

May 5, 1997

Mr. John R. McGaha, Jr.
Vice President - Operations
Energy Operations, Inc.
River Bend Station
P. O. Box 220
St. Francisville, LA 70775

SUBJECT: RIVER BEND STATION, UNIT 1 - AMENDMENT NO. 94 TO FACILITY
OPERATING LICENSE NO. NPF-47 (TAC NO. M97394)

Dear Mr. McGaha:

The Commission has issued the enclosed Amendment No. 94 to Facility Operating License No. NPF-47 for the River Bend Station, Unit 1. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated November 15, 1996.

The amendment revises the TSs to allow the performance of the 24-hour emergency diesel generator maintenance run while the unit is in either Mode 1 or Mode 2.

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,

ORIGINAL SIGNED BY:
David L. Wigginton, Senior Project Manager
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-458

Enclosures: 1. Amendment No. 94 to NPF-47
2. Safety Evaluation

cc w/encls: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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Vice President - Operations
Entergy Operations, Inc.
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Sincerely,

A handwritten signature in cursive script, appearing to read "D. Wigginton".

David L. Wigginton, Senior Project Manager
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-458

Enclosures: 1. Amendment No. 94 to NPF-47
2. Safety Evaluation

cc w/encls: See next page

Mr. John R. McGaha
Entergy Operations, Inc.

River Bend Station

cc:

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

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

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

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

Director
Joint Operations Cajun
10719 Airline Highway
P. O. Box 15540
Baton Rouge, LA 70895

Director - Nuclear Safety
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

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

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

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

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

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

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

Vice President & Controller
Cajun Electric Power Cooperative
10719 Airline Highway
P.O. Box 15540
Baton Rouge, LA 70895

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



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

ENERGY GULF STATES, INC. **

CAJUN ELECTRIC POWER COOPERATIVE AND

ENERGY OPERATIONS, INC.

DOCKET NO. 50-458

RIVER BEND STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 94
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 November 15, 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;
 - 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

* EOI is authorized to act as agent for Entergy Gulf States, Inc, which has been authorized to act as agent for Cajun Electric Power Cooperative, and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

**Entergy Gulf States, Inc., which owns a 70 percent undivided interest in River Bend, 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) Technical Specifications and Environmental Protection Plan
- The Technical Specifications contained in Appendix A, as revised through Amendment No. 94 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



David L. Wigginton, Senior Project Manager
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: May 5, 1997

ATTACHMENT TO LICENSE AMENDMENT NO. 94

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. The corresponding overleaf page is also provided to maintain document completeness.

REMOVE

3.8-11
B 3.8-25

INSERT

3.8-11
B 3.8-25

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.12 -----NOTE----- This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. ----- Verify each DG's automatic trips are bypassed on an actual or simulated ECCS initiation signal except:</p> <ul style="list-style-type: none"> a. Engine overspeed; and b. Generator differential current. 	<p>18 months</p>
<p>SR 3.8.1.13 -----NOTES----- 1. Momentary transients outside the load and power factor ranges do not invalidate this test. 2. Credit may be taken for unplanned events that satisfy this SR. ----- Verify each DG operating at a power factor ≤ 0.9, operates for ≥ 24 hours:</p> <ul style="list-style-type: none"> a. For DG 1A and DG 1B loaded ≥ 3030 kW and ≤ 3130 kW; and b. For DG 1C: <ul style="list-style-type: none"> 1. For ≥ 2 hours loaded ≥ 2750 kW and ≤ 2850 kW, and 2. For the remaining hours of the test loaded ≥ 2500 kW and ≤ 2600 kW. 	<p>18 months</p>

(continued)

BASES

SURVEILLANCE
REQUIREMENTSSR 3.8.1.13 (continued)

equivalent to the continuous rating of the DG, and 2 hours of which is at a load equivalent to 110% of the continuous duty rating of the DG. An exception to the loading requirements is made for DG 1A and DG 1B. DG 1A and DG 1B are operated for 24 hours at a load greater than or equal to the maximum expected post accident load. Load carrying capability testing of the Transamerica Delaval Inc. (TDI) diesel generators (DG 1A and DG 1B) has been limited to a load less than that which corresponds to 201 psig brake mean effective pressure (BMEP). Therefore, full load testing is performed at a load ≥ 3030 kW but < 3130 kW. The DG starts for this Surveillance can be performed either from standby or hot conditions. The provisions for prelube and warmup, discussed in SR 3.8.1.2, and for gradual loading, discussed in SR 3.8.1.3, are applicable to this SR.

In order to ensure that the DG is tested under load conditions that are as close to design conditions as possible, testing must be performed using a power factor ≤ 0.9 . This power factor is chosen to be representative of the actual design basis inductive loading that the DG could experience.

The 18 month Frequency is consistent with the recommendations of Regulatory Guide 1.108 (Ref. 9), paragraph 2.a.(3); takes into consideration plant conditions required to perform the Surveillance; and is intended to be consistent with expected fuel cycle lengths.

This Surveillance is modified by two Notes. Note 1 states that momentary transients due to changing bus loads do not invalidate this test. The load band is provided to avoid routine overloading of the DG. Routine overloading may result in more frequent teardown inspections in accordance with vendor recommendations in order to maintain DG OPERABILITY. Similarly, momentary power factor transients above the limit do not invalidate the test. The reason for Note 2 is that credit may be taken for unplanned events

(continued)

BASES

**SURVEILLANCE
REQUIREMENTS**

SR 3.8.1.13 (continued)

that satisfy this SR. Examples of unplanned events may include:

- 1) Unexpected operational events which cause the equipment to perform the function specified by this Surveillance, for which adequate documentation of the required performance is available; and
- 2) Post corrective maintenance testing that requires performance of this Surveillance in order to restore the component to OPERABLE, provided the maintenance was required, or performed in conjunction with maintenance required to maintain OPERABILITY or reliability.

SR 3.8.1.14

This Surveillance demonstrates that the diesel engine can restart from a hot condition, such as subsequent to shutdown from normal Surveillances, and achieve the required voltage and frequency within 10 seconds for DG 1A and DG 1B and within 13 seconds for DG 1C. The time requirements are derived from the requirements of the accident analysis to respond to a design basis large break LOCA.

The 18 month Frequency is consistent with the recommendations of Regulatory Guide 1.108 (Ref. 9), paragraph 2.a.(5).

This SR has been modified by two Notes. Note 1 ensures that the test is performed with the diesel sufficiently hot. The requirement that the diesel has operated for at least 1 hour at full load conditions prior to performance of this Surveillance and longer if necessary to stabilize the operating temperature, is based on manufacturer recommendations for achieving hot conditions. The load band is provided to avoid routine overloading of the DG. Routine overloads may result in more frequent teardown inspections in accordance with vendor recommendations in order to maintain DG OPERABILITY. Momentary transients due to changing bus loads do not invalidate this test. Note 2 allows all DG starts to be preceded by an engine prelude period to minimize wear and tear on the diesel during testing.

(continued)



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 94 TO FACILITY OPERATING LICENSE NO. NPF-47

ENERGY OPERATIONS, INC.

RIVER BEND STATION, UNIT 1

DOCKET NO. 50-458

1.0 INTRODUCTION

By application dated November 15, 1996, Entergy Operations, Inc. (the licensee) requested changes to the Technical Specifications (TSs) (Appendix A to Facility Operating License No. NPF-47) for the River Bend Station, Unit 1 (RBS). The proposed changes would revise the TSs to allow the performance of the 24-hour emergency diesel generator (EDG) maintenance run while the unit is in either Mode 1 or Mode 2.

2.0 BACKGROUND

The Class 1E AC distribution system supplies power to three divisional engineered safety features (ESF) load groups (i.e., Divisions I, II, and III), with each division powered by an independent Class 1E 4.16-Kv ESF bus. Each ESF bus receives power from either offsite sources or a dedicated onsite EDG. During normal operation, the Division I & II ESF buses are aligned to their preferred offsite sources with the Division III ESF bus powered from the normal 4.16-Kv switchgear, which can be powered from either preferred station service transformer. In the event that the preferred offsite source is lost or degrades, the affected ESF bus is automatically transferred to an alternate standby onsite source.

The onsite standby power source for each 4.16-Kv ESF bus is a dedicated EDG. These EDGs (i.e., Division I, II, and III) automatically start following generation of either a loss-of-coolant accident (LOCA) signal (i.e., low reactor water level or high drywell pressure), ESF bus degraded voltage, or undervoltage signal. Any one of the standby diesel generators on Division I or II has the capacity to power the loads required to safely shutdown the plant during a design-basis accident.

3.0 EVALUATION

Currently, RBS's TSs require that the operability of each EDG be demonstrated every 18 months by operating an EDG for 24 hours in parallel with an offsite source. Because of staff concerns related to the performance of this test during power operation, the current RBS TSs prevent the 24-hour test from being performed during Modes 1 and 2.

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Specifically, the staff concerns are related to fault conditions or grid disturbances that may exist while an EDG is connected in parallel with the offsite system. These types of events could affect the availability of the EDGs for subsequent emergency operations.

However, the Nuclear Regulatory Commission (NRC) staff has recently approved other requests for eliminating the restrictions for performing the 24-hour test in Modes 1 and 2. This approval has been based on the existence of unique EDG design features and special provisions that ensure paralleled operation of the EDG with the offsite system will not prevent it from performing its assumed safety functions. The special design features and provisions are as follows:

1. On an accident signal, the EDG being tested will be separated from the offsite source by tripping of its output breaker and will be switched from the droop mode to the isochronous mode. If offsite power is available, the EDG continues to run in standby mode. If offsite power is not available, the EDG continues to run, but its corresponding bus is deenergized when the offsite feeder breakers open on undervoltage. The isolated bus then allows the EDG's output breaker to reclose, energizing the bus and carrying the accident loads for that load group.
2. During the 24-hour test of the an EDG, no other EDG is operated in parallel with the offsite power grid, and the remaining redundant divisions are supplied from a separate offsite source. This configuration ensures that only one EDG is susceptible to grid perturbations and independent safe shutdown capability is maintained.
3. Assuming a single failure of an EDG, adequate capacity is available from the remaining EDGs to power the remaining divisions, and the remaining divisions will have the required equipment operable to mitigate the consequences of DBA or loss of offsite power (LOOP).
4. The EDGs will not be paralleled to the offsite systems during severe weather or unstable grid conditions.
5. There is current surveillance testing that demonstrates on an 18-month frequency the capability of the EDG to revert to the ready-to-load status following a LOCA signal while operating in the parallel test mode. Demonstration of this capability ensures that the EDG availability under accident conditions is not compromised as result of testing.

At RBS Unit 1, similar design features and provisions exist. The EDG is equipped with a design feature that enables the EDG, upon detection of an accident signal (i.e., LOCA), to automatically terminate parallel operation with the offsite system and return to a standby mode of operation. This design feature prevents offsite system disturbances from affecting the availability of the EDG. Additionally, current surveillance requirements at RBS demonstrate every 18 months that the EDG has the capability to revert from the test mode (i.e., paralleled to the offsite system) to the standby mode following detection of a LOCA signal.

Upon detection of a LOOP, without a LOCA, the loss of power instrumentation would actuate, which would result in an automatic start signal from the associated EDG. For Division I and II, prior to connecting the EDG to its appropriate bus, all loads are shed except for the feeder to the 480-volt load centers. The RBS electrical system also has the capability to recognize a grid undervoltage condition. Should the grid go to an undervoltage condition while the EDG is being paralleled to the offsite system, the incoming offsite breakers will open and the EDG will switch from parallel operation to isochronous mode, picking up the loads on the bus sequentially.

EOI is taking special administrative provisions related to the performance of the 24-hour test during Modes 1 and 2. In accordance with SR 3.8.1.13 at RBS, only one EDG will be paralleled to the offsite system at any one time. This restriction will prevent the possibility of a common-mode failure, which could result in more than one EDG being unavailable. Additionally, administrative controls will maintain all required safety features supported by the remaining EDGs. Specifically, no maintenance or testing will be planned for these features for the duration of the test. This will help ensure that there is adequate safe shutdown capability if the EDG under test should become unavailable. Finally, administrative controls at RBS will caution against conducting the 24-hour test during periods of severe weather or other events that could impact EDG availability.

Although performance of the 24-hour EDG functional test during Modes 1 and 2 is contrary to the standard TSs, performance of the test has been found acceptable due to the unique EDG design features and special provisions. Based on the above review, the staff concludes that the licensee has satisfactorily met the required conditions for conducting the EDG 24-hour test at power, and the proposed TS change and bases change are 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 (62 FR 127). 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: M. Pratt

Date: May 5, 1997