

NOV 2 2 1976

Distribution

Docket File
ORB #3
NRC PDR
Local PDR
VStello
KGoeller/TJCarter
CParrish
GLear
JGuibert
RBAer
Attorney, OELD
OI&E (5)
BJones (4)
BScharf (10)
JMcGough
DEisenhut
ACRS (16)

OPA (Clare Miles)
DRoss
JBuchanan
TBAbernathy

Docket No. 50-321

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

Gentlemen:

The Commission has issued the enclosed Amendment No. 24 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 April 4, 1975, as supplemented by letters dated October 9, 1975, June 23, 1976 and August 18, 1976.

The amendment to the Technical Specifications will lower the Main Steam Isolation Valve (MSIV) low main steamline pressure closure setpoint from 880 psig to 825 psig.

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

Sincerely,

Original signed by

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

Enclosures:

1. Amendment No. 24
2. Safety Evaluation
3. Federal Register Notice

cc: See page 2

comat
W

DOR:OT
DEisenhut
11/4/76

| | | | | | | |
|-----------|--------------------|------------------|----------------|-----------------|----------------|------------------|
| OFFICE ➤ | ORB #3 | ORB #3 <i>CP</i> | DOR: <i>RB</i> | OELD | ORB #3 | <i>DEisenhut</i> |
| SURNAME ➤ | CParrish <i>CP</i> | JGuibert:mjf | RBAer | | GLear <i>G</i> | |
| DATE ➤ | 11/3/76 | 11/3/76 | 11/4/76 | 11/16/76 | 11/21/76 | 11/4/76 |



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

November 22, 1976

Docket No. 50-321

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

Gentlemen:

The Commission has issued the enclosed Amendment No. 24 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 April 4, 1975, as supplemented by letters dated October 9, 1975, June 23, 1976 and August 18, 1976.

The amendment to the Technical Specifications will lower the Main Steam Isolation Valve (MSIV) low main steamline pressure closure setpoint from 880 psig to 825 psig.

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

Sincerely,

A handwritten signature in cursive script that reads "George Lear".

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

Enclosures:

1. Amendment No. 24
2. Safety Evaluation
3. Federal Register Notice

cc: See page 2

Georgia Power Company
Oglethorpe Electric Membership Corporation

- 2 -

cc:

G. F. Trowbridge, Esquire
Shaw, Pittman, Potts and Trowbridge
Barr Building
910 17th Street, N. W.
Washington, D. C. 20006

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

Mr. Harry Majors
Southern Services, Inc.
300 Office Park
Birmingham, Alabama 35202

Mr. John Robins
Office of Planning and Budget
Room 615-B
270 Washington Street, S. W.
Atlanta, Georgia 30334

Mr. H. B. Lee, 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. H. P. Walker
Georgia Power Company
Engineering Department
P. O. Box 4545
Atlanta, Georgia 30302

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

Appling County Public Library
Parker Street
Baxley, Georgia 31513



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 NO. 1

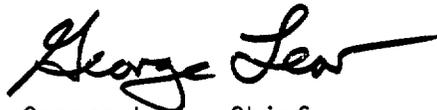
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 24
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 April 4, 1975, as supplemented by letters dated October 9, 1975, June 23, 1976, and August 18, 1976, 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 a change to the Technical Specifications as indicated in the attachment to this license amendment.

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

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in cursive script that reads "George Lear". The signature is written in black ink and is positioned above the typed name and title.

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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 22, 1976

ATTACHMENT TO LICENSE AMENDMENT NO. 24

TO THE TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NO. DPR-57

DOCKET NO. 50-321

Replace pages 1.0-5, 1.1-4, 1.1-14, 1.1-15 and 3.2-3 with the attached revised pages.

- Z. Reactor Pressure - Unless otherwise indicated, a reactor pressure listed in these Technical Specifications is that pressure measured at the reactor vessel steam dome.
- AA. Refuel Mode - The reactor is in the Refuel Mode when the Mode Switch is in the REFUEL position. When the Mode Switch is in this position, the refueling interlocks are in service.
- BB. Refueling Outage - Refueling outage is the period of time between the shutdown of the Unit prior to a refueling and the startup of the Unit after that refueling.
- CC. Run Mode - The reactor is in the Run Mode when the Mode Switch is in the RUN position. In this mode the reactor pressure is at or above 825 psig and the reactor protection system is energized with APRM Scram (excluding the APRM 15% of flux scram) and APRM rod blocks in service.
- DD. Safety Limit - The Safety Limits are limits below which the reasonable maintenance of the physical barriers which guard against the controlled release of radioactivity is assured. Exceeding such a limit requires Unit shutdown and review by the Atomic Energy Commission before resumption of Unit Operation. Operation beyond such a limit may not in itself result in serious consequences, but it indicates an operational deficiency subject to regulatory review.
- EE. Secondary Containment Integrity - Secondary containment integrity means that the reactor building is intact and all the following conditions are met:
1. At least one door in each access opening is closed.
 2. The standby gas treatment system is operable.
 3. All automatic ventilation system isolation valves are operable or are secured in the isolated position.
- FF. Shutdown Mode - The reactor is in the Shutdown Mode when the Mode Switch is in the SHUTDOWN position and no core alterations are permitted. When the Mode Switch is placed in the SHUTDOWN position a scram is initiated, power to the control rod drives is removed, and the reactor protection system trip systems are de-energized for two seconds and cannot be reset before ten seconds have elapsed.

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

Turbine control valve fast closure scram trip setting shall be \geq 1000 psig control oil pressure. Fast closure is sensed by measuring electrohydraulic 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.

5. Main Steam Line Isolation Valve Closure Scram Trip Setting

Scram trip setting from main steam line isolation valve closure shall be \leq 10 percent valve closure from full open. This scram is effective in the Run Mode and above 1045 psig in the Start & Hot Standby 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 \geq 825 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 \geq 7 inches Hg vacuum.

2.1.A.3. Turbine Stop Valve Closure Scram Trip Settings

The turbine stop valve closure scram trip anticipates the pressure, neutron flux and heat flux increase that could result from rapid closure of the turbine stop valves. With a scram trip setting of ≤ 10 percent of valve closure from full open, in 3 out of 4 stop valves, the resultant increase in surface heat flux is 20% and MCHFR remains about 1.65 even during the worst case transient that assumes the turbine bypass is closed. Relevant transient analyses are presented in Section 14.3.1.2 of the FSAR. This scram is bypassed when turbine steam flow is below 30% of rated, as measured by turbine first stage pressure.

4. Turbine Control Valve Fast Closure Scram Trip Setting

This turbine control valve fast closure scram anticipates the pressure, neutron flux, and heat flux increase that could result from fast closure of the turbine control valves due to load rejection exceeding the capability of the turbine bypass. The Reactor Protection System initiates a scram when fast closure of the control valves is initiated by the fast acting solenoid valves. This is achieved by the action of the fast acting solenoid valves in rapidly reducing hydraulic control oil pressure at the main turbine control valve actuator disc dump valves. This loss of pressure is sensed by pressure switches whose contacts form the one-out-of-two-twice logic input to the reactor protection system. This trip setting, a nominally 50% greater closure time and a different valve characteristic from that of the turbine stop valve, combine to produce transients very similar and no more severe than for the stop valve. No significant change in MCHFR occurs. Relevant transient analyses are discussed in Section 14.3.1.1 of the Final Safety Analysis Report. This scram is bypassed when turbine steam flow is below 30% of rated, as measured by turbine first stage pressure.

5. Main Steam Line Isolation Valve Closure Scram Trip Setting

The main steam line isolation valve closure scram occurs within 10% of valve movement from the fully open position in 3 out of 4 steam lines and thus anticipates the neutron flux and pressure scrams which remain as available backup protection. For the worst case transient there is no significant reduction of MCHFR. The relevant transient analysis is presented in Section 14.3.1.3 of the FSAR. This scram function is bypassed automatically when the reactor pressure is below 1045 psig and the Mode Switch is not in the RUN position.

6. Main Steam Line Isolation Valve Closure on Low Pressure

The low pressure isolation of the main steam lines at 825 psig was provided to protect against rapid reactor depressurization and the resulting rapid cooldown of the vessel, which might result from a pressure regulator failure causing inadvertent opening of the control and/or bypass valves.

2.1.A.6. Main Steam Line Isolation Valve Closure on Low Pressure (Continued)

Advantage is taken of the scram trip feature that occurs when the main steam line isolation valves are closed, to provide for reactor shutdown so that high power operation at low reactor pressure does not occur, thus providing protection for the fuel cladding integrity Safety Limit. Operation of the reactor at pressures lower than 825 psig requires that the reactor Mode Switch be in the START & HOT STANDBY position, where protection of the fuel cladding integrity Safety Limit is provided by IRM's and the APRM 15% scram (Start and Hot Standby Mode). Thus, the combination of main steam line low pressure isolation and isolation valve closure scram trip assures the availability of neutron flux scram protection over the entire range of applicability of the fuel cladding integrity Safety Limit. The reactor pressure vessel thermal transient due to an inadvertent opening of the turbine bypass valves when not in the Run Mode is less severe than the loss of feedwater analyzed in section 14.3 of the FSAR, therefore closure of the MSIV's for thermal transient protection when not in the Run Mode is not required.

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

To provide backup protection for the main condenser against over-pressure due to in-leakage, assuming that the turbine stop valves and bypass valves fail to close, a loss of condenser vacuum initiates automatic closure of all main steam isolation valves, the main steam line drain isolation valve and the reactor water sample line valve (i.e. initiates a Group 1 isolation). Closure of these valves prevents excessive loss of reactor coolant and the release of significant amounts of radioactive material from the nuclear system. The low vacuum trip set point is selected far enough above the normal operating vacuum to avoid spurious isolation, however, low enough to provide backup isolation prior to the rupture of the condenser.

This trip function is active when the turbine pressure is ≥ 880 psig when in the RUN Mode or in other Modes with any turbine pressure. The trip function may be bypassed for plant startup when the turbine stop valves are shut and the reactor pressure is ≤ 1045 psig.

Table 3.2-1 (Cont.)

| Ref. No. (a) | Instrument | Trip Condition Nomenclature | Required Operable Channels Per Trip System (b) | Trip Setting | Action to be taken if number of channels is not met for both trip systems (c) | Remarks (d) |
|--------------|---|-----------------------------|--|---------------------------------|---|---|
| 5 | Main Steam Line Pressure | Low | 2 | >825 psig | Initiate an orderly load reduction and close MSIVs within 8 hours. | Initiates Group 1 isolation. Only required in RUN mode therefore activated when Mode Switch is in RUN position. |
| 6 | Main Steam Line Flow | High | 2 | <140% rated flow (<120 psid) | Initiate an orderly load reduction and close MSIVs within 8 hours. | Initiates Group 1 isolation. |
| 7 | Main Steam Line Tunnel Temperature | High | 2 | <200°F | Initiate an orderly load reduction and close MSIVs within 8 hours. | Initiates Group 1 isolation |
| 8 | Reactor Water Cleanup System Differential Flow | High | 1 | 20-80 gpm | Isolate reactor water cleanup system. | Final trip setting will be determined during startup test program. |
| 9 | Reactor Water Cleanup Equipment Room Temperature | High | 2 | 100-150°F | Isolate reactor water cleanup system. | Final trip setting will be determined during startup test program. |
| 10 | Reactor Water Cleanup Equipment Room Differential Temperature | High | 2 | 0-100°F | Isolate reactor water cleanup system. | Final trip setting will be determined during startup test program. |
| 11. | Condenser Vacuum | Low | 2 | >7" Hg. vacuum | Initiate an orderly load reduction and close MSIVs within 8 hrs. | Initiate Group 1 Isolation |



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 24 TO FACILITY OPERATING LICENSE NO. DPR-57

GEORGIA POWER COMPANY
OGLETHORPE ELECTRIC MEMBERSHIP CORPORATION

EDWIN I. HATCH NUCLEAR PLANT UNIT NO. 1

DOCKET NO. 50-321

Introduction

By letter dated April 4, 1975 and supplements dated October 9, 1975, June 23, 1976, and August 18, 1976, Georgia Power Company (GPC) requested a change to the Technical Specifications for Edwin I. Hatch Nuclear Plant Unit No. 1 (HNP-1). The proposed change would lower the Main Steamline Isolation Valve (MSIV) low main steamline pressure closure setpoint from 880 psig to 825 psig.

Discussion

Automatic closure of the MSIVs due to a low main steamline pressure provides protection against rapid depressurization of the reactor vessel through the steam lines and the resultant fast cooldown of the reactor vessel. Such an event could occur if the turbine pressure regulator, which normally controls steam pressure at the inlet to the turbine between 920 psig and 950 psig, failed in such a manner that the turbine bypass valves stuck in the open position.

The licensee has stated that the proposed reduction in the low pressure MSIV closure setpoint is necessary to increase available operating margin in order to preclude spurious reactor scrams and main steamline isolation during low pressure transients. Furthermore, the licensee has stated that lowering the setpoint would not degrade the degree of protection provided by this safety system.

The NRC has previously approved this same change for three other boiling water reactors.

Evaluation

The current Technical Specifications require that the MSIV closure setpoint for low main steamline pressure shall be greater than or equal to 880 psig. The 880 psig setpoint was originally determined based upon judgment and was chosen approximately 100 psi less than the steamline pressure at the turbine inlet.

In support of the proposed change, GPC has submitted a reanalysis of the reactor system's response to an abnormal operational transient caused by a failure of the turbine pressure regulator in the open direction using the proposed 825 psig setpoint for MSIV closure on low main steamline pressure. Based upon our review of the results of this reanalysis, we have concluded that operation with the proposed setpoint would not significantly affect the reactor system's response to such a pressure regulator failure.

The proposed change in the setpoint to 825 psig, a reduction of 55 psig, would result in an increase of only 7°F in the reactor vessel (coolant) thermal transient (from 16°F to 23°F) in the event of an abnormal operational transient caused by a turbine pressure regulator failure.

The value of 7°F is conservatively based on the difference in the saturation temperature of steam at 880 psig and 825 psig and does not take credit for the effects of the additional heat energy stored in the reactor vessel metal; the stored heat energy in the vessel would act to reduce the magnitude of the thermal transient (cooldown). The potential thermal shock effects on the reactor vessel which could occur as a result of the proposed change are insignificant when compared to the effects of reactor vessel coolant cooldown (or heatup) at the maximum allowable rate of 100°F in any one hour period as specified in the HNP-1 Technical Specifications.

The proposed reduction in the setpoint for MSIV closure on low steamline pressure would not significantly affect the maximum pressure differential experienced across the core internals as a result of a turbine pressure regulator failure. The maximum pressure differential experienced across the core internals during such an abnormal operational transient is primarily a function of the turbine bypass steam flow capacity, which is not affected by the proposed change, rather than the duration of the transient which could be slightly increased (i.e., 2 to 3 seconds) as a result of the proposed change.

Since the MSIV low pressure closure trip setting is not relied upon for protection against a postulated steamline break, the proposed change would not result in a significant increase in the consequences of such an event. Mitigation of postulated steamline breaks at HNP-1 is provided by the following instrumentation systems:

- a. In the event of a large steamline break outside of primary containment, differential pressure switches would detect high main steamline flow and would initiate closure of the MSIVs.
- b. In the event of a small steamline break outside of primary containment, temperature detectors located in the steam tunnel surrounding the main steamline from the drywell to the turbine building would sense high air temperature and would initiate closure of the MSIV's.

Based on the discussion above, we have concluded that the proposed reduction of the low pressure closure setpoint would not have significant effects on the results of previously analyzed transients and is, therefore, acceptable.

Environmental Considerations

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in authorized 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, negative declaration, or 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 change 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 change 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 22, 1976

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

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 24 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 No. 1, located in Appling County, Georgia. The amendment is effective as of its date of issuance.

The amendment consists of changes to the Technical Specifications which will lower the Main Steam Isolation Valve (MSIV) low main steamline pressure closure setpoint from 880 psig to 825 psig.

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 §51.5(d)(4) an environmental statement, negative declaration or

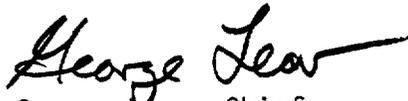
environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated April 4, 1975, supplemented by letters dated October 9, 1975, June 23, 1976 and August 18, 1976, (2) Amendment No. 24 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, Parker Street, Baxlay, 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 Operating Reactors.

Dated at Bethesda, Maryland, this 22nd day of November, 1976.

FOR THE NUCLEAR REGULATORY COMMISSION



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