

October 6, 1993

Docket Nos. 50-321
and 50-366

DISTRIBUTION

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Dear Mr. Beckham:

SUBJECT: ISSUANCE OF AMENDMENTS - EDWIN I. HATCH NUCLEAR PLANT,
UNITS 1 AND 2 (TAC NOS. M86921 AND M86922)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 189 to Facility Operating License DPR-57 and Amendment No. 128 to Facility Operating License NPF-5 for the Edwin I. Hatch Nuclear Plant, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated June 28, 1993.

The amendments revise Unit 1 TS 3.7.A.4 and Unit 2 TS 3.6.4.1, and their associated Bases, to allow one or more suppression chamber-drywell vacuum breakers to open during surveillance testing or when performing their intended function without considering them inoperable.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Original signed by:

Kahtan N. Jabbour, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 189 to DPR-57
2. Amendment No. 128 to NPF-5
3. Safety Evaluation

cc w/enclosures:
See next page

OFFICIAL RECORD COPY
FILE NAME: G:\HATCH\HAT86921.AMD

OFFICE	PDII-3/LL	PDII-3/PM	PDII-3/PM
NAME	LBERRY	EWANG:CP	KJABBOUR
DATE	9/17/93	9/17/93	9/17/93

OFFICE	BC:SOSE	BC:OTSB	OGC	PDII-3/D
NAME	R.BARRETT	C.GRIMES	C.MARCO	D.MATTHEWS
DATE	9/23/93	9/30/93	10/16/93	10/16/93

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Georgia Power Company

Edwin I. Hatch Nuclear Plant

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

GEORGIA POWER COMPANY

OGLETHORPE POWER CORPORATION

MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA

CITY OF DALTON, GEORGIA

DOCKET NO. 50-321

EDWIN I. HATCH NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 189
License No. DPR-57

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Edwin I. Hatch Nuclear Plant, Unit 1 (the facility) Facility Operating License No. DPR-57 filed by the Georgia Power Company, acting for itself, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia (the licensees), dated June 28, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as 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 set forth in 10 CFR Chapter I;
 - 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.

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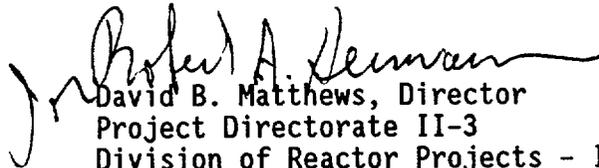
2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-57 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 189, 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 and shall be implemented no later than 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



David B. Matthews, Director
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: October 6, 1993



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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 2
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 128
License No. NPF-5

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Edwin I. Hatch Nuclear Plant, Unit 2 (the facility) Facility Operating License No. NPF-5 filed by the Georgia Power Company, acting for itself, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia (the licensees), dated June 28, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as 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 set forth in 10 CFR Chapter I;
 - 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.

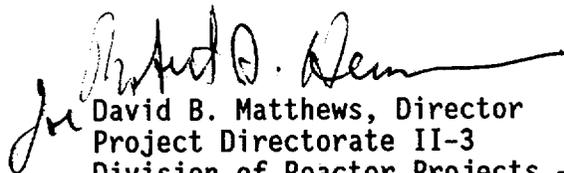
2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-5 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 128, 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 and shall be implemented no later than 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



David B. Matthews, Director
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: October 6, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 189

FACILITY OPERATING LICENSE NO. DPR-57

DOCKET NO. 50-321

AND

TO LICENSE AMENDMENT NO. 128

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 vertical lines indicating the areas of change.

	<u>Remove Pages</u>	<u>Insert Pages</u>
Unit 1	3.7-8 3.7-31	3.7-8 3.7-31
Unit 2	3/4 6-33 B 3/4 6-5	3/4 6-33 B 3/4 6-5

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
<p>3.7.A.4. <u>Pressure Suppression Chamber to Drywell Vacuum Breakers</u></p>	<p>4.7.A.4. <u>Pressure Suppression Chamber to Drywell Vacuum Breakers</u></p>
<p>a. When primary containment is required, all pressure suppression chamber to drywell vacuum breakers shall be operable and positioned in the fully closed position * except that up to three vacuum breakers may be inoperable for opening provided that they are known to be in the closed position.</p> <p>b. If either of the closed position indicating lights for a pressure suppression chamber to drywell vacuum breaker is inoperable, continued reactor operation is permissible only if: (1) the operability of the redundant closed position indicating circuit is verified, and (2) a leakage test of the pressure suppression chamber to drywell vacuum breaker system is satisfactorily performed within 24 hours.</p> <p style="padding-left: 40px;">If either of these requirements cannot be met, the reactor must be in the cold shutdown condition within 36 hours.</p> <p>c. The differential pressure which actuates the pressure suppression chamber to drywell vacuum breakers shall be 0.5 psid or less.</p> <p>d. The total leakage between the drywell and pressure suppression chamber shall be less than the equivalent leakage through a one-inch diameter orifice at a differential pressure of one psi.</p>	<p>a. The pressure suppression chamber drywell vacuum breakers shall be visually inspected each refueling outage and checked for operability monthly.</p> <p>b. Closed position is indicated by redundant lights in the main control room which are operated by two separate closed position switches and circuits for each vacuum breaker. If either redundant position indicating light is inoperable or shows that the vacuum breaker is stuck open, the affected vacuum breaker shall be exercised within two hours to demonstrate operability of the remaining position indicating circuit, and every 15 days thereafter until the redundant circuit is repaired.</p> <p>c. Each pressure suppression chamber to drywell vacuum breaker shall be tested for proper opening differential pressure each refueling outage.</p> <p>d. A leak test of the pressure suppression chamber to drywell vacuum breaker system shall be conducted at the end of each refueling outage and every 15 days when reactor operation is continued under the requirements of 3.7.A.4.b.</p>

*One or more vacuum breakers may be open during surveillances or when performing their intended function.

3.7.A.4. Pressure Suppression Chamber to Drywell Vacuum Breakers

The purpose of the pressure suppression chamber to drywell vacuum breakers is to equalize pressure in order to maintain structural integrity of the containment. Differential pressure between the suppression chamber and the drywell can be due to depressurization of the drywell caused by events such as cooling cycles, inadvertent drywell spray actuation, and steam condensation from sprays or subcooled water reflood of a break in the event of a primary system rupture. Operations which add gas to the suppression chamber and/or remove gas from the drywell can also increase the differential pressure. For example, such operations may include inerting or deinerting of the primary containment.

The twelve pressure suppression chamber to drywell vacuum breakers limit the pressure differential between the suppression chamber and drywell during post-accident drywell cooling operations. They are sized on the basis of the Bodega Bay pressure suppression system tests. The ASME Boiler and Pressure Vessel Code, Section III, Subsection B, allows a 2 psig vacuum for the drywell. With three vacuum relief valves secured in the closed position and nine operable valves, containment integrity is not impaired.

The Bodega Bay pressure suppression tests provided the most limiting requirements for sizing these vacuum breakers; a minimum vacuum breaker flow area equal to 1/16 the downcomer vent area was established by the test to minimize the water oscillations in the downcomer. The downcomer vent area for Hatch is approximately 214 ft² which results in a minimum total vacuum breaker area of 13.4 ft² and translates into nine 18-inch vacuum breakers. The 12 vacuum breakers actually provide more than the minimum required area even considering the single failure of one vacuum breaker. Suppression chamber to drywell differential pressure resulting from vacuum breaker sizing of 1/16 the downcomer vent area is well below the design requirement of approximately 2 psid. Reference Section 5.2.3.6.1 of the FSAR.

The position indication system for the Hatch pressure suppression chamber to drywell vacuum breakers consists of three position switches, two of which are highly sensitive closed position indicating switches which are physically separated from each other. Due to the "snap" action of the magnetic latch provided, the "not closed" position would be indicated immediately upon opening. The closed position switches will indicate the valve to be open when the pallet is approximately .015 to .035 inches away from the seat at the location of the switches; the pallet would be at an angle of approximately 3 to 7 minutes open, respectively, at that time. Reference Section 5.2.3.6.1 of the FSAR.

CONTAINMENT SYSTEMS

3/4.6.4 VACUUM RELIEF

SUPPRESSION CHAMBER - DRYWELL VACUUM BREAKERS

LIMITING CONDITION FOR OPERATION

3.6.4.1 All suppression chamber - drywell vacuum breakers shall be OPERABLE and closed* with:

- a. A total leakage between the suppression chamber and the drywell or less than the equivalent leakage through a 1 inch diameter orifice at a differential pressure of 1 psi,
- b. The redundant position indicators OPERABLE, and
- c. An opening set point of ≤ 0.5 psid.

APPLICABILITY: CONDITIONS 1, 2 and 3.

ACTION:

- a. With up to two suppression chamber - drywell vacuum breakers inoperable for opening but known to be closed, the provisions of Specification 3.0.4 are not applicable and operation may continue provided Surveillance Requirement 4.6.4.1.a is performed on the OPERABLE vacuum breakers within 2 hours and at least once per 15 days thereafter. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. With three suppression chamber - drywell vacuum breakers inoperable for opening but known to be closed, operation may continue provided Surveillance Requirement 4.6.4.1.a is performed on the OPERABLE vacuum breakers within 2 hours and at least once per 15 days thereafter. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- c. With four suppression chamber - drywell vacuum breakers inoperable for opening but known to be closed, restore at least one inoperable vacuum breaker to OPERABLE status within 72 hours to be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

*One or more vacuum breakers may be open during surveillances or when performing their intended function.

CONTAINMENT SYSTEMS

BASES

3/4.6.4 VACUUM RELIEF

Vacuum relief breakers are provided to equalize the pressure between the suppression chamber and drywell and between the reactor building and suppression chamber. This system will maintain the structural integrity of the primary containment under conditions of large differential pressures.

Differential pressure between the suppression chamber and the drywell can be due to depressurization of the drywell caused by events such as cooling cycles, inadvertent drywell spray actuation, and steam condensation from sprays or subcooled water reflow of a break in the event of a primary system rupture. Operations which add gas to the suppression chamber and/or remove gas from the drywell can also increase the differential pressure. For example, such operations may include functional testing of the primary containment hydrogen recombiners and inerting/deinerting of the primary containment.

The vacuum breakers between the suppression chamber and the drywell must not be inoperable in the open position since this would allow bypassing of the suppression pool in case of an accident. There are an adequate number of valves to provide some redundancy so that operation may continue with no more than three vacuum breakers inoperable in the closed position.

Each set of vacuum breakers between the reactor building and the suppression chamber provides 100% relief, so operation may continue with one valve out-of-service for 7 days.

3/4.6.5 SECONDARY CONTAINMENT

Secondary containment is designed to minimize any ground level release of radioactive material which may result from an accident. The reactor building provides secondary containment during normal operation when the drywell is sealed and in service. When the reactor is shutdown or during refueling the drywell may be open and the reactor building then becomes the primary containment.

Establishing and maintaining a vacuum in the building with the standby gas treatment system once per 18 months, along with the surveillance of the doors, hatches and dampers, is adequate to ensure that there are no violations of the integrity of the secondary containment. Only one closed damper in each penetration line is required to maintain the integrity of the secondary containment.

3/4.6.6 CONTAINMENT ATMOSPHERE CONTROL

The OPERABILITY of the containment iodine filter trains ensures that sufficient iodine removal capability will be available in the event of a LOCA. The reduction in containment iodine inventory reduces the resulting site boundary radiation doses associated with containment leakage. The operation of this system and resultant iodine removal capacity are consistent with the assumptions used in the LOCA analyses.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 189 TO FACILITY OPERATING LICENSE DPR-57
AND AMENDMENT NO. 128 TO FACILITY OPERATING LICENSE NPF-5
GEORGIA POWER COMPANY, ET AL.
EDWIN I. HATCH NUCLEAR PLANT, UNITS 1 AND 2
DOCKET NOS. 50-321 AND 50-366

1.0 INTRODUCTION

By letter dated June 28, 1993, Georgia Power Company, et al. (the licensee), proposed license amendments to change the Technical Specifications (TS) for the Edwin I. Hatch Nuclear Plant, Units 1 and 2. The proposed changes would revise Unit 1 TS 3.7.A.4 and Unit 2 TS 3.6.4.1, and their associated Bases, to allow one or more suppression chamber-drywell vacuum breakers to open during surveillance testing or when performing their intended function without considering them inoperable.

2.0 EVALUATION

Both Hatch Units 1 and 2 primary containments are equipped with vacuum breakers that are designed to automatically allow differential pressure to be relieved between the suppression chamber and drywell during accident conditions. The accident of concern which requires the breakers' operability is the loss-of-coolant accident (LOCA). The requirement (as stated in Unit 1 TS 3.7.A.4 and Unit 2 TS 3.6.4.1) for all vacuum breakers to be operable and closed ensures that the steam from a postulated LOCA is directed through the vent lines and is discharged underwater in the suppression chamber where it is condensed. This process would lead to accumulation of noncondensable gases which could pressurize the suppression chamber until it equalizes with the drywell pressure. Subsequently, steam could condense in the drywell due to subcooled emergency core cooling system water flow from the break or manual initiation of the drywell spray system. This would cause a differential pressure to develop between the suppression chamber and the drywell. The vacuum breakers are designed to automatically relieve this differential pressure to protect the drywell.

As stated above, Unit 1 TS 3.7.A.4 and Unit 2 TS 3.6.4.1 require all suppression chamber-drywell vacuum breakers to be operable and closed. However, certain normal operations such as: (1) the Hatch Unit 2 functional test of the hydrogen recombiner system which is required by TS 4.6.6.2.a (Unit 1 does not have a hydrogen recombiner system), and (2) inerting the containment during startup and deinerting during shutdown, can result in the opening of one or more of the vacuum breakers. Such occurrences place the

plant in situations in which the TS requirements are not met, although the breakers are operating as designed and fully capable of fulfilling their intended safety function. A discussion of the above situations is provided below.

2.1 Hydrogen Recombiner Test

Performance of a functional test of the Hatch Unit 2 hydrogen recombiner system is required by TS 4.6.6.2.a. During this periodic testing, drywell atmosphere is drawn into the hydrogen recombiner reaction chamber and discharged to the suppression chamber. During normal operation, there is not sufficient hydrogen and oxygen to cause recombination. Thus, there is no resultant water, and gas is discharged to the suppression chamber. This causes an increase in the suppression chamber pressure relative to the drywell pressure which is relieved by the automatic opening of one or more of the suppression chamber-drywell vacuum breakers.

In the situation discussed above, the vacuum breakers are not inoperable or stuck open when they open in order to perform their safety-related function of relieving the pressure from the suppression chamber to the drywell. This test involves operating the recombiner for approximately 3 hours and is performed once every 6 months on each recombiner. Following completion of the test, the plant operators are required, by plant procedures, to verify that the vacuum breakers have reclosed.

2.2 Inerting and deinerting during startup and shutdown

During inerting, nitrogen is fed into the suppression chamber which increases the pressure of the suppression chamber atmosphere. When the differential pressure between the suppression chamber and the drywell reaches a certain limit, one or more vacuum breakers will open allowing the nitrogen to pass into the drywell and, thus, reducing the oxygen concentration. The drywell is then vented to maintain its pressure within acceptable limits. During deinerting, the same process is used except air is used in lieu of nitrogen. Following completion of the test, the plant operators are required, by plant procedures, to verify that the vacuum breakers have reclosed.

Inerting and deinerting are only performed during startup and shutdown for brief periods of time. The probability of a LOCA occurring during one of these brief periods is extremely small. However, if a LOCA were to occur, the drywell pressure will increase which would force the vacuum breaker back to its closed position, thus, eliminating the bypass leakage path.

Based on the above evaluations, the staff finds that the proposed TS revisions have no adverse impact on safety, do not pose an undue risk to public health and safety, and therefore, are acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Georgia State official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve 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 amendments involve no significant hazards consideration, and there has been no public comment on such finding (58 FR 39051 dated July 21, 1993). Accordingly, the amendments meet 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 amendments.

5.0 CONCLUSION

The Commission has 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: E. Wang
K. Jabbour

Date: October 6, 1993