5/28/76

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:

In response to your request dated April 13, 1976, the Commission has issued the enclosed Amendment No. 32 to Facility Operating License No. DPR-57 for the Edwin I. Hatch Nuclear Plant Unit 1.

The amendment consists of changes in the Technical Specifications that modify the usage of existing automatic isolation valves associated with the installation of a nitrogen recirculation system.

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

Sincerely,

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

Enclosures:
1. Amendment No. 32 to License No. DPR-57
2. Safety Evaluation
3. Federal Register Notice

SEE PREVIOUS YELLOW FOR CONCURRENCE

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Docket No. 50-321

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

Gentlemen:

In response to your request dated April 13, 1976, the Commission has issued the enclosed Amendment No. 32 to Facility Operating License No. DPR-57 for the Edwin I. Hatch Nuclear Plant Unit 1.

The amendment consists of changes in the Technical Specifications that modify the usage of existing automatic isolation valves associated with the installation of a nitrogen recirculation system.

Since the amendment is not effective until the torus to drywell nitrogen recirculation system is fully operational and the primary containment has been inerted, it is requested that the Commission be notified promptly, in writing, when these conditions have been met.

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

Sincerely,

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

Enclosures:
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cc:

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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. 32
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 13, 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; 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.

   E. An environmental statement or negative declaration need not be prepared in connection with the issuance of this amendment.

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

George Lear

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

Attachment:
Changes to the
Technical Specifications

Date of Issuance: May 28, 1976

ATTACHMENT TO LICENSE AMENDMENT NO. 32

TO THE TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NO. DPR-57

DOCKET NO. 50-321

Replace page 3.7-16 with the attached revised page. No change has been made on page 3.7-15.

4.7.E. References

1. "Reactor Containment Leakage Testing for Water Cooled Power Reactors", Appendix J to 10CFR50.54,(o) February 14, 1973.

2. "Testing Criteria for Integrated Leak Rate Testing of Primary Containment Structures for Nuclear Power Plants", Topical Report BN-TOP-1, Revision 1, Bechtel Corp. Issued November 1, 1972.

TABLE 3.7-1

PRIMARY CONTAINMENT ISOLATION VALVES

Isolation Group (b)	Valve Identification (d)	Number of Power Operated Valves		Maximum Operating Time (sec)	Normal Position (a)	Action on Initiating Signal (a)
		Inside	Outside			
1	Main steam line (B21-F022 A,B,C,D; B21-F028 A,B,C,D)	4	4	3<T<5	O	GC
1	Main steam line drain (B21-F016, B21-F019)	1	1	15	C	SC
1	Reactor water sample line (B31-F019, B31-F020)	1	1	5	C	SC
2	H_2 - O_2 Analyzer system (P33-P001)		2 each line	5	O	GC
2	Drywell purge inlet (T48-F307, T48-F308)		2	5	C	SC
2	Drywell main exhaust (T48-F319, T48-F320)		2	5	O	GC
2	Drywell exhaust valve bypass to standby gas treatment (T48-F341, T48-F340)		2	5	C	SC
2	Drywell nitrogen make-up line (normal operation) (T48-F118A)		1	5	O	GC
2	Suppression chamber purge inlet (T48-F309, T48-F324)		2	5	C	SC
2	Suppression chamber main exhaust (T48-F318, T48-F326)		2	5	O	GC

Amendment No. 32

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

AMENDMENT NO. 32 TO FACILITY OPERATING LICENSE NO. DPR-57

GEORGIA POWER COMPANY AND OGLETHORPE ELECTRIC MEMBERSHIP CORPORATION

EDWIN I. HATCH NUCLEAR PLANT UNIT 1

DOCKET NO. 50-321

Introduction

By letter dated April 13, 1976, Georgia Power Company (GPC) requested an amendment to Facility Operating License No. DPR-57 for Edwin I. Hatch Nuclear Plant Unit 1 which would revise the Technical Specifications to reflect the installation of a nitrogen recirculation system. Information related to the installation of the nitrogen recirculation system was previously submitted in letters dated April 6 and April 12, 1976.

Background

The Edwin I. Hatch Nuclear Plant Unit 1 is a boiling water reactor (BWR) which is housed in a Mark I primary containment. The Mark I primary containment is a pressure suppression type of primary containment that consists of a drywell and a suppression chamber (also referred to as the torus). The suppression chamber, or torus, contains a pool of water and is designed to suppress the pressure during a postulated loss-of-coolant accident (LOCA) by condensing the steam released from the reactor primary system.

Analysis, and reduced scale testing, of the Mark III containment, performed by the General Electric Company, identified a phenomenon referred to as the pool swell phenomenon. Subsequent reduced scale testing of a Mark I containment configuration, and extrapolation of the test results, has indicated that the post-LOCA loadings on the torus vessel may be significantly greater than originally considered in design. As a result, GPC agreed to institute "differential pressure control procedures" to mitigate the pool dynamic loads and, thereby, to restore the margin of safety in the containment design. The differential pressure control procedures involve the establishment of a positive differential pressure between the drywell and torus regions of the containment. Differential pressure control reduces the height of the water leg in the downcomers and, consequently, reduces hydrodynamic loads on the torus in the event of a postulated LOCA.

To control combustible gases following a postulated loss-of-coolant accident, the drywell atmosphere will be inerted with nitrogen during normal operation. The inclusion of a positive differential pressure between the drywell and

torus results in a loss of nitrogen from the drywell to the torus airspace from leakage through the vacuum breakers on the vent headers. To minimize the loss of nitrogen from the system, the licensee has proposed a recirculation system which would collect the nitrogen in the torus and return it to the drywell.

Discussion

The Torus to Drywell Nitrogen Recirculation System (TDNRS) installed at Hatch Unit 1 consists of a gas compression circuit located outside of the drywell and torus containment purge valves. The recirculation line takes suction from the torus purge line down stream of two primary containment isolation valves and the discharge side of the system joins the drywell purge line down stream of two primary containment isolation valves. The TDNRS includes two redundant compressors, a nitrogen after cooler, associated piping and valves, and an instrumentation and control subsystem to maintain the torus to drywell differential pressure greater than or equal to 1.20 psid.

The primary containment isolation valves in the torus and drywell purge lines are currently listed in Table 3.7.1, "Primary Containment Isolation Valves", of the Hatch Unit 1 Technical Specifications as "normally closed" during reactor operation. Since these four valves must be "normally open" in order for the TDNRS to perform its design function, GPC has requested an appropriate change to the Technical Specifications.

Evaluation

We have reviewed the nitrogen recirculation system for Hatch Unit 1 with regard to both containment isolation capability and potential adverse effects on containment function during a postulated loss-of-coolant accident (LOCA).

Operation of the TDNRS at Hatch Unit 1 requires that the normal position of the two drywell exhaust line isolation valves and the two torus exhaust line isolation valves be changed from "normally closed" to "normally open". Although these four valves were originally intended to be normally closed, they were designed in consideration of the fact that they would be required to be open during certain operational procedures (i.e., primary containment inerting and torus/drywell purging). Consequently these four containment isolation valves were designed for quick closure in the event that they were in the open position at the time of a postulated LOCA. (Specifically, these valves are designed to close within 5 seconds following receipt of a Group 2 containment isolation). The inboard and outboard isolation valves are powered from separate emergency power sources, thereby assuring that the failure of a single active component associated with the TDNRS would not prevent primary containmnet isolation.

The consequences of operation with these four containment isolation valves open at the time of a postulated LOCA were previously reviewed prior to the issuance of the Operating License for Hatch Unit 1. That previous review formed

the basis of requirements for the 5 second maximum valve closure time and the redundant power supplies for the valves. Therefore, we have concluded that operation with the torus and drywell exhaust isolation valves in the "normally open" position does not compromise the existing capability for primary containment isolation.

Operation of the TDNRS could have an adverse effect on primary containment function during a postulated LOCA since the system inherently involves the direct communication of the drywell and the torus airspace. The pressure-suppression containment concept requires that the steam released to the drywell from the postulated LOCA be routed to the torus through the vent system into the suppression pool water which will absorb the energy associated with the blowdown. The Hatch Unit 1 TDNRS is designed with minimum size piping lines of 2 to 3 inches diameter. The low mass flow rate associated with this size piping, in conjunction with the existing redundant capability for automatic isolation of the TDNRS from the primary containment during a postuated LOCA, provides assurance that the amount of steam bypass through the TDNRS will be negligible. In addition, swing check valves are provided down stream of each compressor and downstream of the nitrogen after cooler, thereby preventing reverse flow from the drywell to the torus and further minimizing the potential for steam bypass. Therefore, we have concluded that operation of the Hatch Unit 1 TDNRS, as proposed, has a negligible potential for adverse effects on the primary containment function during the postulated LOCA.

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 statement, negative declaration, or environmental 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 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.

Dated: May 28, 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

Notice is hereby given that the U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 32 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 consists of changes in the Technical Specifications that modify the usage of existing automatic isolation valves associated with the installation of a nitrogen recirculation system.

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.

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 futher details with respect to this action, see (1) the application for amendment dated April 13, 1976, (2) Amendment No. 32 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 28 day of May 1976.

FOR THE NUCLEAR REGULATORY COMMISSION

George Lear

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