

August 23, 1995

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Mr. J. T. Beckham, Jr.
Vice President - Plant Hatch
Georgia Power Company
P. O. Box 1295
Birmingham, AL 35201

SUBJECT: ISSUANCE OF AMENDMENT - EDWIN I. HATCH NUCLEAR PLANT,
UNIT 2 (TAC NO. M92097)

Dear Mr. Beckham:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 137 to Facility Operating License NPF-5 for the Edwin I. Hatch Nuclear Plant, Unit 2. The amendment consists of changes to the Technical Specifications (TS) in response to your application dated April 14, 1995, as supplemented by letters dated June 22 and July 18, 1995.

The amendment eliminates response time testing (RTT) requirements for selected sensors and specific loop instrumentations for (1) the Reactor Protection System (RPS), (2) the Isolation System, and (3) the Emergency Core Cooling System (ECCS). In addition, the Note for Surveillance Requirement 3.3.6.1.7, which reads: "Radiation detectors may be excluded," is being removed since RTT is not required for any radiation detector that provides a primary containment isolation signal as indicated in Table 3.3.6.1-1 of the TS.

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, Senior Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-366

Enclosures:

1. Amendment No.137 to NPF-5
2. Safety Evaluation

cc w/encl:

See next page

*see previous concurrence

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

August 23, 1995

Mr. J. T. Beckham, Jr.
Vice President - Plant Hatch
Georgia Power Company
P. O. Box 1295
Birmingham, AL 35201

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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,

A handwritten signature in cursive script, reading "Kahtan N. Jabbour".

Kahtan N. Jabbour, Senior Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-366

Enclosures:

1. Amendment No. 137 to NPF-5
2. Safety Evaluation

cc w/encl: See next page

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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. 50-366
EDWIN I. HATCH NUCLEAR PLANT, UNIT 2
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 137
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 April 14, 1995, as supplemented by letters dated June 22 and July 18, 1995, 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.

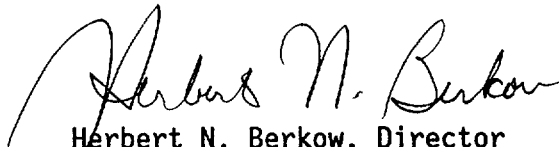
2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-5 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 137, 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 within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Herbert N. Berkow, Director
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: August 23, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 137

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.

Remove Pages

Insert Pages

3.3-6
3.3-41
3.3-42
3.3-43
3.3-44
3.3-55

3.3-6
3.3-41
3.3-42
3.3-43
3.3-44
3.3-55

3.5-6
-
-

3.5-6
3.5-6a
3.5-6b

B 3.3-31
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B 3.3-32
B 3.3-105
B 3.3-133
B 3.3-134
B 3.3-174

B 3.3-31
B 3.3-31a
B 3.3-31b
B 3.3-32
B 3.3-105
B 3.3-133
B 3.3-134
B 3.3-174

B 3.5-16
--
--

B 3.5-16
B 3.5-16a
B 3.5-16b

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.1.1.16 -----NOTES-----</p> <ol style="list-style-type: none"> 1. Neutron detectors are excluded. 2. For Functions 3 and 4, channel sensors are excluded. 3. For Function 5, "n" equals 4 channels for the purpose of determining the STAGGERED TEST BASIS Frequency. <p>-----</p> <p>Verify the RPS RESPONSE TIME is within limits.</p>	<p>18 months on a STAGGERED TEST BASIS</p>

SURVEILLANCE REQUIREMENTS

NOTES

1. Refer to Table 3.3.5.1-1 to determine which SRs apply for each ECCS Function.
2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed as follows: (a) for up to 6 hours for Functions 3.c and 3.f; and (b) for up to 6 hours for Functions other than 3.c and 3.f provided the associated Function or the redundant Function maintains initiation capability.

SURVEILLANCE	FREQUENCY
SR 3.3.5.1.1 Perform CHANNEL CHECK.	12 hours
SR 3.3.5.1.2 Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.5.1.3 Perform CHANNEL CALIBRATION.	92 days
SR 3.3.5.1.4 Perform CHANNEL CALIBRATION.	18 months
SR 3.3.5.1.5 Perform LOGIC SYSTEM FUNCTIONAL TEST.	18 months

Table 3.3.5.1-1 (page 1 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Core Spray System					
a. Reactor Vessel Water Level - Low Low Low, Level 1	1,2,3, 4(a), 5(a)	4(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ -113 inches
b. Drywell Pressure - High	1,2,3	4(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.92 psig
c. Reactor Steam Dome Pressure - Low (Injection Permissive)	1,2,3	4	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 390 psig and ≤ 476 psig
	4(a), 5(a)	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 390 psig and ≤ 476 psig
d. Core Spray Pump Discharge Flow - Low (Bypass)	1,2,3, 4(a), 5(a)	1 per subsystem	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 570 gpm and ≤ 745 gpm
2. Low Pressure Coolant Injection (LPCI) System					
a. Reactor Vessel Water Level - Low Low Low, Level 1	1,2,3, 4(a), 5(a)	4(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ -113 inches
(continued)					

(a) When associated subsystem(s) are required to be OPERABLE.

(b) Also required to initiate the associated diesel generator (DG) and isolate the associated plant service water (PSW) turbine building (T/B) isolation valves.

Table 3.3.5.1-1 (page 2 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI System (continued)					
b. Drywell Pressure - High	1,2,3	4(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.92 psig
c. Reactor Steam Dome Pressure - Low (Injection Permissive)	1,2,3	4	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 390 psig and ≤ 476 psig
	4(a), 5(a)	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 390 psig and ≤ 476 psig
d. Reactor Steam Dome Pressure - Low (Recirculation Discharge Valve Permissive)	1(c), 2(c), 3(c)	4	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 335 psig
e. Reactor Vessel Shroud Level - Level 0	1,2,3	2	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ -202 inches
f. Low Pressure Coolant Injection Pump Start - Time Delay Relay	1,2,3, 4(a), 5(a)	1 per pump	C	SR 3.3.5.1.4 SR 3.3.5.1.5	
Pumps A,B,D					≥ 9 seconds and ≤ 11 seconds
Pump C					≤ 1 second
(continued)					

(a) When associated subsystem(s) are required to be OPERABLE.

(b) Also required to initiate the associated DG and isolate the associated PSW T/B isolation valves.

(c) With associated recirculation pump discharge valve open.

Table 3.3.5.1-1 (page 3 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI System (continued)					
g. Low Pressure Coolant Injection Pump Discharge Flow - Low (Bypass)	1,2,3, 4(a), 5(a)	1 per subsystem	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 1675 gpm and ≤ 2215 gpm
3. High Pressure Coolant Injection (HPCI) System					
a. Reactor Vessel Water Level - Low Low, Level 2	1, 2(d), 3(d)	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ -47 inches
b. Drywell Pressure - High	1, 2(d), 3(d)	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.92 psig
c. Reactor Vessel Water Level - High, Level 8	1, 2(d), 3(d)	2	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 56.5 inches
d. Condensate Storage Tank Level - Low	1, 2(d), 3(d)	2	D	SR 3.3.5.1.3 SR 3.3.5.1.5	≥ 2.61 ft
e. Suppression Pool Water Level - High	1, 2(d), 3(d)	2	D	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 154 inches
(continued)					

(a) When the associated subsystem(s) are required to be OPERABLE.

(d) With reactor steam dome pressure > 150 psig.

SURVEILLANCE REQUIREMENTS

-----NOTES-----

1. Refer to Table 3.3.6.1-1 to determine which SRs apply for each Primary Containment Isolation Function.
2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains isolation capability.

SURVEILLANCE	FREQUENCY
SR 3.3.6.1.1 Perform CHANNEL CHECK.	12 hours
SR 3.3.6.1.2 Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.6.1.3 Perform CHANNEL CALIBRATION.	92 days
SR 3.3.6.1.4 Perform CHANNEL FUNCTIONAL TEST.	184 days
SR 3.3.6.1.5 Perform CHANNEL CALIBRATION.	18 months
SR 3.3.6.1.6 Perform LOGIC SYSTEM FUNCTIONAL TEST.	18 months
SR 3.3.6.1.7 -----NOTE----- Channel sensors are excluded. ----- Verify the ISOLATION SYSTEM RESPONSE TIME is within limits.	18 months on a STAGGERED TEST BASIS

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.5.1.9 -----NOTE----- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. -----</p> <p>Verify, with reactor pressure \leq 165 psig, the HPCI pump can develop a flow rate \geq 4250 gpm against a system head corresponding to reactor pressure.</p>	18 months
<p>SR 3.5.1.10 -----NOTE----- Vessel injection/spray may be excluded. -----</p> <p>Verify each ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.</p>	18 months
<p>SR 3.5.1.11 -----NOTE----- Valve actuation may be excluded. -----</p> <p>Verify the ADS actuates on an actual or simulated automatic initiation signal.</p>	18 months
<p>SR 3.5.1.12 -----NOTE----- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. -----</p> <p>Verify each ADS valve opens when manually actuated.</p>	18 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.5.1.13 -----NOTE----- ECCS injection/spray initiation instrumentation response time may be assumed from established limits. ----- Verify each ECCS injection/spray subsystem ECCS RESPONSE TIME is within limits.</p>	<p>18 months</p>

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BASES

SURVEILLANCE
REQUIREMENTS
(continued)

SR 3.3.1.1.14

The Average Power Range Monitor Flow Biased Simulated Thermal Power — High Function uses an electronic filter circuit to generate a signal proportional to the core THERMAL POWER from the APRM neutron flux signal. This filter circuit is representative of the fuel heat transfer dynamics that produce the relationship between the neutron flux and the core THERMAL POWER. The time constant is specified in the COLR and must be verified to ensure that the channel is accurately reflecting the desired parameter.

The Frequency of 18 months is based on engineering judgment considering the reliability of the components.

SR 3.3.1.1.15

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required trip logic for a specific channel. The functional testing of control rods (LCO 3.1.3), and SDV vent and drain valves (LCO 3.1.8), overlaps this Surveillance to provide complete testing of the assumed safety function.

The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month Frequency.

SR 3.3.1.1.16

This SR ensures that the individual channel response times are less than or equal to the maximum values assumed in the accident analysis. This test may be performed in one measurement or in overlapping segments, with verification that all components are tested. The RPS RESPONSE TIME acceptance criteria are included in Reference 10.

Note 1 allows neutron detectors to be excluded from RPS RESPONSE TIME testing because the principles of detector operation virtually ensure an instantaneous response time.

(continued)

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.3.1.1.16 (continued)

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.

(continued)

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BASES

SURVEILLANCE
REQUIREMENTS

SR 3.3.1.1.16 (continued)

RPS RESPONSE TIME tests are conducted on an 18 month STAGGERED TEST BASIS. Note 3 requires STAGGERED TEST BASIS Frequency to be determined based on four channels per trip system, in lieu of the eight channels specified in Table 3.3.1.1-1 for the Main Steam Line Isolation Valve—Closure Function. This Frequency is based on the logic interrelationships of the various channels required to produce an RPS scram signal. This Frequency is consistent with the typical industry refueling cycle and is based upon plant operating experience, which shows that random failures of instrumentation components causing serious response time degradation, but not channel failure, are infrequent occurrences.

REFERENCES

1. FSAR, Section 7.2.
 2. FSAR, Chapter 15.
 3. FSAR, Section 6.3.3.
 4. FSAR, Supplement 5A.
 5. FSAR, Section 15.1.12.
 6. NEDO-23842, "Continuous Control Rod Withdrawal in the Startup Range," April 18, 1978.
 7. FSAR, Section 15.1.38.
 8. P. Check (NRC) letter to G. Lainas (NRC), "BWR Scram Discharge System Safety Evaluation," December 1, 1980.
 9. NEDO-30851-P-A, "Technical Specification Improvement Analyses for BWR Reactor Protection System," March 1988.
 10. Technical Requirements Manual.
 11. NRC No. 93-102, "Final Policy Statement on Technical Specification Improvements," July 23, 1993.
 12. NEDO-32291, "System Analyses for Elimination of Selected Response Time Testing Requirements," January 1994.
-

BASES

APPLICABLE
SAFETY ANALYSES,
LCO, and
APPLICABILITY
(continued)

ECCS instrumentation satisfies Criterion 3 of the NRC Policy Statement (Ref. 6). Certain instrumentation Functions are retained for other reasons and are described below in the individual Functions discussion.

The OPERABILITY of the ECCS instrumentation is dependent upon the OPERABILITY of the individual instrumentation channel Functions specified in Table 3.3.5.1-1. Each Function must have a required number of OPERABLE channels, with their setpoints within the specified Allowable Values, where appropriate. The setpoint is calibrated consistent with applicable setpoint methodology assumptions (nominal trip setpoint). Table 3.3.5.1-1, footnote (b), is added to show that certain ECCS instrumentation Functions are also required to be OPERABLE to perform DG initiation and actuation of the PSW T/B isolation.

Allowable Values are specified for each ECCS Function specified in the table. Nominal trip setpoints are specified in the setpoint calculations. The nominal setpoints are selected to ensure that the setpoints do not exceed the Allowable Value between CHANNEL CALIBRATIONS. Operation with a trip setpoint less conservative than the nominal trip setpoint, but within its Allowable Value, is acceptable. A channel is inoperable if its actual trip setpoint is not within its required Allowable Value. Trip setpoints are those predetermined values of output at which an action should take place. The setpoints are compared to the actual process parameter (e.g., reactor vessel water level), and when the measured output value of the process parameter exceeds the setpoint, the associated device (e.g., trip unit) changes state. The analytic limits are derived from the limiting values of the process parameters obtained from the safety analysis, where applicable. The Allowable Values are derived from the analytic limits, corrected for calibration, process, and some of the instrument errors. The trip setpoints are then determined, accounting for the remaining instrument errors (e.g., drift). The trip setpoints derived in this manner provide adequate protection because instrumentation uncertainties, process effects, calibration tolerances, instrument drift, and severe environmental effects (for channels that must function in harsh environments as defined by 10 CFR 50.49) are accounted for.

(continued)

BASES

SURVEILLANCE
REQUIREMENTS
(continued)

SR 3.3.5.1.5

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required initiation logic for a specific channel. The system functional testing performed in LCO 3.5.1, LCO 3.5.2, LCO 3.7.2, LCO 3.8.1, and LCO 3.8.2 overlaps this Surveillance to complete testing of the assumed safety function.

The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month Frequency.

(continued)

BASES (continued)

REFERENCES

1. FSAR, Section 5.2.
 2. FSAR, Section 6.3.
 3. FSAR, Chapter 15.
 4. NEDC-31376-P, "Edwin I. Hatch Nuclear Power Plant, SAFER/GESTR-LOCA, Loss-of-Coolant Accident Analysis," December 1986.
 5. NEDC-30936-P-A, "BWR Owners' Group Technical Specification Improvement Analyses for ECCS Actuation Instrumentation, Part 2," December 1988.
 6. NRC No. 93-102, "Final Policy Statement on Technical Specification Improvements," July 23, 1993.
-

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.3.6.1.7 (continued)

ISOLATION SYSTEM RESPONSE TIME acceptance criteria are included in Reference 6. This test may be performed in one measurement, or in overlapping segments, with verification that all components are tested.

A Note to the Surveillance states that the channel sensors are excluded from ISOLATION SYSTEM RESPONSE TIME testing. The exclusion of the channel sensors is supported by Reference 8 which indicates that the sensors' response times are a small fraction of the total response time. Even if the sensors experienced response time degradation, they would be expected to respond in the microsecond to millisecond range until complete failure.

ISOLATION SYSTEM RESPONSE TIME tests are conducted on an 18 month STAGGERED TEST BASIS. This Frequency is consistent with the typical industry refueling cycle and is based upon plant operating experience that shows that random failures of instrumentation components causing serious response time degradation, but not channel failure, are infrequent occurrences.

REFERENCES

1. FSAR, Section 6.3.
2. FSAR, Chapter 15.
3. FSAR, Section 4.2.3.4.2.
4. NEDC-31677P-A, "Technical Specification Improvement Analysis for BWR Isolation Actuation Instrumentation," July 1990.
5. NEDC-30851P-A Supplement 2, "Technical Specifications Improvement Analysis for BWR Isolation Instrumentation Common to RPS and ECCS Instrumentation," March 1989.
6. Technical Requirements Manual.
7. NRC No. 93-102, "Final Policy Statement on Technical Specification Improvements," July 23, 1993.
8. NEDO-32291, "System Analyses for Elimination of Selected Response Time Testing Requirements," January 1994.

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.5.1.12 (continued)

SR when performed at the 18 month Frequency, which is based on the refueling cycle. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

SR 3.5.1.13

This SR ensures that the ECCS RESPONSE TIMES are less than or equal to the maximum values assumed in the accident analysis. Response time testing acceptance criteria are included in Reference 14. A Note to the Surveillance states that the instrumentation portion of the response time may be assumed from established limits. The exclusion of the instrumentation from the response time surveillance is supported by Reference 15, which concludes that instrumentation will continue to respond in the microsecond to millisecond range prior to complete failure.

The 18 month Frequency is based on the need to perform the Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the SR when performed at the 18 month Frequency, which is based on the refueling cycle. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

REFERENCES

1. FSAR, Section 6.3.2.2.3.
2. FSAR, Section 6.3.2.2.4.
3. FSAR, Section 6.3.2.2.1.
4. FSAR, Section 6.3.2.2.2.
5. FSAR, Section 15.1.39.
6. FSAR, Section 15.1.40.
7. FSAR, Section 15.1.33.

(continued)

BASES

REFERENCES
(continued)

8. 10 CFR 50, Appendix K.
 9. FSAR, Section 6.3.3.
 10. NEDC-31376P, "E.I. Hatch Nuclear Plant Units 1 and 2 SAFER/GESTR-LOCA Loss-of-Coolant Analysis," December 1986.
 11. 10 CFR 50.46.
 12. Memorandum from R.L. Baer (NRC) to V. Stello, Jr. (NRC), "Recommended Interim Revisions to LCOs for ECCS Components," December 1, 1975.
 13. NRC No. 93-102, "Final Policy Statement on Technical Specification Improvements," July 23, 1993.
 14. Technical Requirements Manual.
 15. NEDO-32291, "System Analyses for Elimination of Selected Response Time Testing Requirements," January 1994.
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 137 TO FACILITY OPERATING LICENSE NPF-5
GEORGIA POWER COMPANY, ET AL.
EDWIN I. HATCH NUCLEAR PLANT, UNIT 2
DOCKET NO. 50-366

1.0 INTRODUCTION

By letter dated April 14, 1995, as supplemented by letters dated June 22 and July 18, 1995, Georgia Power Company, et al. (the licensee or GPC), proposed a license amendment to change the Technical Specifications (TS) for the Edwin I. Hatch Nuclear Plant, Unit 2 (Plant Hatch). The proposed changes would eliminate response time testing (RTT) requirements for selected sensors and specified loop instrumentation for (1) the Reactor Protection System (RPS), (2) the Isolation System, and (3) the Emergency Core Cooling System (ECCS). In addition, the Note for Surveillance Requirement 3.3.6.1.7, which reads: "Radiation detectors may be excluded," is being removed since RTT is not required for any radiation detector that provides a primary containment isolation signal as indicated in Table 3.3.6.1-1 of the TS. The June 22 and July 18, 1995, letters provided clarifying information that did not change the scope of the April 14, 1995, application and initial proposed no significant hazards consideration determination.

2.0 BACKGROUND

The Boiling Water Reactor Owner's Group (BWROG), with GPC participation, performed an analysis to assess the impact of elimination of RTT for selected instrument loops. This analysis was documented as a Licensing Topical Report NEDO-32291 (LTR), "System Analyses for Elimination of Selected Response Time Testing Requirements," and was submitted for NRC's approval in January 1994. The NRC approved the BWROG LTR by a generic Safety Evaluation Report (SER) dated December 28, 1994, and a supplemental SER (SSER) dated May 31, 1995. The SER included Tables 1 and 2, which respectively lists make/model of instruments/devices, and systems which were evaluated in the BWROG LTR for RTT elimination. The generic SER states, "The BWROG concluded that the RTT requirements for the devices identified in Table 1 can be removed from the TSs when the devices are used in systems listed in Table 2." In addition to approving elimination of RTT for selected instrumentation, the SER stipulated certain conditions that licensees must meet to apply the SER pre-approved changes to their plant-specific TS.

The BWROG LTR section 5.3.2, inadvertently omitted a set of sensors which provide a signal to close the MSIV on a high steam flow condition. However, these sensors were included in the conclusion section and Appendix H of the LTR, and also were part of the Fermi-2 and Riverbend lead plant analyses. The BWROG identified this oversight to the staff via letter OG95-104-964 dated February 10, 1995, to the NRC and requested NRC's approval for elimination of sensor RTT for the "MSL Flow-High" function. By letter to the BWROG dated May 31, 1995, which included the SSER, the staff approved the elimination of the RTT for the sensors for the "MSL Flow-High" function.

3.0 PROPOSED CHANGES AND EVALUATION

The staff evaluated the licensee's submittal to verify that all devices/systems for which RTT elimination was requested were in accordance with the lists of Tables 1 and 2 of the SER, and that the licensee met all of the applicable conditions stipulated by the SER.

3.1 Table 3.3.1-1: Reactor Protection System (RPS) Instrumentation, Functional Unit 3, Reactor Vessel Steam Dome Pressure High, and Functional Unit 4, Reactor Vessel Low Water Level (Level 3)

Proposed change: Add note 2 to Surveillance Requirement (SR) 3.3.1.1.16 that reads: "For Functions 3 and 4, channel sensors are excluded." Designate the existing note 2 as a note 3.

Evaluation: The proposed change eliminates the RTT requirements for selected RPS channel sensors. The proposed change is in accordance with the staff's pre-approved changes as described in the generic SER and SSER. However, the staff did not agree with the licensee's definition of a sensor. On page E1-4 of the submittal, "Basis For Change Request," the licensee stated: "A sensor is defined as the component in an instrument loop that requires the maximum time to perform its intended function." On June 6, 1995, during a conference call, the licensee informed the staff that the above definition was in error and should be disregarded. The licensee documented this error through an additional submittal dated July 18, 1995. The staff considers the proposed change acceptable.

3.2 Table 3.3.6.1: Primary Containment Isolation Instrumentation, Functional Unit 1.a, Reactor Vessel Low Water level (level-1), Functional Unit 1.c, Main Steam line Flow-High

3.2.1 Proposed change: Add a note to SR 3.3.6.1.7 that reads: "Channel sensors are excluded."

Evaluation: The proposed change eliminates the requirement to perform RTT for the main steam isolation valve (MSIV) channel sensors. The proposed change is in accordance with the NRC's pre-approved changes described in the SER and SSER for the BWROG LTR NEDO-32291, and is, therefore acceptable.

- 3.2.2 Proposed change: Delete the existing note for SR 3.3.6.1.7 which reads: "Radiation detectors may be excluded."

Evaluation: The existing note for SR 3.3.6.1.7 indicates that RTT for radiation detectors that provide primary containment isolation signals as indicated in Table 3.3.6.1-1 is not required. However, Table 3.3.6.1-1 does not reference SR 3.3.6.1.7 for any radiation detector that provides primary containment isolation signals. Thus, the existing note created confusion and the removal of it would remove this confusion. Therefore, the staff considers the proposed change to be acceptable.

- 3.3 Table 3.3.5.1-1: Emergency Core Cooling System (ECCS) Instrumentation, Functional Unit 1.a, Reactor Vessel Low Water Level - level 1, Functional Unit 1.b, Drywell Pressure - High, Functional Unit 1.c Reactor Steam Dome Pressure - Low (Injection Permissive), Functional Unit 2.a, Low pressure Coolant Injection (LPCI) System-Reactor Vessel Low Water Level (level 1), Functional Unit 2.b, LPCI-Drywell Pressure High, Functional Unit 2.c, LPCI-Reactor Steam Dome Pressure Low (Injection Permissive), Functional Unit 3.a, High Pressure Coolant Injection (HPCI)-Reactor Vessel Low Water Level (level 2), Functional Unit 3.b, HPCI-Drywell Pressure High, and Functional Unit 3.c, HPCI-Reactor Vessel High Water Level (level 8).

Proposed change: Delete SR 3.3.5.1.6, "Verify the ECCS RESPONSE TIME is within limits," and remove all references to SR 3.3.5.1.6 from Table 3.3.5.1-1 for all the Functional Units described above. Add an SR 3.5.1.13 to Limiting Condition for Operation (LCO) 3.5.1 to read "NOTE - ECCS injection/spray initiation instrumentation response time may be assumed from established limits. Verify each ECCS injection/spray subsystem ECCS RESPONSE TIME is within limits." Also, add a FREQUENCY for SR 3.5.1.13 equal to 18 months.

Evaluation: The proposed change eliminates the requirement to perform response time testing for the ECCS instrumentation. The proposed change is in accordance with the staff's pre-approved changes. Therefore, this change is acceptable to the staff. The deletion of instrumentation from the ECCS response time testing necessitates moving the remaining portion of the test to the ECCS Specification, which is accomplished by adding SR 3.5.1.13 to the Limiting Condition of Operation (LCO) 3.5.1. This is acceptable to the staff.

4.0 VERIFICATION OF CONDITIONS

The staff stipulated several conditions which must be met by the licensee before the pre-approved changes of the generic SER and SSER could be applied to any plant-specific TS. From the licensee's submittals, the staff verified that the licensee has met all applicable conditions stipulated by the staff's SER and SSER for the BWROG LTR NEDO-32291.

- 4.1 Condition: Confirm the applicability of the generic analyses to the plant.

Licensee's Response: In their submittal, the licensee stated that the BWROG NEDO-32291 analysis was performed for two representative BWR plants and its applicability to Plant Hatch has been verified. This is acceptable to the staff.

- 4.2 Condition: The licensee's revision request shall be submitted as shown in Appendix I of the BWROG LTR. With the submittal, the licensee must provide the TS markup tables as shown in Appendix H, and a list of effected instrument loop components as shown in Appendix C.1. of the BWROG LTR.

Licensee's Compliance: The staff verified that the licensee's TS revision request was submitted as shown in Appendix I of the BWROG LTR. With the submittal, the licensee provided the TS markup tables as shown in Appendix H, and a list of effected instrument loop components as shown in Appendix C.1. of the LTR NEDO-32291. This is acceptable to the staff.

- 4.3 Condition: The licensees shall state that they are following the recommendations from EPRI NP-7243 and, therefore, shall perform the following actions:

- (a) Conduct a hydraulic RTT to determine an initial sensor-specific response time value prior to installation of a new transmitter/switch or following refurbishment of a transmitter/switch (e.g., sensor cell or variable damping components).
- (b) Conduct RTT for transmitters and switches that use capillary tubes, after initial installation and also after any maintenance or modification activity that could damage the capillary tubes.

Licensee's Response: In their submittal, the licensee stated that GPC has followed the recommendations of EPRI NP-7243, "Investigation of Response Time Testing Requirements," May 1991, and stated their conformance to the actions described in items 4.3.(a) and 4.3.(b) above. The staff reviewed the licensee's statements and verified that the licensee is complying with this condition.

- 4.4 Condition: The BWROG concluded that the RTT requirements for the devices identified in Table 1 can be removed from TS when the devices are used in systems listed in Table 2. Therefore, for the devices which RTT elimination is requested, the licensee should verify that these devices are of the same model and make as indicated in Table 1 of the generic SER and are part of the systems shown in Table 2 of the generic SER. In case the licensee's submittal for RTT elimination include any device(s) which is (are) not included on the Table 1 of the SER, the licensee shall provide a justification for each device on a case-by-case basis.

Licensee's Compliance: The staff noted that except for few initiation relays and time delay relays, all devices proposed for RTT elimination were of the same make and model as described in Table 1 of the generic SER. The staff also verified that all devices for which elimination of RTT was requested were part of systems described in Table 2 of the generic SER. The few initiation relays and time delay relays for which the make and the model did not match those shown in Table 1 of the SER, were either Agastat 2412 type relays or part of the Struthers-Dunn series of relays. Neither of these devices were evaluated by the BWROG in their LTR NEDO-32291, and were not included on Table 1 of the generic SER. Therefore, the pre-approved SER changes could not be applied to these plant-specific devices. The staff identified this fact to the licensee during a telephone conference call on June 6, 1995. In an additional submittal dated June 22, 1995, which provided justification for including Agastat 2412 type relays and Struthers-Dunn series relays for RTT elimination, the licensee stated that the Struthers-Dunn relays are time delay relays and were so indicated in the original submittal for the TS change request, but the Agastat 2412 relays, which were identified as initiating relays in the submittal, are actually used as time delay initiation relays. In their justification, the licensee stated that the response time measurement for the time delay relays is part of normal calibration and logic system functional testing and such calibrations are performed regularly in accordance with SR 3.3.5.1.4 and SR 3.3.5.1.5 at Plant Hatch. Therefore, a separate TS RTT requirement for time delay relays can be eliminated.

The licensee's justification for eliminating RTT requirement for Agastat 2412 and Struthers-Dunn time delay relays is acceptable to the staff.

- 4.5 Condition: In case elimination of any RTT associated with Rosemount oil-filled pressure transmitters is requested, the licensee shall be in full compliance with the guidelines of Supplement 1 to Bulletin 90-01, "Loss of Fill-Oil in Transmitters Manufactured by Rosemount."

Licensee's Response: In their submittal, the licensee stated that they are following the guidance of Supplement 1 to IEB Bulletin 90-01, "Loss of Fill-Oil in Transmitters Manufactured by Rosemount," for all Rosemount transmitters for which the RTT is eliminated. This is acceptable to the staff.

- 4.6 Condition: Licensees must also confirm the following:

- (a) That calibration is being done with equipment designed to provide a step function or fast ramp in the process variable,
- (b) That provisions have been made to ensure that operators and technicians are aware of the consequences of instrument response time degradation, and that applicable procedures have been reviewed and revised as necessary to assure that technicians monitor for response time degradation during the performance of calibrations and functional tests.

- (c) That surveillance testing procedures have been reviewed and revised if necessary to ensure calibrations and functional tests are being performed in a manner that allows simultaneous monitoring of both the input and output response of units under test.
- (d) That for those instruments where the manufacturer recommends periodic RTT as well as calibration to ensure correct function, concurrence is obtained from the manufacturer that elimination of RTT is acceptable.

Licensee's Response: In their submittal, the licensee stated that;

- a. Instrument calibrations at Plant Hatch are performed with equipment designed to provide a step function or fast ramp in the process variable.
- b. Provisions have been made to ensure that operators and technicians, through an appropriate training program, are aware of the consequences of instrument response time degradation, and that applicable procedures have been reviewed and revised, as necessary, to assure that technicians monitor for response time degradation during the performance of calibrations and functional tests.
- c. Surveillance testing procedures have been reviewed and revised, as necessary, to ensure calibrations and functional tests are being performed in a manner that allows simultaneous monitoring of both the input and output responses of units under test.
- d. No such instruments have been installed at Plant Hatch for which the manufacturer recommends periodic RTT as well as calibration to ensure correct function. Therefore, obtaining concurrence from the manufacturer for elimination of RTT is not applicable.

The licensee's response to condition 4.6 above is acceptable.

5.0 STAFF CONCLUSION

Based upon the above review, the staff finds that the licensee has followed most of the provisions of the generic SER for RTT elimination and where deviations were identified, adequate justification was provided. Therefore, the staff has concluded that the proposed TS modifications are acceptable.

6.0 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.

7.0 ENVIRONMENTAL CONSIDERATION

The amendment 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 (60 FR 35076 dated July 5, 1995). 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.

8.0 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: S. V. Athavale

Date: August 23, 1995