



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.

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