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Docket No. 50-321

Mr. Charles F. Whitmer
Vice President - Engineering
Georgia Power Company
P. O. Box 4545
Atlanta, Georgia 30302

Dear Mr. Whitmer:

The Commission has issued the enclosed Amendment No. 63 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 January 19, 1979.

This amendment deletes the requirement for trip of the High Pressure Coolant Injection (HPCI) and Reactor Core Isolated Cooling (RCIC) steam line isolation valves upon a high differential temperature condition between the inlet and outlet ventilation air of the HPCI and RCIC pump rooms.

Copies of the Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Enclosures:
1. Amendment No. 63 to DPR-57
2. Safety Evaluation
3. Notice

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cc w/enclosures:
see next page

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Mr. Charles F. Whitmer

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

GEORGIA POWER COMPANY
OGLETHORPE ELECTRIC MEMBERSHIP CORPORATION
MUNICIPAL ELECTRIC ASSOCIATION 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. 63
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 January 19, 1979, 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 (1) 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. 63, 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Attachment:
Changes to the
Technical Specifications

Date of Issuance: February 9, 1979

ATTACHMENT TO LICENSE AMENDMENT NO. 63

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 vertical lines indicating the area of change.

Remove	Insert
3.2-5	3.2-5
3.2-8	3.2-8
3.2-53*	3.2-53*
3.2-54	3.2-54
3.2-56	3.2-56

*Overleaf provided for convenience only.

INSTRUMENTATION WHICH INITIATES OR CONTROLS HPCI

Ref. No. (a)	Instrument	Trip Condition Nomenclature	Required Operable Channels per Trip System (b)	Trip Setting	Remarks
1.	Reactor Water Level (Yarway)	Low Low (LL2)	2	$\geq$ - 38 inches	Initiates HPCI; Also initiates RCIC.
2.	Drywell Pressure	High	2	$\leq$ 2 psig	Initiates HPCI; Also initiates LPCI and Core Spray and provides a permissive signal to ADS.
3.	HPCI Turbine Overspeed	Mechanical	1	$\leq$ 5000 rpm	Trips HPCI turbine
4.	HPCI Turbine Exhaust Pressure	High	1	$\leq$ 150 psig	Trips HPCI turbine
5.	HPCI Pump Suction Pressure	Low	1	$\leq$ 15" Hg vacuum	Trips HPCI turbine
6.	Reactor Water level (Narrow Range)	High	2	$\leq$ +58 inches	Trips HPCI turbine
7.	HPCI System Flow (Flow Switch)	High	1	> 800 gpm	Closes HPCI minimum flow bypass line to suppression chamber.
		Low	1	$\leq$ 500 gpm	Opens HPCI minimum flow bypass line if pressure permissive is present.
8	HPCI Equipment Room	High	1	$\leq$ 175°F	Closes isolation valves in HPCI system, trips HPCI turbine.

Amendment No. ~~31~~, ~~51~~, 63

INSTRUMENTATION WHICH INITIATES OR CONTROLS RCIC

Ref. No. (a)	Instrument	Trip Condition Nomenclature	Required Operable Channels per Trip System (b)	Trip Setting	Remarks
1.	Reactor Water Level (Yarway)	Low Low (LL2)	2	$\geq$-38 inches	Initiates RCIC; also initiates HPCI
2.	RCIC Turbine Overspeed	Electrical	1	$\leq$110% rated	Trips RCIC turbine.
		Mechanical	1	$\leq$125% rated	Trips RCIC turbine.
3.	RCIC Turbine Exhaust Pressure	High	1	$\leq$+25 psig	Trips RCIC turbine.
4.	RCIC Pump Suction Pressure	Low	1	$\leq$15" Hg Vacuum	Trips RCIC turbine.
5.	Reactor Water Level (Narrow Range)	High	2	$\leq$+58 inches	Trips RCIC turbine
6.	RCIC System Flow (Flow Switch)	High	1	>80 gpm	Closes RCIC minimum flow bypass line to suppression chamber.
		Low	1	$\leq$40 gpm	Opens RCIC minimum flow bypass line if pressure permissive is present.
7.	RCIC Equipment Room	High	1	$\leq$175°F	Closes isolation valves in RCIC system, trips RCIC turbine.

3.2.B.3. HPCI Turbine Overspeed

The HPCI turbine is automatically shut down by tripping the HPCI turbine stop valve closed when the 5000 rpm setpoint on the mechanical governor is reached. A turbine overspeed trip is required to protect the physical integrity of the turbine.

4. HPCI Turbine Exhaust Pressure High

When HPCI turbine exhaust pressure reaches the setpoint ($\leq$ 150 psig) the HPCI turbine is automatically shut down by tripping the HPCI stop valve closed. HPCI turbine exhaust high pressure is indicative of a condition which threatens the physical integrity of the exhaust line.

5. HPCI Pump Suction Pressure Low

A pressure switch is used to detect low HPCI system pump suction pressure and is set to trip the HPCI turbine at $\leq$ 15 inches of mercury vacuum. This setpoint is chosen to prevent pump damage by cavitation.

6. Reactor Water Level High (Narrow Range)

A reactor water level of +58 inches on the Narrow Range scale is indicative that the HPCI system has performed satisfactorily in providing make-up water to the reactor vessel. The reactor vessel high water level setting which trips the HPCI turbine is near the top of the steam separators and is sufficient to prevent gross moisture carryover to the HPCI turbine. Two level switches trip to initiate a HPCI turbine shutdown.

7. HPCI System Flow

To prevent damage by overheating at reduced HPCI system pump flow, a pump discharge minimum flow bypass is provided. The bypass is controlled by an automatic, D. C. motor-operated valve. A high flow signal from a flow meter downstream of the pump on the main HPCI line will cause the bypass valve to close. Two signals are required to open the valve: A HPCI pump discharge pressure switch high pressure signal must be received to act as a permissive to open the bypass valve in the presence of a low flow signal from the flow switch.

Note:

Because the steam supply line to the HPCI turbine is part of the nuclear system process barrier, the following conditions (8-14) automatically isolate this line, causing shutdown of the HPCI system turbine.

8. HPCI Equipment Room Temperature High

High ambient temperature in the HPCI equipment room near the emergency area cooler could indicate a break in the HPCI system turbine steam line. The automatic closure of the HPCI steam line valves prevents the excessive loss of reactor coolant and the release of significant amounts of radioactive material from the nuclear system process barrier. The high

3.2.B.8. HPCI Equipment Room Temperature High (Continued)

temperature setting 90 F + ambient was selected to be far enough above anticipated normal HPCI system operational levels to avoid spurious isolation but low enough to provide timely detection of HPCI turbine steam line break. The high temperature trip initiates a timer which isolates the HPCI turbine steam line if the temperature is not reduced below the setpoint.

10. HPCI Steam Line Pressure Low

Low pressure in the HPCI steam line could indicate a break in the HPCI steam line. Therefore, the HPCI steam line isolation valves are automatically closed. The steam line low pressure function is provided so that in the event a gross rupture of the HPCI steam line occurred upstream from the high flow sensing location, thus negating the high flow indicating function, isolation would be effected on low pressure. The isolation setpoint of $\geq$ 100 psig is chosen at a pressure below which the HPCI turbine can effectively operate.

11. HPCI Steam Line ΔP (Flow) High

HPCI turbine high steam flow could indicate a break in the HPCI turbine steam line. The automatic closure of the HPCI steam line isolation valves prevents the excessive loss of reactor coolant and the release of significant amounts of radioactive materials from the nuclear system process barrier. Upon detection of HPCI turbine high steam flow the HPCI turbine steam line is isolated. The high steam flow trip setting of 300% flow was selected high enough to avoid spurious isolation, i.e., above the high steam flow rate encountered during turbine starts. The setting was selected low enough to provide timely detection of an HPCI turbine steam line break.

12. HPCI Turbine Exhaust Diaphragm Pressure High

High pressure in the HPCI turbine exhaust could indicate that the turbine rotor is not turning, thus allowing reactor pressure to act on the turbine exhaust line. The HPCI steam line isolation valves are automatically closed to prevent overpressurization of the turbine exhaust line. The turbine exhaust diaphragm pressure trip setting of $\leq$ 10 psig is selected high enough to avoid isolation of the HPCI if the turbine is operating, yet low enough to effect isolation before the turbine exhaust line is unduly pressurized.

13. Suppression Chamber Area Air Temperature High

As in the HPCI equipment room, and for the same reason, a temperature of 90 F + ambient will initiate a timer to isolate the HPCI turbine steam line.

3.2.C.5. Reactor Water Level High (Narrow Range)

A reactor water level of +58 inches on the Narrow Range scale is indicative that the RCIC system has performed satisfactorily in providing make-up water to the reactor vessel. The reactor vessel high water level setting which trips the RCIC turbine is near the top of the steam separators and is sufficient to prevent gross moisture carryover to the RCIC turbine. Two level switches trip to initiate an RCIC turbine shutdown.

6. RCIC System Flow

To prevent damage by overheating at reduced RCIC system pump flow, a pump discharge minimum flow bypass is provided. The bypass is controlled by an automatic, D. C. motor-operated valve. A high flow signal from a flow meter downstream of the pump on the main RCIC line will cause the bypass valve to close. Two signals are required to open the valve: An RCIC pump discharge pressure switch high pressure signal must be received to act as a permissive to open the bypass valve in the presence of a low flow signal from the flow switch.

Note:

Because the steam supply line to the RCIC turbine is part of the nuclear system process barrier, the following conditions (7 - 13) automatically isolate this line, causing shutdown of the RCIC system turbine.

7. RCIC Equipment Room Temperature High

High ambient temperature in the RCIC equipment room near the emergency area cooler could indicate a break in the RCIC system turbine steam line. The automatic closure of the RCIC steam line valves prevents the excessive loss of reactor coolant and the release of significant amounts of radioactive material from the nuclear system process barrier. The high temperature setting of 90 F + ambient was selected to be far enough above anticipated normal RCIC system operational levels to avoid spurious isolation but low enough to provide timely detection of an RCIC turbine steam line break. The high temperature trip initiates a timer which isolates the RCIC turbine steam line if the temperature is not reduced below the setpoint.

9. RCIC Steam Line Pressure Low

Low pressure in the RCIC Steam Line could indicate a break in the RCIC steam line. Therefore, the RCIC steam line isolation valves are automatically closed. The steam line low pressure function is provided so that in the event a gross rupture of the RCIC steam line occurred upstream from the high flow sensing location, thus negating the high flow indicating function, isolation would be effected on low pressure. The iso-

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 63 TO FACILITY OPERATING LICENSE NO. DPR-57

GEORGIA POWER COMPANY

OGLETHORPE ELECTRIC MEMBERSHIP CORPORATION

MUNICIPAL ELECTRIC ASSOCIATION OF GEORGIA

CITY OF DALTON, GEORGIA

EDWIN I. HATCH NUCLEAR PLANT UNIT NO. 1

DOCKET NO. 50-321

Introduction

By letter dated January 19, 1979, Georgia Power Company (the licensee) requested an amendment to the Technical Specifications appended to Operating License No. DPR-57 for the Edwin I. Hatch Nuclear Plant Unit No. 1. The proposed amendment would delete the requirement for trip of the High Pressure Coolant Injection (HPCI) and Reactor Core Isolated Cooling (RCIC) steam line isolation valves upon a high differential temperature (dT) condition between the inlet and outlet ventilation air of the HPCI and RCIC pump rooms.

Discussion

The HPCI and RCIC steam driven pumps are part of the Emergency Core Cooling System (ECCS) and are used to provide water to the core under various conditions. The steam lines which provide the turbine steam contain two normally open containment isolation valves to minimize reactor coolant loss and radioactive materials release from the nuclear steam process barrier in the event of a gross leak or rupture of the line.

The HPCI and RCIC steam line isolation function is presently initiated by the following conditions in their respective equipment rooms or piping:

a. High room ambient temperature (175°F)
b. Inlet/Outlet room ventilation differential temperature (50°F)
c. High steam flow (300%)
d. Low steam line pressure (HPCI 100 psig; RCIC 50 psig)

The isolation on inlet/outlet ventilation dT (item b above) has caused numerous spurious steam line isolations. The isolations are most likely to happen during periods of cold weather when the inlet temperature drops and a resultant increase in dT between ventilation inlet and outlet occurs. As a result of these isolations of the HPCI and RCIC steam lines, the reliability of these important ECCS subsystems is reduced.

Evaluation

We have reviewed the request for the Technical Specification change to delete the isolation capability of the high differential temperature monitors in the HPCI and RCIC pump rooms, and concur with the licensee that these spurious trips result in reduction of reliability of these systems. Deletion of these dT trips has previously been approved by the staff(1).

Our review included an evaluation of the isolation signals which remain following the proposed deletion. On the basis of this review, we have concluded that the remaining isolation signals are sufficiently redundant and diverse by themselves to cause isolation of the HPCI or RCIC steam line for a spectrum of potential breaks. We view the HPCI and RCIC pump reliability to be a more important matter in terms of overall plant safety than the retention of the high differential temperature monitor which provides only marginal added steam break protection, considering the varied other protection remaining. In addition, the use of room differential temperature to indicate steam leakage can itself be unreliable and misleading, since the circuit is indirectly dependent on ventilation flow, which is not monitored by this instrumentation. Since room differential air temperature is inversely proportional to ventilation flow, a reduction in flow by one-half due to, for example, a shutdown of several ventilation fans, could reasonably be expected to approximately double the room differential temperature, which could result in a spurious isolation. The operation (or isolation) of these systems should not be connected with operation of none-safety-related equipment or processes (e.g., room ventilation flow).

Small steam leaks occasionally occur in, for example, valve packing glands, flanges, or fittings. Such small leaks would not be expected to trigger the closure of the isolation valves since the isolation monitors are not designed for this level of sensitivity. Automatic isolation valve closure for small steam leaks would not be desirable, since the HPCI and RCIC should remain available to perform its safety function in the presence of small leaks which have no significant consequences.

Based on the foregoing, we conclude that the elimination of the HPCI and RCIC room temperature differential isolation signals is 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 Section 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 the 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: February 9, 1979

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[1] Safety Evaluation by NRR supporting Amendment No. 5 to DPR-71 and Amendment No. 27 to DPR-62, Dockets Nos. 50-325 and 50-324.

7590-01

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-321

GEORGIA 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. 63 to Facility Operating License No. DPR-57, issued to Georgia Power Company, Oglethorpe Electric Membership Corporation, Municipal Electric Association of Georgia, and the City of Dalton, Georgia, which revised Technical Specifications for operation of the Edwin I. Hatch Unit No. 1 (the facility) located in Appling County, Georgia. The amendment is effective as of its date of issuance.

The amendment deletes the requirement for trip of the High Pressure Coolant Injection (HPCI) and Reactor Core Isolated Cooling (RCIC) steam line isolation valves upon a high differential temperature condition between the inlet and outlet ventilation air of the HPCI and RCIC pump rooms.

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 January 19, 1979, (2) Amendment No. 63 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, 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 Operating Reactors.

Dated at Bethesda, Maryland, this 9 day of February 1979.

FOR THE NUCLEAR REGULATORY COMMISSION

Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors