DMB-016

Docket No. 50-366 JAN 24 1985

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

Dear Mr. Beckham:

The Commission has issued the enclosed Amendment No. 42 to Facility Operating License No. NPF-5 for the Edwin I. Hatch Nuclear Plant, Unit No. 2. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated July 12, 1984.

The amendment revises the TSs for Hatch Unit 2 to add a requirement to reduce the power below a specified limit whenever the plant is temporarily operating with only one recirculation loop.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's next Monthly Notice.

Sincerely,

Original signed by

George Rivenbark, Project Manager
Operating Reactors Branch #4
Division of Licensing

Enclosures:
1. Amendment No. 42
2. Safety Evaluation

cc w/enclosures:
See next page

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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. 50-366

EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 42
License No. NPF-5

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Georgia Power Company, et al., (the licensee) dated July 12, 1984, 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. NPF-5 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 42 , 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.

FOR THE NUCLEAR REGULATORY COMMISSION

John F. Stolz

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

Attachment:
Changes to the Technical Specifications

Date of Issuance: January 24, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 42

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 pages are identified by Amendment number and contain a vertical line indicating the area of change. The corresponding overleaf page is also provided to maintain document completeness.

Remove	Insert
3/4 4-1	3/4 4-1
--	3/4 4-1a

3/4.4 REACTOR COOLANT SYSTEM

3/4.4.1 RECIRCULATION SYSTEM

RECIRCULATION LOOPS

LIMITING CONDITION FOR OPERATION

3.4.1.1 Two reactor coolant recirculation loops shall be in operation with each recirculation pump operating and the pump discharge valves OPERABLE.

APPLICABILITY: CONDITIONS 1* and 2*.

ACTION:

a. With one recirculation loop not in operation, initiate action within 15 minutes and continue action to reduce reactor power to or below the limit specified in Figure 3.4.1.1-1 within 2 hours and restore both loops to operation within 12 hours or be in at least HOT SHUTDOWN within the next 12 hours.

b. With no recirculation loops in operation, place the reactor mode switch in the Shutdown position.

SURVEILLANCE REQUIREMENTS

4.4.1.1 Each pump discharge valve shall be demonstrated OPERABLE by cycling each valve through at least one complete cycle of full travel:

a. Each startup** prior to THERMAL POWER exceeding 25% of RATED THERMAL POWER, and

b. During each COLD SHUTDOWN which exceeds 48 hours,**

* See Special Test Exception 3.10.4.
**If not performed within the previous 31 days.

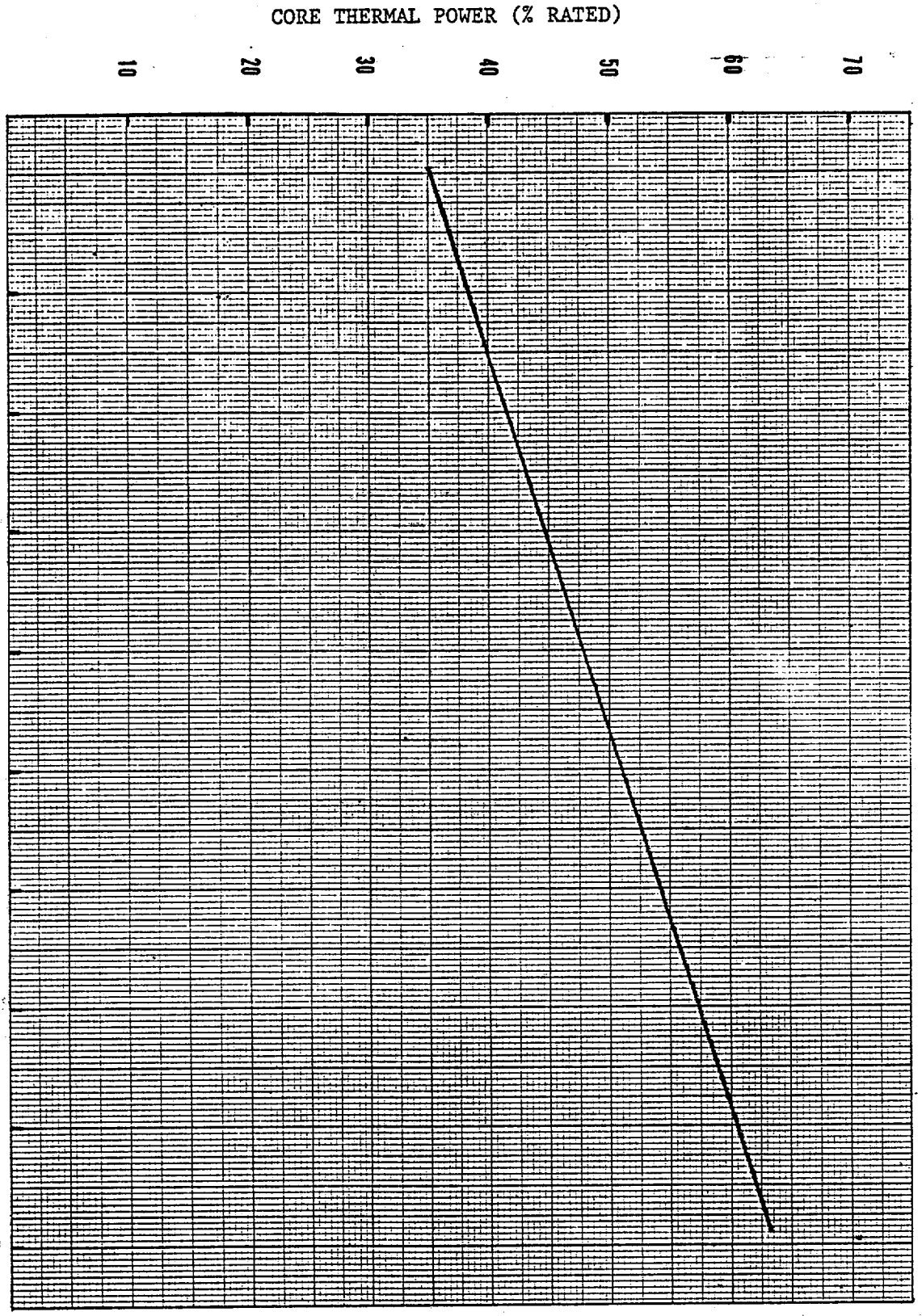

FIGURE 3.4.1.1-1

THERMAL POWER LIMITATIONS DURING OPERATION WITH LESS THAN TWO REACTOR COOLANT SYSTEM RECIRCULATION LOOPS IN OPERATION

REACTOR COOLANT SYSTEM

JET PUMPS

LIMITING CONDITION FOR OPERATION

3.4.1.2 All jet pumps shall be OPERABLE.

APPLICABILITY: CONDITIONS 1 and 2.

ACTION:

With less than 20 jet pumps OPERABLE, be in at least HOT SHUTDOWN within 12 hours.

SURVEILLANCE REQUIREMENTS

4.4.1.2 Each of the above required jet pumps shall be demonstrated OPERABLE prior to THERMAL POWER exceeding 25% of RATED THERMAL POWER and at least once per 24 hours by verifying that all of the following conditions do not occur simultaneously.

a. The recirculation pump flow differs by more than 15% from the established speed-flow characteristics,

b. The indicated total core flow differs by more than 10% from the core flow value derived from recirculating loop flow measurements, and

c. The diffuser-to-lower plenum differential pressure reading on any individual jet pump varies from the mean of all jet pump differential pressures, in that loop, by more than 10%.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 42 TO FACILITY OPERATING LICENSE NO. NPF-5

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

EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 2
DOCKET NO. 50-366

1. INTRODUCTION

The NRC staff has been studying BWR thermal-hydraulic stability characteristics for several years. For modern higher power density reactors, pressure perturbation techniques were developed to measure core stability margins. Based on these tests and analytical models, it has been shown that the high power/low flow corner of the power/flow map is the region of least stability margin. This region is encountered during single loop and natural circulation operation of a BWR. To assure compliance with General Design Criteria (GDC) 10 and 12, natural circulation operation has been prohibited and single loop operation has been restricted by Technical Specifications for most plants.

GE recently presented the NRC staff with stability test data which demonstrated the occurrence of limit cycle neutron flux oscillations at natural circulation and several percent above the rated rod line. The oscillations were observable on the APRMs and were suppressed with control rod insertion. It was predicted that limit cycle oscillations would occur at the operating condition tested; however, the characteristics of the observed oscillations were different than those previously observed during other stability tests. Namely, the test data show that some LPRM indications oscillated out of phase with the APRM signal and at an amplitude as great as six times the core average. This behavior raises the possibility of incurring power oscillations which could lead to violation of specified acceptable fuel design limits without detection and suppression via the APRM high power scram channels.

GE has prepared and released a service information letter, SIL-380, describing methods to avoid and control abnormal neutron flux oscillations to assure conformance with GDC 12. The major operating action recommended by SIL-380 to avoid the regions of least stability following a BWR recirculation pump(s) trip event is to reduce power by inserting control rods to or below the 80% rod line using the plant's prescribed control rod shutdown insertion sequence.

By letter dated July 12, 1984, Georgia Power Company (licensee) proposed changes to the Edwin I. Hatch Unit 2 Technical Specifications designed to resolve the thermal-hydraulic stability concerns outlined in General Electric Service Information Letter No. 380, Revision 1, dated February 10, 1984. The principal addition made to the Technical Specifications is the following:

> When operating with one recirculation loop, the plant will initiate within 15 minutes an orderly reduction in thermal power to less than a specified limit within 2 hours. This limit corresponds to a load line leading to 80% reactor power at rated core flow.

2. EVALUATION

We have reviewed these proposed changes and have found that they result in a considerably more stable operating mode since the plant will be operating at a lower power/flow ratio which has been shown by testing and analysis to result in increased thermal-hydraulic stability. We find that these changes are prudent and acceptably resolve our thermal-hydraulic stability concerns for Hatch Unit 2 since long term single loop operation is not permitted and natural circulation operation is prohibited. Should such operation be requested in the future, we will reevaluate this Technical Specification to determine if additional modifications are required.

3. ENVIRONMENTAL CONSIDERATIONS

The amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. We have determined that the amendment involves 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 radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendment meets 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 amendment.

4. CONCLUSION

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

Dated: January 24, 1985

Principal Contributor: G. Schwenk