

February 13, 1997

Mr. John R. McGaha, Jr.  
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. 92 TO FACILITY  
OPERATING LICENSE NO. NPF-47 (TAC NO. M96637)

Dear Mr. McGaha:

The Commission has issued the enclosed Amendment No. 92 to Facility Operating License No. NPF-47 for the River Bend Station, Unit 1. The amendment consists of changes to the Technical Requirements Manual (TRM) in response to your application dated August 29, 1996.

The amendment revises the reactor pressure vessel (RPV) material surveillance program schedule to extend the first surveillance capsule from 6 effective full power years (EFPY) to 10.4 EFPY.

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. 92 to NPF-47  
2. Safety Evaluation

cc w/encls: See next page

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Document Name: RB96637.AMD

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DATE	2/3/97	2/3/97	2/11/97
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*changes  
as noted*

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

February 13, 1997

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

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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

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2. Safety Evaluation

cc w/encls: See next page

Mr. John R. McGaha  
Entergy Operations, Inc.

River Bend Station

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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. 92  
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 29, 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

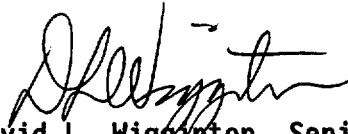
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\* EOI is authorized to act as agent for Entergy Gulf States, Inc, which has been authorized to act as agent for Cajun Electric Power Cooperative, and has exclusive responsibility and control over the physical construction, operation and maintenance 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, by Amendment No. 92, the license is amended by changes to the Technical Requirements Manual as indicated in the attachment to this license amendment.
  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  
Requirements Manual

Date of Issuance: February 13, 1997

RCS Pressure and Temperature (P/T) Limits  
TR 3.4.11

TR 3.4.11 RCS Pressure and Temperature (P/T) Limits

TABLE 3.4.11-1  
REACTOR VESSEL MATERIAL SURVEILLANCE PROGRAM-  
WITHDRAWAL SCHEDULE

<u>CAPSULE NUMBER</u>	<u>VESSEL LOCATION</u>	<u>LEAD FACTOR AT I.D./WT</u>	<u>WITHDRAWAL TIME (EFPY)</u>
1	3°	0.67/0.89	10.4
2	177°	0.67/0.89	15
3	183°	0.67/0.89	Standby

ATTACHMENT TO LICENSE AMENDMENT NO. 92

FACILITY OPERATING LICENSE NO. NPF-47

DOCKET NO. 50-458

Replace the following page of the Technical Requirements Manual with the attached page. The revised page is identified by Revision number and contain marginal lines indicating the areas of change.

REMOVE

TR 3.4-10

INSERT

TR 3.4-10



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 92 TO FACILITY OPERATING LICENSE NO. NPF-47

ENERGY OPERATIONS, INC.

RIVER BEND STATION, UNIT 1

DOCKET NO. 50-458

1.0 INTRODUCTION

By letter dated August 29, 1996, Entergy Operations, Inc. (the licensee), submitted for Nuclear Regulatory Commission (NRC) approval, a proposed change to the Technical Requirements Manual (TRM) regarding the reactor pressure vessel (RPV) material surveillance program schedule for River Bend Station (RBS), Unit 1 [Reference 1]. The licensee proposed to change the withdrawal time for the first surveillance capsule of the RBS vessel from 6 effective full power years (EFPY) to 10.4 EFPY.

Appendix H of 10 CFR Part 50 requires licensees to withdraw capsules from their reactor vessels periodically according to the capsule withdrawal schedule in the American Society for Testing and Materials (ASTM) Standard E 185, "Standard Practice for Conducting Surveillance Tests for Light-Water Cooled Nuclear Power Reactor Vessels." Section II.B.3 of Appendix H permits alternatives to the recommendations of ASTM E-185 when justified and approved by the staff. Section II.B.3 specifies, "A proposed withdrawal schedule must be submitted with a technical justification as specified in 10 CFR 50.4. The proposed schedule must be approved prior to implementation." This section of Appendix H was recently interpreted by Atomic Safety and Licensing Board (ASLB) and the Commission. The interpretations stem from Cleveland Electric's request for a license amendment to transfer the capsule withdrawal schedule from the Perry plant's technical specifications to the facility's updated safety analysis report (USAR).

The ASLB concluded in its Memorandum and Order, LBP-95-17, 42 NRC 137 (1995), that any change to the Perry Nuclear Power Plant's withdrawal schedule for reactor vessel material specimens must be treated as a license amendment. Subsequently, Cleveland Electric Illuminating Company (the licensee for Perry) petitioned for a review of the Licensing Board's decision. The Commission reversed this decision in the NRC Commission Memorandum and Order, CLI-96-13 (Perry Order) [Reference 2], issued on December 6, 1996, and interpreted Section II.B.3 of Appendix H as follows: for a revised capsule withdrawal schedule that conforms to the ASTM standard, the staff needs to verify this conformity; for a revised schedule that does not conform to the required ASTM standard, "prior Commission approval and a license amendment, with its attendant notice and opportunity for hearing, would be required."



The RBS surveillance capsule withdrawal schedule was established in accordance with E 185-73, and was later revised to be in accordance with E 185-82. This proposed schedule revision does not conform to ASTM E 185-82.

## 2.0 EVALUATION

The general guidelines for determining the first capsule withdrawal time are given in ASTM E-185-82. This standard states, "the first capsule is scheduled for withdrawal early in the vessel life to verify the initial predictions of the surveillance material response to the actual radiation environment." The standard further clarifies that, "early withdrawal will permit verification of the adequacy and conservatism of the reactor vessel pressure/temperature operational limits."

To support the revision of River Bend's first capsule withdrawal time from 6 EFPY to 10.4 EFPY, the licensee provided the following justification: (1) the measured increases in reference temperature ( $\Delta RT_{NDT}$ ) values from a significant number of boiling water reactor (BWR) surveillance capsules (reported in GE-NE-B1301807-02) are conservatively bounded by the calculated  $\Delta RT_{NDT}$  values plus margins using the methodology in Regulatory Guide 1.99, Revision 2 (RG 1.99, Rev. 2) for both plates and welds; (2) the Pressure-temperature (P-T) limits calculation is in accordance with ASME Section XI, Appendix G, and is inherently conservative; (3) the limiting beltline material is included in 4 of 7 capsules of the BWR Owners Group (BWROG) supplemental surveillance program (SSP), and postponement of the first capsule withdrawal will have minimum impact on the understanding of irradiation effects on the RBS vessel; and (4) a withdrawal time corresponding to 75% drop in predicted fracture toughness at the hydrotest temperature over the RBS design life is appropriate and large enough to ensure detectability.

GE-NE-B1301807-02 indicates that the increases in the calculated  $\Delta RT_{NDT}$  values plus margins for plates and welds using RG 1.99, Rev. 2 (RG values) bound the measured  $\Delta RT_{NDT}$  values from a significant number of BWR surveillance capsules. Table 3-2 indicates further that the measured  $\Delta RT_{NDT}$  values from available BWR/6 weld data are less than one-half the calculated  $\Delta RT_{NDT}$  values plus margins. This implies that the future measured  $\Delta RT_{NDT}$  values for the RBS surveillance material from the first capsule withdrawal are also likely to be bounded by the RG values. Since the RBS P-T limits were calculated using the  $\Delta RT_{NDT}$  in accordance with RG 1.99, Rev. 2, and the surveillance data reported in GE-NE-B1301807-02 indicates that this  $\Delta RT_{NDT}$  will be conservative, the RBS P-T limits should be conservative.

The limiting beltline material of the RBS vessel is included in 4 of 7 capsules of the BWROG's SSP program. SSP specimen withdrawals are planned for 1996, 2000, and 2002 and when tested, will have collected fluence in the range equivalent to 3.6 EFPY and 14.3 EFPY for the RBS vessel. Reference 3 indicates that 2 of the 4 SSP capsules that contain the RBS limiting material are among the capsules scheduled for the first withdrawal. The SSP data from the first capsules withdrawal will provide early detection of any anomalous  $\Delta RT_{NDT}$  and will permit verification of the adequacy and conservatism of the reactor vessel P-T operational limits.

Considering the surveillance data reported in GE-NE-B1301807-02, BWROG's SSP program, and the small increase of  $\Delta RT_{NDT}$  for the RBS limiting surveillance material indicated by Figure 6-3 of GE-NE-B1301807-02 (46°F for 6 EFPY and 60°F for 10.4 EFPY), the staff accepts the change of the first capsule withdrawal time from 6 EFPY to 10.4 EFPY. Removing the capsule later in plant life will result in a more pronounced  $\Delta RT_{NDT}$ .

This SER only considered the licensee's first three bases for justifying the proposed capsule withdrawal schedule. The fourth basis, which is withdrawing the first capsule at a time corresponding to 75% drop in predicted fracture toughness at the hydrotest temperature over the RBS design life, is arbitrary, and cannot be used to justify a change in the withdrawal schedule.

The staff understands that the RBS USAR incorrectly lists heat/lot #492L4871/A421B27AF as the weld material included in the surveillance capsules. The licensee indicated that it will correct RBS USAR Table 5.3-1 to show heat/lot #5P6756/0342 as the correct surveillance capsule weld metal in its annual USAR update.

### 3.0 STAFF FINDING

The staff concludes that the licensee's proposed capsule withdrawal schedule does not conform to ASTM E 185-82. However, based on surveillance data from other BWR vessels, which indicate the RBS P-T limits are conservative, and on the small projected increase in the reference temperature due to this schedule change, the staff accepts the proposed change of the first RBS capsule withdrawal time from 6 EFPY to 10.4 EFPY. The availability of the surveillance data for the limiting RBS weld from the first withdrawal of SSP capsules is another favorable factor in the staff's consideration of this proposal. Therefore, the proposed capsule withdrawal schedule may be incorporated into the RBS TRM.

### 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 surveillance requirement. 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 (61 FR 55034). 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.

#### 7.0 REFERENCES

1. August 29, 1996, letter from J. R. McGaha, (EOI) to USNRC Document Control Desk, subject: River Bend Station, Unit 1 - License Amendment Request (LAR) 96-35, "Request for a revision to the Reactor Vessel Material Surveillance Program Capsule Withdrawal Schedule."
2. NRC Memorandum and Order, CLI-96-13, In the Matter of The Cleveland Electric Illuminating Company (Perry Nuclear Power Plant, Unit 1), December 6, 1996.
3. GE Nuclear Energy, GE-NE-523-101-1290, "Progress Report on Phase II BWROG Supplemental Surveillance Program," January 19, 1992.

Principal Contributor: S. Sheng, NRR

Date: February 13, 1997