March 26, 199(

Mr. Randall K. Edington Vice President - Operations Entergy Operations, Inc. River Bend Station P. O. Box 220 St. Francisville, LA 70775

SUBJECT: RIVER BEND STATION, UNIT 1 - AMENDMENT NO. 104 TO FACILITY OPERATING LICENSE NO. NPF-47 (TAC NO. M96367)

Dear Mr. Edington:

The Commission has issued the enclosed Amendment No. ¹⁰⁴ to Facility Operating License No. NPF-47 for the River Bend Station (RBS), Unit 1. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated January 12, 1999, that superseded an amendment request submitted by letter dated May 31, 1996.

The amendment adds an additional required action to the Limiting Condition for Operation (LCO) 3.9.1, "Refueling Equipment Interlocks," of the RBS TSs. The additional action will allow an alternative to the current action for one or more inoperable refueling equipment interlocks. The current action is to "suspend in-vessel fuel movement with equipment associated with the inoperable interlock(s)." The alternative action will be to (1) insert a control rod withdrawal block, and (2) verify all control rods are fully inserted in core cells containing one or more fuel assemblies. The amendment would also revise the Bases for LCO 3.9.1 actions to describe the alternative action.

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

Sincerely, original signed by: Robert J. Fretz, Project Manager Project Directorate IV-1 Division of Licensing Project Management Office of Nuclear Reactor Regulation

Docket No. 50-458

Enclosures: 1. Amendment No. 104 to NPF-47 2. Safety Evaluation

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UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

March 26, 1999

Mr. Randall K. Edington Vice President - Operations Entergy Operations, Inc. River Bend Station P. O. Box 220 St. Francisville, LA 70775

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cc w/encls: See next page

Mr. Randall K. Edington Entergy Operations, Inc.

CC:

Winston & Strawn 1400 L Street, N.W. Washington, DC 20005-3502

Manager - Licensing Entergy Operations, Inc. River Bend Station P. O. Box 220 St. Francisville, LA 70775

Senior Resident Inspector P. O. Box 1050 St. Francisville, LA 70775

President of West Feliciana Police Jury P. O. Box 1921 St. Francisville, LA 70775

Regional Administrator, Region IV U.S. Nuclear Regulatory Commission 611 Ryan Plaza Drive, Suite 1000 Arlington, TX 76011

Ms. H. Anne Plettinger 3456 Villa Rose Drive Baton Rouge, LA 70806

Administrator Louisiana Radiation Protection Division P. O. Box 82135 Baton Rouge, LA 70884-2135 River Bend Station

Executive Vice President and Chief Operating Officer Entergy Operations, Inc. P. O. Box 31995 Jackson, MS 39286

General Manager - Plant Operations Entergy Operations, Inc. River Bend Station P. O. Box 220 St. Francisville, LA 70775

Director - Nuclear Safety Entergy Operations, Inc. River Bend Station P. O. Box 220 St. Francisville, LA 70775

Vice President - Operations Support Entergy Operations, Inc. P. O. Box 31995 Jackson, MS 39286-1995

Attorney General State of Louisiana P. O. Box 94095 Baton Rouge, LA 70804-9095

Wise, Carter, Child & Caraway P. O. Box 651 Jackson, MS 39205



UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

ENTERGY GULF STATES, INC. **

AND

ENTERGY OPERATIONS. INC.

DOCKET NO. 50-458

RIVER BEND STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 104 License No. NPF-47

- The Nuclear Regulatory Commission (the Commission) has found that: 1.
 - Α. The application for amendment by Entergy Gulf States, Inc.* (the licensee) dated January 12, 1999, superceding its original application dated May 31, 1996, 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:
 - Β. 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

^{*} EOI 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. ¹⁰⁴ 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.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert J. Fretz, Project Manager Project Directorate IV-1 Division of Licensing Project Management Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: March 26, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 104

FACILITY OPERATING LICENSE NO. NPF-47

DOCKET NO. 50-458

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

<u>REMOVE</u>	<u>INSERT</u>
3.9-1	3.9-1
	3.9-1a
B 3.9-3	B 3.9-3
B 3.9-4	B 3.9-4

Refueling Equipment Interlocks 3.9.1

3.9 REFUELING OPERATIONS

3.9.1 Refueling Equipment Interlocks

LCO 3.9.1 The refueling equipment interlocks shall be OPERABLE.

APPLICABILITY: During in-vessel fuel movement with equipment associated with the interlocks.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One or more required refueling equipment interlocks inoperable.	A.1 Suspend in-vessel fuel movement with equipment associated with the inoperable interlock(s).		Immediately
	<u>OR</u>		
	A.2.1	Insert a control rod withdrawal block.	Immediately
		AND	
	A.2.2	Verify all control rods are fully inserted in core cells containing one or more fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.9.1.1	3.9.1.1 Perform CHANNEL FUNCTIONAL TEST on each of the following required refueling equipment interlock inputs:	
	a. All-rods-in,	
	b. Refuel platform position, and	
	c. Refuel platform main hoist, fuel loaded.	
		·

BASES (continued)

APPLICABILITY In MODE 5, a prompt reactivity excursion could cause fuel damage and subsequent release of radioactive material to the environment. The refueling equipment interlocks protect against prompt reactivity excursions during MODE 5. The interlocks are only required to be OPERABLE during in-vessel fuel movement with refueling equipment associated with the interlocks.

In MODES 1, 2, 3, and 4, the reactor pressure vessel head is on, and no fuel loading activities are possible. Therefore, the refueling interlocks are not required to be OPERABLE in these MODES.

ACTIONS

<u>A.1, A.2.1, and A.2.2</u>

With one or more of the required refueling equipment interlocks inoperable, the unit must be placed in a condition in which the LCO does not apply or the Surveillances are not needed. This can be performed by ensuring fuel assemblies are not moved in the reactor vessel or by ensuring that the control rods are inserted and can not be withdrawn.

Therefore, Required Action A.1 requires that in-vessel fuel movement with the affected refueling equipment must be immediately suspended. This action ensures that operations are not performed with equipment that would potentially not be blocked from unacceptable operations (e.g., loading fuel into a cell with a control rod withdrawn). Suspension of in-vessel fuel movement shall not preclude completion of movement of a component to a safe position.

Alternatively, Required Actions A.2.1 and A.2.2 require that a control rod withdrawal block be inserted and that all control rods subsequently verified to be fully inserted. Required Action A.2.1 ensures that no control rods can be withdrawn. This action ensures that control rods cannot be inappropriately withdrawn because an electrical or hydraulic block to control rod withdrawal is in place. Required Action A.2.2 is performed after placing the rod withdrawal block in effect and provides a verification that all rods in core cells containing one or more fuel assemblies are fully inserted. The allowance to not verify that control rods associated with defueled cells are inserted is

ACTIONS (continued)	to allow control rods to be withdrawn in accordance with LCO 3.10.6 while complying with these actions. This verification that all required control rods are fully inserted is in addition to the periodic verifications required by SR 3.9.3.1 and SR 3.10.6.2. Like Required Action A.1, Required Actions A.2.1 and A.2.2 ensure that unacceptable operations are blocked (e.g., loading fuel into a cell with the control rod withdrawn.)			
SURVEILLANCE REQUIREMENTS	<u>SR 3.9.1.1</u> Performance of a CHANNEL FUNCTIONAL TEST demonstrates each required refueling equipment interlock will function properly when a simulated or actual signal indicative of a required condition is injected into the logic. The CHANNEL FUNCTIONAL TEST may be performed by any series of sequential, overlapping, or total channel steps so that the entire channel is tested. The 7 day Frequency is based on engineering judgment and is considered adequate in view of other indications of refueling interlocks and their associated input status that are available to unit operations personnel.			
REFERENCES	 10 CFR 50, Appendix A, GDC 26. USAR, Section 7.7.1.5. USAR, Section 15.4.1.1. 			

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BASES



UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION RELATED TO AMENDMENT NO. ¹⁰⁴ TO FACILITY OPERATING LICENSE NO. NPF-47

ENTERGY OPERATIONS, INC.

RIVER BEND STATION, UNIT 1

DOCKET NO. 50-458

1.0 INTRODUCTION

By application dated May 31, 1996, Entergy Operations, Inc. (the licensee) proposed changes to Technical Specifications (TSs), Section 3.9.1, "Refueling Equipment Interlocks," for the River Bend Station (RBS) (Appendix A to Facility Operating License No NPF-47.) Additional information was provided on September 30, 1996. In a letter dated January 12, 1999, the licensee submitted a proposed amendment that supersedes, in its entirety, the original May 31, 1996, application.

The proposed changes would revise TS Limiting Condition for Operation (LCO) 3.9.1, "Refueling Equipment Interlocks," by adding an alternative to the current action for one or more inoperable refueling equipment interlocks. The current action is to "suspend in-vessel fuel movement with equipment associated with the inoperable interlock(s.)" The alternative action will be to (1) insert a control rod withdrawal block, and (2) verify all control rods are fully inserted in core cells containing one or more fuel assemblies. The amendment would also revise the Bases for LCO 3.9.1 actions to describe the alternative actions.

2.0 BACKGROUND

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Refueling equipment interlocks restrict the operation of the refueling equipment or the withdrawal of control rods to reinforce procedures which prevent the reactor from achieving criticality during refueling operations. The refueling interlock circuitry senses the conditions of the refueling equipment and control rods. Depending on the sensed conditions, interlocks are actuated to prevent the operation of the refueling equipment or the withdrawal of control rods.

General Design Criteria (GDC) 26 of 10 CFR Part 50, Appendix A, requires that one of the two required independent reactivity control systems be capable of holding the reactor core subcritical under cold conditions. Therefore, two channels of instrumentation are provided. One or both channels receive input from (1) the position of the refueling platform, (2) the loading of the refueling platform main hoist, (3) the full insertion of all control rods, and (4) the reactor mode switch. With the mode switch in the shutdown or refueling position, the indicated conditions are combined in the logic circuits to determine if all restrictions on refueling equipment operations and control rod insertion are satisfied.

To prevent criticality during refueling, the refueling interlocks ensure that fuel assemblies are not loaded with any control rod withdrawn. To preclude these conditions from developing, the all-rods-in, the refueling platform position, and the refueling platform main hoist fuel loaded inputs are required to be operable. These inputs are combined in logic circuits that provide refueling equipment or control rod blocks to prevent operations that could result in criticality during refueling operations.

The purpose of the proposed amendment is to provide an additional alternative action to permit the licensee to continue core alterations in the event the refueling equipment interlocks become inoperable.

3.0 EVALUATION

The original TS amendment request dated May 31, 1996, and the additional information provided by the licensee on September 30, 1996, was evaluated under the joint Nuclear Regulatory Commission (NRC) - Nuclear Energy Institute Technical Specification Task Force (TSTF) process. The TSTF process enables plants that have adopted the improved Standard Technical Specifications (STS or ITS) to propose, and have approved, generic changes to the ITS. This process also ensures that the ITS remain, in fact, a true standard for plants of similar design. The proposed license amendment to TS Section 3.9.1, "Refueling Equipment Interlocks," submitted by EOI was identified as "TSTF-225." The changes proposed under this TSTF affected NUREG-1433 and NUREG-1434. These NUREGs serve as the bases for the General Electric BWR/4 and BWR/6 ITS respectively. On April 20, 1998, TSTF-225 was approved by the Technical Specifications Branch (TSB).

On July 20, 1995, License Amendment No. 81 to NPF-47 approved RBS's conversion to the BWR/6 ITS based upon NUREG-1434. River Bend has been operating under the ITS since October 1, 1995. Therefore, TSTF-225 applies to the RBS TSs.

The proposed changes to the Required Actions for LCO 3.9.1 will improve consistency within the TS with respect to the Required Actions for LCO 3.9.4, "Control Rod Position Indication." LCO 3.9.4 controls the operability of the control rod position indicators, which is a support system for the refueling interlocks controlled by LCO 3.9.1 since the position indicators provide information to the all-rods-in interlock. LCO 3.9.4 requires that, when one or more control rods do not have the required position indication operable, all insertable control rods be inserted and fuel movement and control rod withdrawal be suspended (Required Actions A.1.1, A.1.2 and A.1.3), or that the associated control rod(s) be inserted and disarmed (Required Actions A.2.1 and A.2.2.) If Required Actions A.2.1 and A.2.2 are complied-with, then refueling activities can continue. The proposed Required Actions for LCO 3.9.1 are consistent with the current Required Actions for LCO 3.9.4 in that they require either fuel movement be suspended or control rod withdrawal be blocked, and that all control rods required to be inserted be verified to be inserted.

The January 12, 1999, amendment request incorporated changes to the Required Actions paragraph in order to be consistent with changes to the BWR ITS NUREGS 1433 and 1434 approved under TSTF-225. Since the licensee has based this TS amendment request on TSTF-225, which applies to RBS, the staff considers this change acceptable.

4.0 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.

5.0 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. 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 (64 FR 6695). 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: R. J. Fretz

Date: March 26, 1999