September 15, 2005

Mr. Paul D. Hinnenkamp Vice President - Operations Entergy Operations, Inc. River Bend Station 5485 US Highway 61N St. Francisville, LA 70775

SUBJECT: RIVER BEND STATION, UNIT 1 - ISSUANCE OF AMENDMENT RE: CORRECTIONS TO LOSS OF POWER INSTRUMENTATION REQUIREMENTS (TAC NO. MC8227)

Dear Mr. Hinnenkamp:

The Commission has issued the enclosed Amendment No. 147 to Facility Operating License No. NPF-47 for the River Bend Station, Unit 1 (RBS). The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated August 31, 2005, as supplemented by letter dated September 13, 2005.

During the review, it was determined that additional information was needed to complete the review and the review could not be completed as requested on an exigent basis. However, it was also concluded that sufficient information was available to review the proposed changes for a limited application to the remaining operating cycle. Accordingly, in your September 13, 2005, supplement, you proposed changes to TS Table 3.3.8.1-1 to provide a one-time relaxation of the Loss of Power instrumentation requirements rather than a permanent relaxation as previously proposed. The TS change would be applicable through June 1, 2006, based on RBS's next refueling outage scheduled for spring 2006.

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

Sincerely,

/RA/

N. Kalyanam, Project Manager, Section 1 Project Directorate IV Division of Licensing Project Management Office of Nuclear Reactor Regulation

Docket No. 50-458

Enclosures: 1. Amendment No. 147 to NPF-47 2. Safety Evaluation

cc w/encls: See next page

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cc w/encls: See next page <u>DISTRIBUTION</u>: PUBLIC RidsNrrDlpmLpdiv1 (DTerao) RidsNrrDjohnson RidsNrrDipmIrob (TBoyce) NTrehan Accession No.:ML052730189

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OFFICIAL RECORD COPY

ENTERGY GULF STATES, INC. **

<u>AND</u>

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-458

RIVER BEND STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 147 License No. NPF-47

- 1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Entergy Gulf States, Inc.* (the licensee) dated August 31, 2005, as supplemented by letter dated September 13, 2005, 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, as amended, 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 license amendment will not be inimical to the common defense and security or to the health and safety of the public; and

^{*} Entergy Operations, Inc. is authorized to act as agent for Entergy Gulf States, Inc., and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

^{**}Entergy Gulf States, Inc., has merged with a wholly owned subsidiary of Entergy Corporation. Entergy Gulf States, Inc., was the surviving company in the merger.

- 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-47 is hereby amended to read as follows:
 - (2) <u>Technical Specifications and Environmental Protection Plan</u>

The Technical Specifications contained in Appendix A, as revised through Amendment No. 147 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. EOI shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance and shall be implemented immediately.

FOR THE NUCLEAR REGULATORY COMMISSION

/**RA**/

David Terao, Chief, Section 1 Project Directorate IV Division of Licensing Project Management Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: September 15, 2005

ATTACHMENT TO LICENSE AMENDMENT NO. 147

FACILITY OPERATING LICENSE NO. NPF-47

DOCKET NO. 50-458

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by Amendment number and contains marginal lines indicating the areas of change.

<u>Remove</u>	<u>Insert</u>
3.3-74	3.3-74

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 147 TO

FACILITY OPERATING LICENSE NO. NPF-47

ENTERGY OPERATIONS, INC.

RIVER BEND STATION, UNIT 1

DOCKET NO. 50-458

1.0 INTRODUCTION

By application to the Nuclear Regulatory Commission (NRC) dated August 31, 2005 (Agencywide Documents and Access Management System Accession No. ML052450192), as supplemented by letter dated September 13, 2005, Entergy Operations, Inc. (the licensee), requested changes to the Technical Specifications (TSs) for the River Bend Station, Unit 1 (RBS).

In the application, the licensee proposed changes that would revise the TSs to correct certain requirements for the Loss of Power (LOP) instrumentation that were inadvertently introduced through Amendment No. 81, issued on July 20, 1995. However, when it was determined that additional information was required to complete the review and the review could not be completed as requested on an exigent basis, the supplement dated September 13, 2005, proposed changes that would revise the TSs to provide a one-time rather than a permanent relaxation of the LOP instrumentation requirements proposed in the application. The amendment revises TS Table 3.3.8.1-1 to correct the number of required channels per division for the LOP time delay functions and deletes the requirement to perform Surveillance Requirement (SR) 3.3.8.1.2, (i.e., monthly Channel Functional Test) on certain LOP time delay functions, on a one-time basis, expiring on June 1, 2006.

The supplement dated September 13, 2005, did not change the scope of the original application, except the request was changed to a one-time rather than a permanent relaxation of the LOP instrumentation requirements. The September 13, 2005, letter did not change the initial proposed no significant hazards consideration determination.

2.0 REGULATORY EVALUATION

The NRC regulation at 50.36(c)(2)(ii)(C) of Title 10 of the Code of Federal Regulations (10 CFR), Criterion 3, states that a TS limiting condition for operation of a nuclear reactor must be established for a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. The proposed amendment involves the offsite power system that is required by 10 CFR Part 50, Appendix A, General Design Criterion 17, to provide the independence and redundancy to

ensure an available source of power to the structure, system, or component identified in Criterion 3 above.

3.0 PROPOSED REVISIONS TO THE TSs

TS Table 3.3.8.1-1 lists the LOP instrument functions required to be OPERABLE by limiting condition of operation (LCO) 3.3.8.1, LOP Instrumentation. The Table also includes the required number of channels per division for each function, the SRs, and Allowable Values for each instrument function.

Item 1 of Table 3.3.8.1-1, reproduced below, pertains to the requirements for Division 1 and Division 2 emergency bus undervoltage protection functions. There are three time delay functions included:

Function	Required Channels per Division	Surveillance Requirements
b. Loss of Voltage - Time Delay	3	SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4
d. Degraded Voltage - Time Delay, No LOCA	3	SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4
e. Degraded Voltage - Time Delay, LOCA	3	SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4

While the loss of voltage and degraded voltage functions consist of three channels per division, the circuitry is designed such that all three channels for each function in each division send signals to a single time delay relay. The licensee states that the required channels for the above time delay functions should be changed from three channels per division to one channel per division to be consistent with the current design.

In addition, the SRs for the time delay functions include a channel functional test, SR 3.3.8.1.2, to be performed at least once every 31 days. The licensee contends that this SR should not have been applied to the time delay functions because the three channels per division send signals to a single time delay relay. This amendment request proposes to delete the requirement to perform SR 3.3.8.1.2 for Functions 1.b, 1.d, and 1.e.

Item 2 of Table 3.3.8.1-1, reproduced below, pertains to similar requirements for the Division 3 emergency bus undervoltage protection functions. Similar to Divisions 1 and 2, there are three time delay functions included:

Function	Required Channels per Division	Surveillance Requirements
b. Loss of Voltage - Time Delay	2	SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4
d. Degraded Voltage - Time Delay, No LOCA	2	SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4
e. Degraded Voltage - Time Delay, LOCA	2	SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4

The Division 3 bus incoming power is monitored for degraded voltage by two instrument channels each containing an integrated time delay device. Both degraded voltage monitoring channels (with the integrated time delay device) then combine signals (for a two-out-of-two logic) and output to two redundant 'no-LOCA' time delay relays. This amendment request proposes to delete the requirement to perform SR 3.3.8.1.2 for function 2.d.

4.0 <u>TECHNICAL EVALUATION</u>

This proposed amendment would revise TS Table 3.3.8.1-1, to change the number of Required Channels per division for the LOP time delay functions and delete the requirement to perform SR 3.3.8.1.2, the monthly Channel Functional Test, on certain LOP time delay functions until June 1, 2006.

The time delay functions were not listed as separate functions prior to converting the TS to the Improved TS (ITS) format. The RBS TSs were converted to the ITS format through Amendment No. 81.

The amendment request for the ITS conversion listed the time delay functions for Divisions 1 and 2 as having three channels per division when in fact the design uses only one single relay for each function in each division. The trip signal from the three channel trip logic is combined prior to the common time-delay relay. This proposed amendment seeks to revise the delay function to only one per division. The LOP time-delay functions will continue to be functionally tested and calibrated every 18 months as required by SR 3.3.8.1.3 and SR 3.3.8.1.4. Based on the testing and maintenance history for the LOP time-delay relays, which identified only one failure, the change is acceptable for one refueling cycle (June 1, 2006).

For Division 3, both degraded voltage monitoring channels (with the integrated time-delay device) combine signals (for a two-out-of-two logic) and output to two redundant 'no-LOCA' time-delay relays. For degraded voltage time-delay 'LOCA', the integrated time-delay relays can be checked without actuating the trip function due to the two-out-of-two logic. Actuating either time-delay relay under 'no-LOCA' will provide the LOP trip function because the time-delay relays are redundant. The degraded voltage time delay under 'no-LOCA' will continue to be functionally tested and calibrated every 18 months as required by SR 3.3.8.1.3 and SR 3.3.8.1.4.

The degraded voltage time delay, LOCA (Function 2.e) instrumentation logic uses time delays that are an integral part of each of the two monitoring channels. Both time delay devices must actuate to provide the LOP trip function. Therefore, these time delays may be tested one at a time without causing the LOP trip to occur.

The degraded voltage time delay, no-LOCA (Function 2.d) instrumentation logic uses two time delays. One is an integral part of each of the two monitoring channels (same monitoring channel used in the degraded voltage time delay, LOCA function) and the other is a separate relay actuated by both monitoring channels. There are two sets of this logic and either set will cause the LOP trip function to occur. Therefore, while the monitoring channels may be tested one at a time without causing the LOP trip, the separate no-LOCA time delays cannot be tested without taking special measures to prevent an actuation of the LOP trip function. Preventing the LOP trip would involve the temporary lifting of circuit leads and, thus, create the potential for an inadvertent transient.

During the teleconference on September 13, 2005, the licensee stated it will provide the NRC staff the testing and maintenance history for the LOP time delay relays. The licensee identified only one failure for the LOP time delay relays during a refueling outage in 1997. Given the reliable history of the LOP time delay relays, the licensee's request is being granted for one cycle only. The licensee plans to provide the staff the testing and maintenance history for the LOP time delay relays.

5.0 <u>SUMMARY</u>

For Divisions 1 and 2, performing a functional test of the common time delay would create a loss of function for that division. The LOP time-delay functions will be functionally tested and calibrated every 18 months. Moreover, the testing and maintenance history for the LOP time-delay relays identified only one failure. Therefore, the NRC staff has concluded that changing the time-delay functions from three per division to one per division and the deletion of SR 3.3.8.1.2 of the Channel Functional Test of the timer every 31 days is acceptable until other staff questions had been addressed regarding long term acceptability of this change.

For Division 3, both degraded voltage monitoring channels (with the integrated time-delay device) combine signals (for a two-out-of-two logic) and output to two redundant 'no-LOCA' time-delay relays. For degraded voltage time delay 'LOCA', the integrated time-delay relays can be checked without actuating the trip function due to the two-out-of-two logic. Actuating either time-delay relay under 'no-LOCA' will provide the LOP trip function because the time-delay relays are redundant. The licensee identified only one failure for the LOP time-delay relays - during a refueling outage in 1997. Given the reliable history of the LOP time-delay relays, the licensee's request is being granted. The revision is limited to one cycle to allow the NRC staff to review the testing and maintenance history for the LOP time-delay relays that the licensee plans to provide.

The staff has evaluated the licensee's submittal and determined that the subject change as described above is acceptable. A licensee amendment request will be provided in a future submittal to address staff questions regarding long term acceptability of this change.

6.0 EXIGENT CIRCUMSTANCES

On August 31, 2005, the licensee submitted an application to the NRC requesting an exigent amendment for RBS. The amendment revises the TSs to correct certain requirements for the LOP instrumentation that were inadvertantly introduced by Amendment No. 81, issued on July 20, 1995. Amendment No. 81 approved the RBS conversion to the ITS format. The proposed amendment revises TS Table 3.3.8.1-1 to correct the number of required channels per division for the LOP time-delay functions and deletes the requirement to perform SR 3.3.8.1.2, the monthly Channel Functional Test, on certain LOP time delay functions.

The licensee previously believed that the NRC Safety Evaluation for Amendment No. 81 substantiated the concern that a monthly Channel Functional Test was not required for the LOP time delay functions and attempted to rectify the TS discrepancy with a TS Bases change in 1997. On August 16, 2005, the licensee reconsidered the nature of the discrepancy and determined that a TS change was needed to correct the TS. The applicable TS SRs were, therefore, considered not to be met.

The licensee requested the approval of this amendment by September 15, 2005, on an exigent basis in accordance with 10 CFR 50.91(a)(6). The request meets the criteria of 10 CFR 50.91(a)(6) because time does not permit the NRC to publish a *Federal Register* notice allowing the required time for prior public comment and the requested amendment involves no significant hazards consideration. In accordance with 10 CFR 50.91(a)(6)(vi), the exigency could not be avoided by the licensee.

The licensee determined that per SR 3.0.3, a 31-day delay period was allowed to complete the missed surveillance. Therefore, the surveillance must be performed by September 16, 2005, or the LCO must be declared not met. The LCO associated with the required actions require that all three diesel generators be declared inoperable resulting in a TS required plant shutdown. The licensee began developing a test procedure to test the time delay function on-line. However, such a test would require the temporary lifting of circuit leads and, thus, create the potential for an inadvertent transient.

In summary, due to the short time interval between the submission of this amendment request and the actual performance of the surveillance, insufficient time remains for normal NRC processing and notification. Therefore, the licensee requested that this proposed TS change be considered as submitted under exigent circumstances as described in 10 CFR 50.01(a)(6)(vi).

Based on the above circumstances, the NRC staff finds that the licensee used its best efforts to make a timely application as soon as the licensee determined the nature of the discrepancy and determined that a TS change was needed to correct the TS, and could not have avoided the need for the exigency. The NRC staff also finds that, in light of these circumstances, the licensee and the Commission must act quickly and time does not permit the Commission to publish *a Federal Register* notice allowing 30 days for prior public comment. As set forth below, the NRC has determined that this amendment involves no significant hazards consideration. Based on the foregoing, the NRC staff finds that exigent circumstances exist as defined in 10 CFR 50.91(a)(6), with regard to the license amendment requested by the licensee's application dated August 31, 2005.

7.0 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. As required by 10 CFR 50.91(a) the licensee has provided its analysis of the issue. The NRC staff's analysis is set forth below.

The proposed changes regarding the number of required channels per division for the LOP time delay functions are administrative in nature. The changes do not alter the instrumentation design or their physical configuration, and will not affect their operation or manner of control. The proposed changes correct an inconsistency between a TS Table and the RBS design basis. The TS required number of voltage sensors per division and associated channel components that monitor voltage conditions and provide the 4.16 kV bus voltage protection are unchanged.

The exclusion of the time-delay functions from the monthly Channel Functional Test is proposed because the test creates a loss of function for the LOP instrumentation and is, therefore, undesirable during unit operations. The test also introduces the potential for an unintended plant transient; therefore, the elimination of the requirement reduces the potential for such transients.

The monthly Channel Functional Test will continue to be performed every 31 days for the sensor channels. In addition, the LOP time delay functions will continue to be functionally tested and calibrated every 18 months as required by SR 3.3.8.1.3 and SR 3.3.8.1.4. Therefore, the required LOP instrumentation will continue to be tested in a manner and at a frequency necessary to provide confidence that the instrumentation can perform its intended safety function.

The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.

The changes do not alter the instrumentation design or their physical configuration, and will not affect their operation or manner of control. The proposed TS changes do not introduce any new failure mechanisms, malfunctions, or accident initiators not considered in the design and licensing bases.

The proposed amendment will not involve a significant reduction in a margin of safety.

The proposed changes have no effect on any safety analysis assumptions or methods of performing safety analyses. The changes do not adversely affect system operability or design requirements and the equipment continues to be tested in a manner and at a frequency necessary to provide confidence that the equipment can perform its intended safety functions. Pursuant to 10 CFR 50.36(c)(3) requirements, the TS must include SRs relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCO will be met. The monthly Channel Functional Test will continue to be performed every 31 days for the sensor channels. In addition, the LOP time delay functions will continue to be functionally tested and calibrated every 18 months as required by SR 3.3.8.1.3 and SR 3.3.8.1.4.

Following an initial review of this application, the requested amendment has been evaluated against the standards in 10 CFR 50.92. Based on the analysis in the application, as set forth above, the NRC staff finds that the changes do not significantly increase the probability or consequences of any accident previously considered, do not create the possibility of an accident of a different kind, and do not significantly decrease any margin of safety. Accordingly, the NRC staff has made a final determination that the requested amendment involves no significant hazards consideration.

8.0 STATE CONSULTATION

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

9.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component 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 made a final finding that 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.

10.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: N. Trehan

Date: September 15, 2005

River Bend Station

CC:

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