DMB 016

May 14, 1985

Docket No. 50-366

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Mr. J. T. Beckham, Jr.
Vice President - Nuclear Generation
Georgia Power Company
P. O. Box 4545
Atlanta, Georgia 30302

Dear Mr. Beckham:

The Commission has issued the enclosed Amendment No.46 to Facility Operating License No. NPF-5 for the Edwin I. Hatch Nuclear Plant, Unit No. 2. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated May 9, 1985.

The amendment revises the overcurrent trip setpoints of the circuit breakers for one drywell cooling unit and three drywell cooling return air fans. These circuit breakers protect the primary containment penetration electrical conductors for these four items of drywell cooling equipment against failure due to overcurrent. You received oral authorization for this change on May 10, 1985.

Other areas of change to the TSs requested in your May 9, 1985 letter will be addressed in separate NRC actions.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance and Final Determination of No Significant Hazards Consideration and Opportunity for Hearing will be included in the Commission's next Monthly Notice.

Sincerely,

ORIGINAL SIGNED BY:

George W. Rivenbark, Project Manager
Operating Reactors Branch #4
Division of Licensing

Enclosures:
1. Amendment No. 46
2. Safety Evaluation

cc w/enclosures:
See next page

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

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 NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 46
License No. NPF-5

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

   A. The application for amendment by Georgia Power Company, et al., (the licensee) dated May 9, 1985, 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 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. 46 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment became effective on May 10, 1985.

FOR THE NUCLEAR REGULATORY COMMISSION

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 14, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 46

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 a vertical line indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

| Remove | Insert |
|---|---|
| 3/4 8-22 | 3/4 8-22 |
| 3/4 8-23 | 3/4 8-23 |

TABLE 3.8.2.6-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR
OVERCURRENT PROTECTIVE DEVICES

| DEVICE NUMBER AND LOCATION* | TRIP SETPOINT (Amperes) | RESPONSE TIME (Milliseconds) | SYSTEM/COMPONENT POWERED |
|---|---|---|---|
| c. Type 3: | | | |
| 1. 600 VAC, MCB, T.M. 2R24-S014, COMPT. 5E | 15 | NA | RECIRC. PUMP MOTOR HEATER 2B31-C001B |
| 2. 600 VAC, MCB, T.M. 2R24-S013, COMPT. 5B | 15 | NA | REACTOR RECIRC. PUMP MOTOR HEATER 2B31-C001A |
| d. Type 4: | | | |
| 1. 120 VAC, MCB, T.M. 2R25-S102, CKT. 10 | 20 | NA | CABLES BHE805M01 AND BHE808M02 |
| 2. 120 VAC, MCB, T.M. 2R25-S101, CKT. 10 | 20 | NA | CKTS, BGE708M01 AND BGE708M02 |
| e. Type 5: | | | |
| 1. 600 VAC, MCB, M.O. 2R24-S014, COMPT. 2A | 7 | NA | DRYWELL EQUIP. DR. SUMP DISCH. MOV 2G11-F018 |
| 2. 600 VAC, MCB, M.O. 2R24-S014, COMPT. 6C | 15 | NA | DRYWELL EQUIP. DRAIN SUMP RECIRC. MOV 2G11-F015 |
| 3. 600 VAC, MCB, M.O. 2R24-S012, COMPT. 19C | 22 | NA | RCIC STEAMLINE INBOARD ISO. MOV. 2E51-F007 |
| 4. 600 VAC, MCB, M.O. 2R24-S011, COMPT. 9A | 16 | NA | RHR HEAD SPRAY ISOLATION MOV. 2E11-F022 |
| 5. 600 VAC, MCB, M.O. 2R24-S011, COMPT. 14B | 35 | NA | HPCI STEAM LINE INBOARD ISOLATION MOV. 2E41-F002 |
| 6. 600 VAC, MCB, M.O. 2R24-S011, COMPT. 14C | 22 | NA | RWCU INBOARD ISOLATION MOV. 2G31-F001 |
| 7. 600 VAC, MCB. M.O. 2R24-S011, COMPT. 15B | 19 | NA | MAIN STEAM LINE DRAIN MOV. 2B21-F016 |

*M.C.B. - molded case circuit breaker
M.O. - magnetic only
T.M. - thermal magnetic

TABLE 3.8.2.6-1 (Continued)

PRIMARY CONTAINMENT PENETRATION CONDUCTOR
OVERCURRENT PROTECTIVE DEVICES

| DEVICE NUMBER AND LOCATION* | TRIP SETPOINT (Amperes) | RESPONSE TIME (Milliseconds) | SYSTEM/COMPONENT POWERED |
|---|---|---|---|
| f. Type 6: | | | |
| 1. 600 VAC, MCB, M.O. 2R24-S018A, COMPT. 2A | 200 | NA | LOOP 'A' PUMP SUCTION MOV 2B31-F023A |
| 2. 600 VAC, MCB, M.O. 2R24-S018A, COMPT. 2B | 215<br>135** | NA | LOOP 'A' PUMP DISCH. MOV 2B31-F031A |
| 3. 600 VAC, MCB, M.O. 2R24-S018B, COMPT. 3A | 270 | NA | LOOP 'B' PUMP SUCTION MOV 2B31-F023B |
| 4. 600 VAC, MCB, M. O. 2R24-S018B, COMPT. 3B | 185<br>135** | NA | LOOP 'B' PUMP DISCH. MOV 2B31-F031B |
| 5. 600 VAC, MCB, M.O. 2R24-S014, COMPT. 1B | 190 | NA | DRYWELL EQUIP. DRAIN PUMP B 2G11-C006B |
| 6. 600 VAC, MCB, M.O. 2R24-S014, COMPT. 7D | 140 | NA | DRYWELL FLOOR DRAIN SUMP PUMP 'B' 2G11-C001B |
| 7. 600 VAC, MCB, M.O. 2R24-3013, COMPT. 4A | 150 | NA | DRYWELL FLOOR DRAIN SUMP PUMP 1A 2G11-C001A |
| 8. 600 VAC, MCB, M.O. 2R24-S013, COMPT. 4B | 130 | NA | DRYWELL EQUIP. DRAIN SUMP PUMP A 2G11-C006A |
| 9. 600 VAC, MCB, M.O. 2R24-S012, COMPT. 18E | 480 | NA | DRYWELL COOLING UNIT 2T47-B007B |
| 10. 600 VAC, MCB, M.O. 2R24-S012, COMPT. 19A | 320 | NA | DRYWELL COOLING UNIT 2T47-C001B |
| 11. 600 VAC, MCB, M.O. 2R24-S011, COMPT. 6C | 190 | NA | RHR SHUTDOWN COOLING ISO. MOV 2E11-F009 |
| 12. 600 VAC, MCB, M.O. 2R24-S011, COMPT. 18A | 455 | NA | DRYWELL COOLING UNIT 2T47-B007A |
| 13. 600 VAC, MCB, M.O. 2R24-S011, COMPT. 18C | 320 | NA | DRYWELL COOLING RETURN AIR FAN 2T47-C991A |

*M.C.B. - molded case circuit breaker
M.O. - magnetic only
T.M. - thermal magnetic

**This trip setpoint becomes effective following the next shutdown after September 28, 1984.

## TABLE 3.8.2.6-1 (Continued)

## PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

| DEVICE NUMBER AND LOCATION* | TRIP SETPOINT (Amperes) | RESPONSE TIME (Milliseconds) | SYSTEM/COMPONENT POWERED |
|---|---|---|---|
| g. Type 7: | | | |
| 1. 208 VAC, MCB, M.O. 2R24-S013, COMPT. 11D | 110 | NA | DRYWELL CHEMICAL SUMP PUMP 2G11-C101 |
| 2. 208 VAC, MCB, M.O. 2R24-S012, COMPT. 23C | 85 | NA | DRYWELL RETURN AIR FAN 2T47-C002B |
| 3. 208 VAC, MCB, M.O. 2R24-S011, COMPT. 22C | 85 | NA | DRYWELL COOLING RETURN AIR FAN 2T47-C002A |

*M.C.B. - molded case circuit breaker.
M.O. - magnetic only.
T.M. - thermal magnetic.

ELECTRICAL POWER SYSTEMS

3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS

ELECTRIC POWER MONITORING FOR REACTOR PROTECTION SYSTEM

LIMITING CONDITION FOR OPERATION

3.8.2.7 The power monitoring system for a RPS MG set or the Alternate Source shall be OPERABLE if in service.

APPLICABILITY: At all times.

ACTION:

With the power monitoring system for a RPS MG set or the Alternate Source inoperable, restore the inoperable power monitoring system to OPERABLE status within 30 minutes or remove the RPS MG set or Alternate Source associated with the inoperable power monitoring system from service.

One channel of a power monitoring system may be inoperable, as necessary for test or maintenance, not to exceed 8 hours per month.

SURVEILLANCE REQUIREMENTS

4.8.2.7 The above specified RPS power monitoring system instrumentation shall be determined OPERABLE:

a. At least once per 6 months by performing a FUNCTIONAL TEST; and

b. At least once per operating cycle by demonstrating the OPERABILITY of over-voltage, under-voltage and under-frequency protective instrumentation by performance of a CHANNEL CALIBRATION including simulated automatic actuation of the protective relays, tripping logic and output circuit breakers and verifying the following setpoints.

   1. Over-voltage $\leq$ 132 VAC,

   2. Under-voltage $\geq$ 108 VAC, with time delay relay set to zero*, and

   3. Under-frequency $\geq$ 57 Hz.

*Pending NRC approval of different value.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 46 TO FACILITY OPERATING LICENSE NO. NPF-5

GEORGIA POWER COMPANY
OGLETHORPE POWER CORPORATION
MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA
CITY OF DALTON, GEORGIA

EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 2

DOCKET NO. 50-366

## Introduction

By letter dated May 9, 1985, Georgia Power Company (the licensee) requested an emergency change to Edwin I. Hatch Nuclear Plant, Unit No. 2, Technical Specification (TS) 3.8.2.6 dealing with setpoints for overcurrent protective devices for electrical penetrations installed in the primary containment.

The licensee is requesting approval of either of two separate proposed revisions to the TSs. The licensee's preferred revision would remove all setpoints from Table 3.8.2.6-1, "Primary Containment Penetration Conductor Overcurrent Protective Devices." The alternate revision would modify the setpoints of four specific breakers serving the drywell cooling unit and the drywell cooling return air fans. Two additional changes, of an administrative nature, were requested. These changes are common to either proposed revision. One administrative change corrects a typographical error in the parts listing for a component. The other administrative change revises motor control center frame identifications for two breakers for circuits which have been moved. According to the licensee, these administrative changes would not affect unit operation but are necessary to maintain the technical accuracy of the table. During the review, questions were raised concerning the surveillance requirements of TS 4.8.2.6.1.a.2.

Removal of all setpoints from Table 3.8.2.6-1 was not evaluated, as this did not appear appropriate in the context of an Emergency TS review. Additionally, two changes of an administrative nature, as proposed by the licensee, were not addressed.

## Background

During scheduled surveillance testing, four breakers were discovered, which must have their trip setpoints set at values higher than those currently specified in Table 3.8.2.6-1, in order for their associated circuits to function properly. TS Table 3.8.2.6-1 lists trip setpoints (in amperes) for circuit breakers which provide overcurrent protection for electrical penetrations through the primary containment. The basis for the trip setpoint specification is the protection of the electrical penetration from

the effects of overcurrent. However, the values listed in the table correspond to the current at which damage to the connected load or associated cables could occur. This amount of current is generally much lower than that at which damage to the penetration itself would occur.

The four breakers not in conformance with Table 3.8.2.6-1 are associated with the drywell cooling unit and the drywell cooling return air fans. The drywell coolers consist of a fan and cooler arrangement and are used to provide temperature control within the drywell. TS 3.8.2.6 allows the plant to startup and continue operation when the trip setpoints are not met, provided that the associated equipment (in this case the drywell cooling unit and the drywell cooling return air fans) be de-energized. The drywell coolers are normally in continuous operation when the plant is at normal operating temperature. Failure to grant the emergency change in TSs would prevent the unit from restarting due to the increased drywell temperatures that would result if these fans were de-energized. The unit is currently shutdown for refueling with restart scheduled for May 12, 1985.

This request for an emergency change to TS 3.8.2.6 is similar to a previous emergency request filed by the licensee (submittals of August 27, 1984, and September 20, 1984) and granted by the NRC on September 28, 1984. Apparently the need to change the setpoints in Table 3.8.2.6-1 for the drywell cooling unit and the drywell cooling return air fans was not recognized at that time. The licensee states in their submittal of May 9, 1985, that a review has been conducted to assure that no other breakers listed in Table 3.8.2.6-1 require a similar modification of their setpoints.

Evaluation

Electrical overload protection for containment penetrations is essential to protect the integrity of the reactor containment structure. Technical guidance is provided in NRC Regulatory Guide 1.63, "Electric Penetration Assemblies in Containment Structures for Water-Cooled Nuclear Power Plants," dated October 1973. This guide basically endorses IEEE Standard 317-1972 as an acceptable method of complying with the regulations. The licensee committed to conform to Regulatory Guide 1.63, as stated on page 8.3-21 of the Hatch Unit 2 Updated Final Safety Analysis Report. A major feature of these documents is to specify redundant (single-failure proof) overload protection at current-time values below the damage threshold for the penetration assembly.

The licensee has stated that two of the penetration assemblies involved (Items g.2 and g.3, on Table 3.8.2.6-1) are General Electric 100-Series penetrations using #8 wire size and are capable of withstanding the following current conditions:

1. Steady state current rating - 50 amps
2. Startup current rating (30 seconds) - 350 amps
3. Short circuit current rating (8 cycles or 0.133 seconds) - 3300 amps RMS asymmetrical or 2350 amps symmetrical

The other two affected penetrations (Items f.10 and f.13, on Table 3.8.2.6-1) are General Electric 100 Series Electric Penetration Assemblies using #6 size wire. Reviews of the specifications for this type penetration assembly indicate the following current versus time ratings for each circuit in the penetration:

1. Steady state current rating - 70 amps
2. Startup current rating (30 seconds) - 490 amps
3. Short circuit current rating (0.133 seconds) - 5200 amps RMS asymmetrical or 3850 amps symmetrical

The circuit breakers involved are Westinghouse Mark 75 HFB type molded case magnetic only (providing short circuit protection only) breakers. Reviews of manufacturer's specification sheets and characteristics trip curves for this type breaker indicate an interrupt time of approximately 0.016 seconds (one cycle). Backup protection, assuming single failures of these breakers, as required by Regulatory Guide 1.63, is provided by fuses located in the motor control centers.

As noted above, the trip setpoints presently listed in TS Table 3.8.2.6-1 are not based solely on protection of containment penetrations. The trip setpoints of the affected breakers are based on general guidelines designed to protect cables inside containment, assuming a ground fault in the load. The Georgia Power Company procedure for determination of the setpoints recommends that the setpoint be 200% of locked rotor amperage (LRA), if known, or otherwise be set at 12 times full load amperage. On the other hand, the vendor recommends setting the setpoint at 160% of LRA. Since the function of the motor is lost before the breaker opens, the protection of the cables is an economic consideration rather than a safety consideration. Therefore, changes to the trip setpoints do not affect plant safety as long as they provide protection for the penetration by remaining within the current versus time limits and allow sufficient current to be supplied to the loads.

We have determined that to protect the integrity of the penetration and to comply with Regulatory Guide 1.63, any setting between the 160% LRA value and the 30 second startup current limit (350 amps for penetrations using #8 wire, 490 amps for penetrations using #6 wire) is acceptable. This is based, in part, upon the large margin afforded by the breaker, which has a fast response time compared to 30 seconds. Since the setpoint values proposed by the licensee are within the 30-second startup current limit, they also are acceptable.

Although we find the new setpoints proposed by the licensee to be acceptable, we have certain concerns which need to be addressed by the utility. Backup protection assuming single failures of these breakers, as required by Regulatory Guide 1.63 (October 1973), is provided by fuses located in the motor control centers. The licensee has agreed to verify before startup that these fuses are properly sized to provide backup protection should the breakers fail.

During the course of our review of this matter, a question arose regarding the surveillance testing of the protection devices, prescribed by Section 4.8.2.6.1.a.2 of the Hatch Unit 2 TSs. If a test current approximately equal to the trip setpoint is used, the breaker may or may not trip. Since our basis for the acceptability of the setpoint value itself is the 30-second rating of the penetration, we find a test current at any value above the setpoint but not to exceed the value of the 30-second rating to be an adequate test to satisfy TS Section 4.8.2.6.1.a.2 for this plant. In a telecon on May 10, 1985, between Mr. Ray Baker of Georgia Power Company and Mr. J. T. Beard, Mr. John Stolz, and Mr. George Rivenbark, the licensee committed to conduct such tests as defined above. NRC Region II (Mr. Roger Walker) has also agreed to this interpretation.

The NRC staff discussed the proposed revision of Table 3.8.2.6-1 which would delete all setpoints from the table and the two administrative changes with the licensee. These items will be reviewed by the NRC staff as part of a routine Technical Specification change request.

Emergency Circumstances

The emergency circumstances result from the licensee's late discovery (during recent surveillance tests performed during the current refueling outage) that the trip setpoints for the breakers that provide overcurrent protection for some of the containment electrical penetrations, as specified by the TSs, are too low for startup of the equipment powered by these conductors. These setpoints must be changed in order to startup and operate the plant. The TS values for these setpoints must be changed in order to allow operation at the changed setpoints. The licensee informed us in its letter of May 9, 1985, requesting the TS change that the unit would be ready to startup by May 12, 1985.

Final No Significant Hazards Consideration Determination

The Commission's regulations in 10 CFR 50.92 state that the Commission may make a final determination that a license amendment involves no significant hazards consideration if operation of the facility in accordance with the amendment would not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or

(2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or

(3) Involve a significant reduction in a margin of safety.

The requested change is a minor change in the overcurrent protection setpoints for four circuit breakers protecting four containment penetration electrical conductors. As noted above in this Safety Evaluation, we have concluded that this change is acceptable. The change does not affect the manner in which the plant is operated or the design bases for the plant.

Therefore, we conclude that :

(1) Operation of the facility in accordance with the amendment would not significantly increase the probability or consequences of an accident previously evaluated.

(2) Operation of the facility in accordance with the amendment would not create the possibility of a new or different kind of accident from any accident previously evaluated.

(3) Operation of the facility in accordance with the amendment would not involve a significant reduction in a margin of safety.

Accordingly, we conclude that the amendment to Facility Operating License NPF-5 revising the overcurrent protection setpoints of the four circuit breakers involves no significant hazards considerations.

The State of Georgia was consulted on this matter and had no comments on the determination.

Environmental Considerations

The amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. We have determined that the amendment involves 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 made a final no significant hazards consideration finding with respect to this amendment. Accordingly, the amendment meets 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 amendment.

Conclusion

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

Dated: May 14, 1985

Principal Contributor: W. Swenson, J. T. Beard, G. Rivenbark