

May 17, 2002

Mr. H. L. Sumner, Jr.
Vice President - Nuclear
Hatch Project
Southern Nuclear Operating
Company, Inc.
Post Office Box 1295
Birmingham, Alabama 35201-1295

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT, UNIT 2 RE: ISSUANCE OF
AMENDMENT (TAC NO. MB2007)

Dear Mr. Sumner:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 173 to Renewed Facility Operating License NPF-5 for the Edwin I. Hatch Nuclear Plant, Unit 2. The amendment consists of changes to the Technical Specifications in response to your application dated May 21, 2001.

The amendment revises the Technical Specifications to eliminate the response time testing requirements for the reactor protection system signals of reactor high steam dome pressure and reactor vessel water level low.

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,

/RA/

Leonard N. Olshan, Senior Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-366

Enclosures:

1. Amendment No. 173 to NPF-5
2. Safety Evaluation

cc w/encls: See next page

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DISTRIBUTION:

PUBLIC OGC
PDII-1 R/F ACRS
SCahill, RII GHill(2)
WBeckner

*No major changes to SE.

** See previous concurrence.

ADAMS Accession No.: ML021370358

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DATE	05/16/02	05/16/02	05/01/02	05/10/02	05/16/02

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SOUTHERN NUCLEAR OPERATING COMPANY, INC.

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 RENEWED FACILITY OPERATING LICENSE

Amendment No. 173
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) Renewed Facility Operating License No. NPF-5 filed by Southern Nuclear Operating Company, Inc. (the licensee), acting for itself, Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia (the owners), dated May 21, 2001, 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 Renewed Facility Operating License No. NPF-5 is hereby amended to read as follows:

- (2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 173 are hereby incorporated in the license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

John A. Nakoski, Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: May 17, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 173

RENEWED FACILITY OPERATING LICENSE NO. NPF-5

DOCKET NO. 50-366

Replace the following pages of the Appendix A Technical Specifications and associated Bases with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

Insert

3.3-5

3.3-5

3.3-8

3.3-8

B 3.3-30

B 3.3-30

B 3.3-31

B 3.3-31

B 3.3-32

B 3.3-32

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO

AMENDMENT NO. 173 TO RENEWED FACILITY OPERATING LICENSE DPR-

SOUTHERN NUCLEAR OPERATING COMPANY, INC., ET AL.

EDWIN I. HATCH NUCLEAR PLANT, UNIT 2

DOCKET NO. 50-366

1.0 INTRODUCTION

By application dated May 21, 2001, Southern Nuclear Operating Company, (the licensee) requested changes to the Technical Specifications (TSs) for the Edwin I. Hatch Nuclear Plant, Unit 2. The proposed changes would revise the requirement to perform response time testing (RTT) for two Reactor Protection System (RPS) functions. Specifically the proposed changes would remove references to Surveillance Requirement (SR) 3.3.1.1.16 from Table 3.3.1.1-1, Functions 3 and 4, and, therefore, eliminate the requirement to perform response time testing for the Reactor Pressure Steam Dome Pressure-High and Reactor Vessel Water Level-Low, Level 3, RPS functions. In addition, this proposed change deletes note 2 from SR 3.3.1.1.16, removing instructions that will no longer be applicable with the implementation of the proposed change.

2.0 BACKGROUND

Current standard TSs require nuclear power plants to periodically perform RTT for instrument channels in the RPS, the Emergency Core Cooling System (ECCS), and the Isolation Actuation System (IAS). The intent of these tests is to ensure that changes in the response time of instrumentation beyond the limits assumed in the safety analyses are detected; combined with instrument calibrations, this will ensure that the instrumentation is operating correctly.

IEEE Standard 338-1977 that is endorsed in Regulatory Guide 1.118, "Periodic Testing of Electric Power and Protection Systems," Rev. 2 defines a basis for eliminating RTT. Section 6.3.4 of IEEE 338-1977 states in part:

Response time testing of all safety-related equipment, per se, is not required if, in lieu of response time testing, the response time of the safety system equipment is verified by functional testing, calibration check, or other tests, or both. This is acceptable if it can be demonstrated that changes in response time beyond acceptable limits are accompanied by changes in performance characteristics which are detectable during routine periodic tests.

In January 1994, the Boiling Water Reactor Owners Group (BWROG), under the auspices of the General Electric Company, issued the licensing topical report NEDO-32291, "System Analyses for Elimination of Selected Response Time Testing Requirements." In NEDO-32291, the BWROG proposed eliminating the requirements for performance of RTT of selected instrumentation in the RPS, the ECCS, and the IAS, and the staff approved the topical report in a Safety Evaluation Report (SER) dated December 28, 1994.

On April 14, 1995, Georgia Power Company, the licensee at that time for Edwin I. Hatch Nuclear Plant, Unit 2, submitted a license amendment request to take advantage of NEDO-23391. This change eliminated the requirement to perform response time testing for selected sensors and specified loop instrumentation for the RPS, the IAS, and the ECCS. This amendment request was approved on August 23, 1995.

On November 4, 1997, the BWROG submitted Supplement 1 to topical report NEDO-32291 to expand the scope of RTT elimination. In Supplement 1 the BWROG requested the elimination of RTT for six groups of components in instrument loops with shorter response time requirements. These loops have response time requirements between 300 milliseconds (mS) and 5000 mS. The request was based upon the failure modes and effects analysis (FMEA) performed on one selected component within each group and a similarity analysis showing that the FMEA was bounding on all components within the group. The FMEA showed that any credible failure of any component would either be bounded by a bounding response time or would be detected by other surveillances. The NRC staff approved Supplement 1 in a SER dated June 11, 1999.

3.0 EVALUATION

3.1 Technical Specification Changes

The proposed TS changes would eliminate the requirement to perform response time testing for RPS functions, Reactor Pressure Steam Dome Pressure-High and Reactor Vessel Water Level-Low, Level 3. This change includes the logic and trip units, and the output relays. The sensor RTT elimination was previously approved by the staff as documented in the safety evaluation (SE) dated August 23, 1995. The functions, Reactor Pressure Steam Dome Pressure-High and Reactor Vessel Water Level-Low, Level 3, and the components that will no longer be tested were addressed in NEDO-32291, Supplement 1, and were approved in the SER dated June 11, 1999, on that topical report.

Specifically the proposed changes would remove references to SR 3.3.1.1.16 from Table 3.3.1.1-1, Function 3, Reactor Vessel Steam Dome Pressure-High, and Function 4, Reactor Vessel Water Level-Low, Level 3, and, therefore, eliminate the requirement to perform response time testing for these functions.

In addition, this proposed change deletes note 2 from SR 3.3.1.1.16, removing instructions that will no longer be applicable with the implementation of proposed change. The note reads:

2. For Functions 3 and 4, channel sensors are excluded.

This note was required when the sensors were exempted from RTT as a result of the previous April 14, 1995, license amendment request, but is no longer needed after this amendment is approved. The entire system, not just the sensor, is now no longer subject to RTT.

The SR bases section SR 3.3.1.1.16 is to be changed by deleting the fourth paragraph that makes reference to note 2, and adding a new note at the end of the section. The fourth paragraph currently reads:

Note 2 allows channel sensors for Reactor Vessel Steam Dome Pressure - High and Reactor Vessel Water Level - Low, Level 3 (Functions 3 and 4) to be excluded from RPS RESPONSE TIME testing. This allowance is supported by Reference 12 which concludes that any significant degradation of the channel sensor response time can be detected during the performance of other Technical Specifications SRs.

A new note added to the end of the basis section. The new note reads:

Note: SR 3.3.1.1.16 for Function 2.e confirms the response time of that function and also confirms the response time of loop components common to APRM two-out-of-four voter logic and other RPS loops (Refs. 12 and 19).

The Basis Reference section will be modified by adding reference 19 that will read:

19. NEDO-32291-A, Supplement 1, "System Analyses for the Elimination of Selected Response Time Testing Requirements," October 1999.

The staff has reviewed these TS changes, and concurs that these are the appropriate changes to the Hatch TSs to eliminate the RTT requirement for the two functions discussed, and are, therefore, approved.

3.2 Bounding Response Times

In Supplement 1 to NEDO-32291, the BWROG requested elimination of RTT for six groups of components. The FMEA for these components has shown that the degree to which a component response time can degrade and still not be identified by other surveillance tests is limited. The limit to which response time of a component can degrade without detection by other routine surveillances or calibration was called the "bounding response time (BRT)" of that component. Response time degradation beyond the BRT will be detected by routine surveillances or calibration. Hatch, in its request, has four components for which it has requested RTT elimination. The bounding response times for the four components are shown in the tables in the Attachment to Enclosure 1 of the submittal, and are reproduced below.

Trip Function: Reactor Vessel Steam Dome Pressure - High					
Sensor & BRT	Trip Unit⁽¹⁾⁽⁵⁾ & BRT	TU Output Relay⁽²⁾⁽⁶⁾ & BRT	Logic Relay⁽³⁾⁽⁶⁾ & BRT	Output Relay⁽⁴⁾⁽⁶⁾ & BRT	Loop BRT (Sec.)
2B21-N078A 200 mS	2B21-N678A 24 mS	2C71A-K308A 140 mS	2C71A-K5A 40 mS	2C71A-F14A,E 45 mS	0.449
2B21-N078B 200 mS	2B21-N678B 24 mS	2C71A-K308B 140 mS	2C71A-K5B 40 mS	2C71A-K14B,F 45 mS	0.449
2B21-N078C 200 mS	2B21-N678C 24 mS	2C71A-K308C 140 mS	2C71A-K5C 40 mS	2C71A-K14C,G 45 mS	0.449
2B21-N078D 200 mS	2B21-N678D 24 mS	2C71A-K308D 140 mS	2C71A-K5D 40 mS	2C71A-K14D,H 45 mS	0.449

Notes:

- (1) GE Model 184C5988Gxxx Trip Unit
- (2) Agastat Model EGPB Relay
- (3) GE Model 12HFA151A9 Relay
- (4) GE Model CR305 Magnetic Contactor
- (5) Trip Function: de-energize output
- (6) Trip Function: de-energize to open normally open contact

Trip Function: Reactor Vessel Water Level - Low. Level 3					
Sensor & BRT	Trip Unit⁽¹⁾⁽⁵⁾ & BRT	TU Output Relay⁽²⁾⁽⁶⁾ & BRT	Logic Relay⁽³⁾⁽⁶⁾ & BRT	Output Relay⁽⁴⁾⁽⁶⁾ & BRT	Loop BRT (Sec.)
2B21-N080A 180 mS	2B21-N680A 24 mS	2C71A-K305A 140 mS	2C71A-K6A 40 mS	2C71A-K14A,E 45 mS	0.429
2B21-N080B 180 mS	2B21-N680B 24 mS	2C71A-K305B 140 mS	2C71A-K6B 40 mS	2C71A-K14B,F 45 mS	0.429
2B21-N080C 180 mS	2B21-N680C 24 mS	2C71A-K305C 140 mS	2C71A-K6C 40 mS	2C71A-K14C,G 45 mS	0.429
2B21-N080D 180 mS	2B21-N680D 24 mS	2C71A-K305D 140 mS	2C71A-K6D 40 mS	2C71A-K14D,H 45 mS	0.429

Notes:

- (1) GE Model 184C5988Gxxx Trip Unit
- (2) Agastat Model EGPB Relay
- (3) GE Model 12HFA151A9 Relay
- (4) GE Model CR305 Magnetic Contactor
- (5) Trip Function: de-energize output
- (6) Trip Function: de-energize to open normally open contact

The sensors for these trip functions, and their associated BRT's have been previously approved in a staff SE dated August 23, 1995, approving Amendment No. 137 to Facility Operating License NPF-5 for the Edwin I. Hatch Nuclear Plant, Unit 2.

The specific components included in this request for which RTT elimination has been requested, and the associated BRT, is shown below:

Component	BRT
Agastat Model EGPB Relay	140 mS
GE Model 184C5988Gxxx Trip Unit	24 mS
GE Model 12HFA151A9 Relay	40 mS
GE Model CR305 Magnetic Contactor	45 mS

These values were previously approved in the staff's June 11, 1999, SER for NEDO-32291-A, Supplement 1, and are, therefore, acceptable

3.3 Verification of Component Specific Conditions

In approving NEDO-32291-A, Supplement 1, the NRC staff stipulated that licensees must address specific conditions identified in the SER for components for which RTT is no longer being required, to ensure that the bounding response time is valid. The staff's review for the four components for which Hatch has requested elimination of response time testing are discussed below.

3.3.1 Agastat Model EGPB Relay

For the Agastat EGPB relays, the approved bounding response time was determined to be 140 mS, based on the following requirements:

1. Before installation, or after any maintenance or repair of the relays, the normally open contacts of the relays are confirmed to open in 70 mS or less after power is removed from the coil.
2. The relays are within their qualified life.
3. The relays are procured by the utility as "nuclear safety related," or are dedicated for nuclear safety-related application under a utility dedication program.

The licensee, in its license amendment request, stated that:

1. Before installation, or after any maintenance or repair of the relays, the Agastat relays identified on the Attachment to this Enclosure will be tested to ensure the normally open contacts of the relays open in 70 mS or less after power is removed from the relay coil.

2. The Agastat relays identified on the Attachment to this Enclosure will be replaced prior to or at the end of their qualified life. Alternatively, a justification for life extension will be documented.
3. The relays are procured by SNC as "nuclear safety related," or are dedicated for nuclear-safety-related application under a utility dedication program.

The staff has reviewed the licensee response, and has determined that it satisfies the component specific requirement as shown in the staff's SER for NEDO-32291-A, Supplement 1, and is, therefore, acceptable.

3.3.2 GE Model 184C5988Gxxx Trip Unit

For the GE model 184C5988Gxxx trip units, the approved bounding response time was determined to be 24 mS, based on the trip units being procured by the utility as "nuclear safety related," or dedicated for nuclear safety-related application under a utility dedication program.

The licensee, in its license amendment request, stated that the trip units are procured by SNC as "nuclear safety related," or are dedicated for nuclear-safety-related application under a utility dedication program.

The staff has reviewed the licensee response and has determined that it satisfies the component specific requirement as shown in the staff's SER for NEDO-32291-A, Supplement 1, and is, therefore, acceptable.

3.3.3 GE Model 12HFA151A9 Relay

For the GE model 12HFA151A9 relays, the approved bounding response time was determined to be 40 mS, based on the following requirements:

1. The HFA manufacturer's instructions are followed for setup and adjustment of the relay before initial operation and after any repair or maintenance.
2. Before installation, or after any maintenance or repair of the relays, the normally open contacts of the relays are confirmed to open in 20 mS or less after power is removed from the coil.
3. The relays are procured by the utility as "nuclear safety related," or are dedicated for nuclear-safety-related application under a utility dedication program.

The licensee, in its license amendment request, stated that:

1. The manufacturer's instructions will be followed for setup and adjustment of the HFA relays before initial operation and after any repair or maintenance.

2. Before installation, or after any maintenance or repair of the relays, the HFA relays will be tested to ensure that the normally open contacts of the relays open in 20 mS or less after power is removed from the relay coil.
3. The relays are procured by SNC as "nuclear safety related," or are dedicated for nuclear-safety-related application under a utility dedication program.

The staff has reviewed the licensee response, and has determined that it satisfies the component specific requirement as shown in the staff's SER for NEDO-32291-A, Supplement 1, and is, therefore, acceptable.

3.3.4 GE Model CR305 Magnetic Contactor

For the GE model CR305 magnetic contactors, the approved bounding response time was determined to be either 65 mS if the APRM upscale trip test is performed as a total loop or 45 mS if the APRM upscale trip is tested in overlapping partial tests. In this case, the requirement was to determine which of the two postulated test methods are used and to use the appropriate BRT for the test method used. The licensee, in its license amendment request, stated that each scram contactor and one interposing relay are response time tested separately, and therefore, the 45 mS value is appropriate.

The staff has reviewed the licensee response, and has determined that it satisfies the component specific requirement as shown in the staff's SER for NEDO-32291-A, Supplement 1, and is, therefore, acceptable.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has 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 previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (66 FR 31713). 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.

6.0 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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Paul Loeser

Date: May 17, 2002

Edwin I. Hatch Nuclear Plant

cc:

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