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OCT 1 6 1975

Docket No. 50-321

Georgia Power Company
Oglethorpe Electric Membership Corporation
ATTN: I. S. Mitchell, III
Vice President and Secretary
Georgia Power Company
Atlanta, Georgia 30302

Gentlemen:

The Commission has issued the enclosed Amendment No. 19 to Facility Operating License No. DPR-57 for the Edwin I. Hatch Nuclear Plant Unit 1. The amendment also incorporates Change No. 19 in the Technical Specifications in accordance with your application dated June 26, 1975.

This amendment will revise the Turbine Control Valve Fast Closure (TCVFC) scram trip setting and the associated Reactor Protective System (RPS) instrumentation functional test and calibration surveillance requirements.

Copies of the Safety Evaluation and the Federal Register Notice are also enclosed.

Sincerely,

/S/

George Lear, Chief
Operating Reactors Branch #3
Division of Reactor Licensing

Enclosures:
1. Amendment No. 19
2. Safety Evaluation
3. Federal Register Notice

cc: See next page

CP-1

OFFICE ➤	ORB#3	ORB#3	OELD	ORB#3		
SURNAME ➤	CParrish:kmf	JCGuibert	Marjorie Ulman	GLear		
DATE ➤	10/ 6 /75	10/ 6 /75	10/ 14 /75	10/ 15 /75		

Georgia Power Company &
Oglethorpe Electric Membership Corporation

cc: w/enclosures

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

GEORGIA POWER COMPANY
OGLETHORPE ELECTRIC MEMBERSHIP CORPORATION

DOCKET NO. 50-321

EDWIN I. HATCH NUCLEAR PLANT UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 19
License No. DPR-57

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

   A. The application for amendment by Georgia Power Company and Oglethorpe Electric Membership Corporation (the licensees) dated June 26, 1975, 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; and

   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.

2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility 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, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications, as revised by issued changes thereto through Change No. 19."

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

FOR THE NUCLEAR REGULATORY COMMISSION

George Lear

George Lear, Chief
Operating Reactors Branch #3
Division of Reactor Licensing

Attachment:
Change No. 19 to
Technical Specifications

Date of Issuance OCT 1 6 1975

ATTACHMENT TO LICENSE AMENDMENT NO. 19

CHANGE NO. 19 TO THE TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NO. DPR-57

DOCKET NO. 50-321

Replace page 1.1-4, page 3.1-5, page 3.1-8, and page 3.1-9 with the attached revised pages. No change has been made on page 1.1-3, page 3.1-6, page 3.1-7 or page 3.1-10.

2.1.A.1.d. APRM Rod Block Trip Setting

The APRM Rod block trip setting shall be:

$$S_{RB} \leq 0.66\ W + 42\%$$

where:

S_{RB} = Rod block setting in percent of rated thermal power (2436 MWt)

W = Loop recirculation flow rate in percent of rated (rated loop recirculation flow rate equals 34.2×10^6 lb/hr)

In the event of operation with a maximum total peaking factor (MTPF) greater than the design value of 2.6, the setting shall be modified as follows:

$$S_{RB} \leq \{0.66\ W + 42\%\} \frac{2.6}{MTPF}$$

where:

MTPF = The value of the existing maximum total peaking factor

2. Reactor Water Low Level Scram Trip Setting (LL1)

Reactor water low level scram trip setting (LL1) shall be $\geq$ 12.5 inches (narrow range scale).

3. Turbine Stop Valve Closure Scram Trip Setting

Turbine stop valve closure scram trip setting shall be $\leq$ 10 percent valve closure from full open. This scram is only effective when turbine steam flow is above 30% of rated, as measured by turbine first stage pressure.

2.1.A.4. Turbine Control Valve Fast Closure Scram Trip Setting

Turbine control valve fast closure scram trip shall initiate within 30 milliseconds of start of control valve fast closure. Fast closure is sensed by measuring electro-hydraulic control oil line pressure which decreases rapidly upon generator load rejection and just prior to fast closure of the control valves. This scram is only effective when turbine steam flow is above 30% of rated, as measured by turbine first stage pressure. 19

5. Main Steam Line Isolation Valve Closure Scram Trip Setting

Scram trip setting from main steam line isolation valve closure shall be ≤ 10 percent valve closure from full open. This scram is effective in the Run Mode and above 1045 psig in the Start & Hot Stand-by Mode.

6. Main Steam Line Isolation Valve Closure on Low Pressure

Main steam line isolation valve closure on low pressure at inlet to turbine valves shall occur at ≥ 880 psig, while in the Run Mode.

7. Main Steam Line Isolation Valve Closure on Low Condenser Vacuum

Main steam line isolation valve closure on low condenser vacuum shall occur at ≥ 7 inches Hg vacuum.

Table 3.1-1 (Cont'd)

Scram Number (a)	Source of Scram Trip Signal	Operable Channels Required for Trip System (b)	Scram Trip Setting	Source of Scram Signal is Required to be Operable Except as Indicated Below
8	APRM Downscale	2	≥3/125 of full scale	The APRM downscale trip is active only when the Mode Switch is in RUN. The APRM downscale trip is automatically bypassed when the IRM instrumentation is operable and not tripped.
	15% Flux	2	≤15/125 of full scale Tech Spec 2.1.A.1.b	The APRM 15% Scram is automatically bypassed when the Mode Switch is in the RUN position.
9	Main Steam Line Radiation	2	≤3 times normal background at rated thermal power.	Not required if all steam lines are isolated.
10	Main Steam Line Isolation Valve Closure	4	≤10% valve closure from full open Tech Spec 2.1.A.5	Automatically bypassed when reactor pressure is 1045 psig and the Mode Switch is not in the RUN position. The design permits closure of any two lines without a scram being initiated.
11	Turbine Control Valve Fast Closure	2	Within 30 milliseconds of the start of control valve fast closure Tech Spec 2.1.A.4.	Automatically bypassed when turbine steam flow is below 30% of rated as measured by turbine first stage pressure.

Table 3.1-1 (Cont'd)

Scram Number (a)	Source of Scram Trip Signal	Operable Channels Required for Trip System (b)	Scram Trip Setting	Source of Scram Signal is Required to be Operable Except as Indicated Below
12	Turbine Stop Valve Closure	4	≤10% valve closure from full open Tech Spec 2.1.A.3	Automatically bypassed when turbine steam flow is below 30% of rated as measured by turbine first stage pressure.

Notes for Table 3.1-1

a. The column entitled "Scram Number" is for convenience so that a one-to-one relationship can be established between items in Table 3.1-1 and items in Table 4.1-1.

b. There shall be two operable or tripped trip systems for each potential scram signal. If the number of operable channels cannot be met for one of the trip systems, that trip system shall be tripped.

For SCRAMS 1 thru 7 and 8 APRM 15% Flux, if the number of operable channels is not met for both trip systems; initiate insertion of all control rods capable of being moved by control rod drive pressure and complete their insertion within four (4) hours.

For SCRAM 8 (APRM High High Flux, Inoperative, and Downscale), if the number of operable channels is not met for both trip systems; initiate insertion of all control rods capable of being moved by control rod drive pressure and complete their insertion within four hours or reduce power to the IRM range and go to the START & HOT STANDBY position of the Mode Switch within eight hours.

For SCRAMS 9 and 10, if the number of operable channels is not met for both trip systems; reduce turbine load and close main steam line isolation valves within eight hours or initiate insertion of all control rods capable of being moved by control rod drive pressure and complete their insertion within four hours.

For SCRAMS 11 and 12, if the number of operable channels is not met for both trip systems, reduce reactor power to 25% of rated thermal power or less within eight hours.

Table 4.1-1

Reactor Protection System (RPS) Instrumentation Functional Test, Functional Test Minimum Frequency, and Calibration Minimum Frequency

Scram Number (a)	Source of Scram Trip Signal	Group (b)	Instrument Functional Test Minimum Frequency (c)	Instrument Calibration Minimum Frequency
1	Mode Switch in SHUTDOWN	A	Once/Operating Cycle	Not Applicable
2	Manual Scram	A	Every 3 months	Not Applicable
3	IRM High High Flux	C	Once/week during refueling and within 24 hours of Startup (e)	Once/Week
	Inoperative	C	Once/week during refueling and within 24 hours of Startup (e)	Once/Week
4	High Reactor Pressure	A	Once/Month (f)	Every 3 months
5	High Drywell Pressure	A	Once/Month (f)	Every 3 months
6	Reactor Water Low Level (LL1)	A	Once/Month (f) (g)	Every 3 months
7	Scram Discharge Volume High High Level	A	Every 3 months	(h)
8	APRM High High Flux	B	Once/Week (e)	Twice/Week
	Inoperative	B	Once/Week (e)	Twice/Week
	Downscale	B	Once/Week (e)	Twice/Week
	Flow Reference	B	Once/Month (f)	Once/Operating Cycle
	15% Flux	C	Within 24 Hours of Startup (e)	Once/Week

Table 4.1-1 (Cont.)

9	Main Steam Line High Radiation	B	Once/Week (e)	Every 3 months (i)
10	Main Steam Line Isolation Valve Closure	A	Once/Month (f)	(h)
11	Turbine Control Valve Fast Closure	A	Once/Month (f) (j)	Once/Operating Cycle (k)
12	Turbine Stop Valve Closure	A	Once/Month (f)	(h)
	RPS Channel Switch	A	Once/Operating Cycle	Not Applicable
	Turbine First Stage Pressure Permissive	A	Every 3 months	Every 6 months
	Reactor Pressure Permissive	A	Every 3 months	Every 6 months
	LPRM Signal	B		Every 1000 Effective Full Power Hours

a. The column entitled "Scram Number" is for convenience so that a one-to-one relationship can be established between items in Table 4.1-1 and items in Table 3.1-1.

b. The definition of the three groups is as follows:

Group A. On-off sensors that provide a scram trip signal.
Group B. Analog devices coupled with bi-stable trips that provide a scram trip signal.
Group C. Devices which only serve a useful function during some restricted mode of operation, such as startup or shutdown, or for which the only practical test is one that can be performed at shutdown.

c. Functional tests are not required when the systems are not required to be operable or are tripped. However, if functional tests are missed, they shall be performed prior to returning the systems to an operable status.

Notes for Table 4.1-1 (Cont.)

d. Calibrations are not required when the systems are not required to be operable or are tripped. However, if calibrations are missed, they shall be performed prior to returning the system to an operable status.

e. This instrumentation is exempted from the instrument functional test definition. This instrument functional test will consist of injecting a simulated electrical signal into the measurement channels.

f. Initially once per month or according to Figure 4.1-1 with an interval of not less than one month nor more than three months. The compilation of instrument failure rate data may include data obtained from other BWR's for which the same design instrument operates in an environment similar to that of HNP-1. The failure rate data must be reviewed and approved by the AEC prior to any change in the once-a-month frequency.

g. The water level in the reactor will be perturbed and the corresponding level indicator changes will be monitored. This perturbation test will be performed every month after completion of the monthly functional test program.

h. Physical inspection and actuation of these position switches will be performed once per operating cycle.

i. Standard current source used which provides an instrument channel alignment. Calibration using a radiation source shall be made once per operating cycle.

j. Measure time interval from fast acting solenoid energization to HFA relay de-energization (RPS-K8).

k. The electrohydraulic control oil pressure sensors shall be set to trip at $\geq$ 1000 psig control oil pressure.

3.1 REACTOR PROTECTION SYSTEM (RPS)

The reactor protection system automatically initiates a reactor scram to:

i. Preserve the integrity of the fuel cladding.

ii. Preserve the integrity of the reactor coolant system.

iii. Minimize the energy which must be absorbed following a loss of coolant accident.

This specification provides the limiting conditions for operation necessary to preserve the ability of the system to tolerate single failures and still perform its intended function even during periods when instrument channels may be out of service because of maintenance. When necessary, one channel may be made inoperable for brief intervals to conduct required functional tests and calibrations.

The reactor protection system is of the dual channel type (Section 7.2 FSAR). The system is made up of two independent trip systems, each having two trip logics. Each trip logic has an input from at least one instrument channel which monitors a critical parameter.

With the exception of the Average Power Range Monitor (APRM) channels, the Intermediate Range Monitor (IRM) channels, the Main Steam Isolation Valve closure and the Turbine Stop Valve closure, each channel has one instrument input. When the minimum condition for operation on the number of operable instrument channels per untripped protection trip system is met or if it cannot be met and the effected protection trip system is placed in a tripped condition, the effectiveness of the protection system is preserved; i.e., the system can tolerate a single failure and still perform its intended function of scramming the reactor.

The outputs of the trip logics are combined in a 1 out of 2 logic; i.e., an input signal on either one or both of the trip logics will cause a trip system trip. The outputs of the trip systems are arranged so that a trip on both systems is required to produce a reactor scram.

This system meets the requirements of IEEE Standard 279-1971, Criteria for Protection Systems for Nuclear Power Generating Stations. The system has a reliability greater than that of a 2 out of 3 system and somewhat less than that of a 1 out of 2 system.

A. Sources of a Trip Signal Which Initiate a Reactor Scram

1. Mode Switch in Shutdown

A reactor Mode Switch is provided which actuates or bypasses the various scram functions appropriate to the particular plant operating mode (Section 7.2 FSAR). Placing the Mode Switch in the SHUTDOWN position automatically initiates a reactor scram. Two seconds after the Mode Switch is placed in the SHUTDOWN position, this reactor scram is automatically bypassed and the scram can be reset to allow testing of the RPS.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 19 TO FACILITY OPERATING LICENSE NO. DPR-57

(CHANGE NO. 19 TO TECHNICAL SPECIFICATIONS)

EDWIN I. HATCH NUCLEAR PLANT UNIT 1

GEORGIA POWER COMPANY AND OGLETHORPE ELECTRIC MEMBERSHIP CORPORATION

DOCKET NO. 50-321

Introduction

By letter dated June 26, 1975, Georgia Power Company (the licensee) proposed an amendment to Facility Operating License No. DPR-57 for Edwin I. Hatch Nuclear Plant Unit 1. The proposed amendment involves changes to the Technical Specifications which would revise the Turbine Control Valve Fast Closure (TCVFC) scram trip setting and the associated Reactor Protection System (RPS) instrumentation functional test and calibration requirements.

Discussion

The proposal would change the TCVFC scram trip setting from a specified electrohydraulic control (EHC) oil pressure ($\geq$ 1000 psig) to a specified time interval ($\leq$ 30 milliseconds) between the start of control valve fast closure and the initiation of the TCVFC scram trip. The associated monthly Reactor Protection System (RPS) instrument functional test would require verification of the specified time interval ($\leq$ 30 milliseconds). The associated RPS instrument calibration test, which is required once each operating cycle, would verify the setpoint of the EHC oil pressure sensors related to the TCVFC scram.

Evaluation

The actual basis for the current TCVFC scram trip setting required by Technical Specifications (i.e., EHC oil pressure $\geq$ 1000 psig) is to assure initiation of the TCVFC scram trip within 30 milliseconds following the start of control valve fast closure. This 30 millisecond time interval corresponds to the NRC staff's requirements for the TCVFC scram trip, since it is the value for the time delay between the start of control valve closure and the initiation of the TCVFC scram which was used in the calculations for the transient analyses presented in the Hatch-1 Final Safety Analysis Report.

The proposed change to the RPS instrument functional test ensures that the TCVFC scram trip occurs in response to the critical safety related parameter (i.e., within the required time interval of 30 milliseconds) rather than to a parameter (i.e., EHC oil pressure) which is associated with turbine control valve operation. The RPS instrument calibration test will provide additional assurance that the TCVFC scram trip will occur within the specified time interval by verifying that the EHC oil pressure switches are set to actuate within the range of oil pressure settings which correspond to the 30 millisecond time interval.

Summary

We find the proposed changes to be acceptable on the basis that they establish a TCVFC scram trip setting and associated RPS instrument surveillance requirements which are directly related to the essential safety related criterion that the TCVFC scram initiates within a specified time interval following start of control valve closure.

Conclusion:

We have concluded, based on the considerations discussed above, that: (1) because the changes do not involve a significant increase in the probability or consequences of accidents previously considered and do not involve a significant decrease in a safety margin, the changes do 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.

Date: OCT 1 6 1975

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-321

GEORGIA POWER COMPANY
OGLETHORPE ELECTRIC MEMBERSHIP CORPORATION

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

Notice is hereby given that the U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 19 to Facility Operating License No. DPR-57 issued to Georgia Power Company and Oglethorpe Electric Membership Corporation which revised Technical Specifications for operation of the Edwin I. Hatch Nuclear Plant, Unit 1, located in Appling County, Georgia. The amendment is effective as of its date of issuance.

The amendment will revise the Turbine Control Valve Fast Closure (TCVFC) scram trip setting and the associated Reactor Protective System (RPS) instrumentation functional test and calibration surveillance requirements.

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 is not required since the amendment does not involve a significant hazards consideration.

For further details with respect to this action, see (1) the application for amendment dated June 26, 1975, (2) Amendment No. 19 to License No. DPR-57, with Change No. 19, 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, Parker Street, Baxley, Georgia.

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 Reactor Licensing.

Dated at Bethesda, Maryland, this 16th day of October, 1975.

FOR THE NUCLEAR REGULATORY COMMISSION

George Lear

George Lear, Chief
Operating Reactors Branch #3
Division of Reactor Licensing