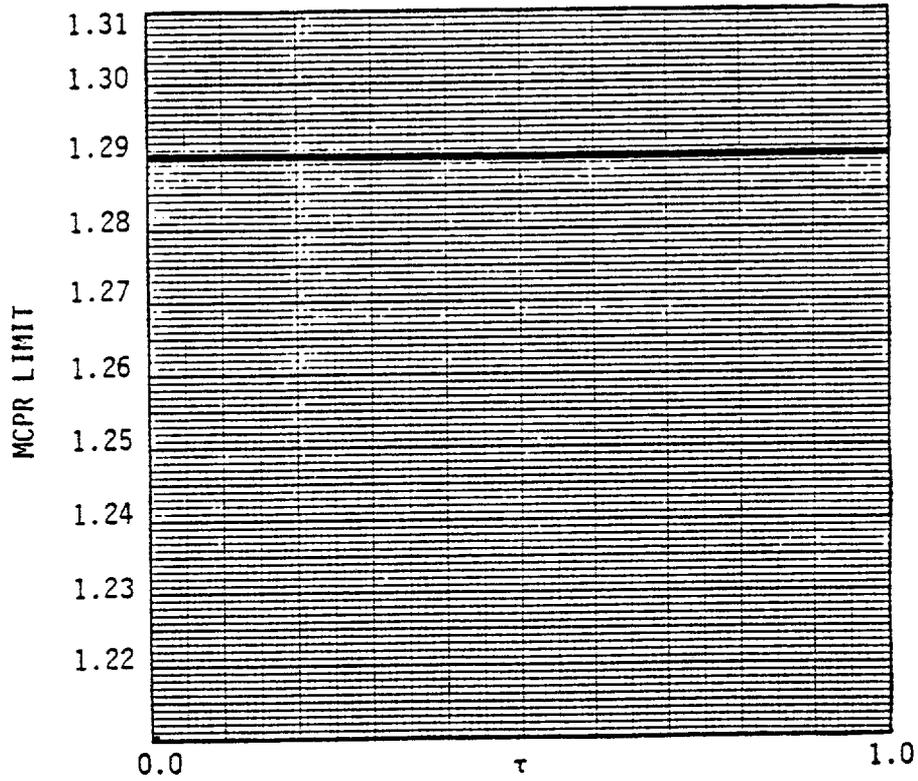
The LHGR as function of core height shall be checked daily during reactor operation at \geq 25% rated thermal power.

Fuel Type P8DRB284

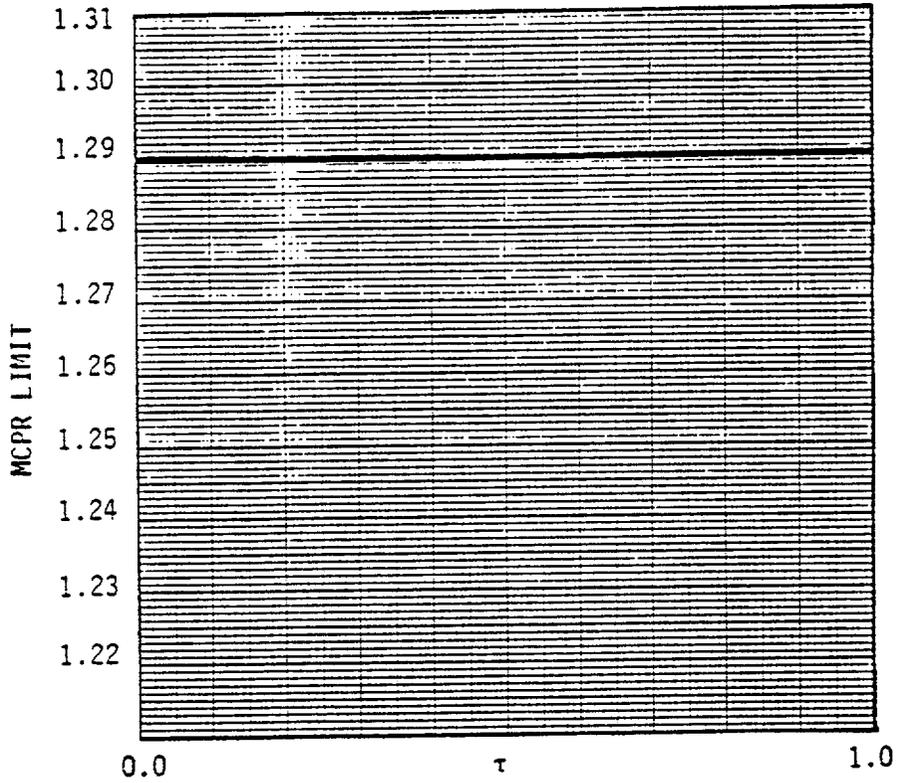




MCPR LIMIT FOR 8X8R FUEL
FIGURE 3.11.4



MCPR LIMIT FOR P8X8R FUEL
FIGURE 3.11.5



MCPR LIMIT FOR 7X7 FUEL
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. 87 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

Introduction

By letter dated October 27, 1981, Georgia Power Company (GPC or the licensee) made application to modify the Technical Specifications (TSs) for the Edwin I. Hatch Nuclear Plant, Unit No. 1 (Hatch 1), to accommodate 168 new fuel assemblies to be used to replace leaking fuel assemblies. The core had previously been reloaded with 168 fuel assemblies for Cycle 5 in June 1981. While only 11 of the 168 fuel assemblies were determined, by inspection, to contain leaking fuel pins, the licensee took prudent action in replacing the entire 168 assemblies. This action is not a reload, but is needed because the replacement fuel will be operated with Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) values and Minimum Critical Power Ratio (MCPR) values different from the 168 assemblies containing the leaking fuel pins. The safety limit MCPR remains unchanged at 1.07.

Evaluation

MAPLHGR Limit TS Curves

The licensee's proposed MAPLHGR limits for the replacement fuel have been calculated using previously approved methods presented in the General Electric Company (GE) letter of May 28, 1981, entitled, "Additional Information Regarding Extension of Emergency Core Cooling System Performance Limits." We conclude that these revised TS curves are acceptable.

Operating Limit MCPR Values

GPC requested a TS change for Hatch 1 for the Rod Block Monitor (RBM) setpoint to 107 percent and the MCPR limit for all fuel type to 1.29. The limit values are based on the rod withdrawal event (RWE).

By letter dated May 18, 1981, GE presented a planned change in the method of analysis of the RWE for reloads. The change eliminates the specific calculation for a given reload of the peak Linear Heat Generation Rate (LHGR) for the event and uses a statistically determined function (of RBM setting) for the change in critical power ratio relative to the initial ratio ($\Delta\text{CPR}/\text{ICPR}$) for the event. The first use of this approach is for the Hatch 1 operation to replace fuel assemblies in Cycle 5.

The GE planned change in RWE analysis is similar to the change in analysis for the fuel mislocation event submitted by GE in November 1980. Instead of a specific analysis for each reactor and cycle, a statistical analysis of the results of many such analyses was done to demonstrate a suitable bound which could be used for the event. The analysis showed that at a 95 percent probability level, 95 percent confidence level (95/95) the worst event MCPR would be greater than 1.08. Our review concluded that the analysis provided "a basis for discontinuing plant-cycle specific mislocated bundle analyses on present and near term supplemental reload licensing submittals," although the review continued with questions related to future populations of reloads.

For the RWE, GE has compiled the results of 40 recent RWE analyses. The peak KW/FT of limiting bundles was compared to plastic strain limits and the ratios were well under one at the 95/95 level. They thus concluded that, as for the fuel misloading event, the calculation and reporting of KW/FT values for each plant cycle is unnecessary. The same RWE analyses were also examined to determine the mean value and standard deviation of $\Delta\text{CPR}/\text{ICPR}$ as a function of the RBM setting. From this was developed a relation between the setting and a 95/95 value of $\Delta\text{CPR}/\text{ICPR}$. GE proposes to use this relation as applied to the MCPR as determined either from the RWE or whatever other event may provide the limiting value. (If RWE is limiting, a full RWE may be done to lower the MCPR, if desired.) Thus, a given cycle will generally (95 percent of the time at a 95 percent confidence) be assigned a ΔCPR (or MCPR from the RWE) which is greater than that from a cycle specific analysis.

The review of this proposal has reached a conclusion similar to that for the fuel mislocation event. It is reasonable to base a reload analysis for the event on a statistical analysis of past reloads. A 95/95 level for the RWE limited initial MCPR, which implies a 95/95 level for not exceeding the corewide event MCPR (e.g. 1.07) is a reasonable level, compatible with other limits used by the NRC staff. The analysis presented provides sufficient information and a basis for discontinuing plant-cycle specific RWE analyses on present and near term supplemental reload licensing submittals, although the review will continue to examine future populations of reloads.

For the present Hatch 1 replacement fuel, the information is sufficient to conclude that the MCPR value of 1.29 for all fuel types when using a RBM setting of 107, based on the statistical analyses of RWE, is sufficient to provide a suitable limit without the need for a cycle specific analysis and is thus acceptable.

Environmental Consideration

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 §51.5(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.

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: November 13, 1981

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. 87 to Facility Operating License No. DPR-57, issued to Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Association 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 replacement of 168 fuel assemblies. This fuel replacement does not constitute a reload and was made necessary by fuel leakages occurring after the June 21, 1981, restart from the Cycle 5 reload outage.

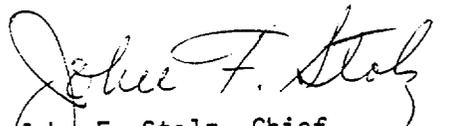
The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter 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.

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 October 27, 1981, (2) Amendment No. 87 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 13th day of November 1981.

FOR THE NUCLEAR REGULATORY COMMISSION


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