

February 11, 1988

Docket No. 50-458

Mr. James C. Deddens  
Senior Vice President, (RBNG)  
Gulf States Utilities  
P. O. Box 220  
St. Francisville, LA 70775  
ATTN: Nuclear Licensing

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Dear Mr. Deddens:

SUBJECT: RIVER BEND STATION, UNIT 1 - AMENDMENT NO. 18 TO FACILITY  
OPERATING LICENSE NO. NPF-47 (TAC NO. 65993 )

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 18 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 August 5, 1987 as supplemented November 23, 1987.

The amendment revises the total predicted structural settlement for Settlement Marker Nos. 28 and 34.

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

Please revise the relevant portions of the updated Safety Analysis Report to reflect the changes addressed by this amendment.

Sincerely,

/s/

Walter A. Paulson, Project Manager  
Project Directorate - IV  
Division of Reactor Projects - III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 18 to  
License No. NPF-47
2. Safety Evaluation

cc w/enclosures:  
See next page

LTR NAME: RIVER BEND TAC 65993

PD4/LA	PD4/PM
PNoonan	WPaulson:
01/6/88	01/07/88

OGC  
01/12/88

PD4/D  
JCalvo  
01/11/88  
02/11

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P PDR

*see J. Scinto's additional  
note of 2/11/88 in the FR  
notice concurrence that now  
finds the package gess  
as modified. WA 2/11.*

Mr. James C. Deddens  
Gulf States Utilities Company

River Bend Nuclear Plant

cc:

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

GULF STATES UTILITIES COMPANY

DOCKET NO. 50-458

RIVER BEND STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 18  
License No. NPF-47

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
  - A. The application for amendment filed by Gulf States Utilities Company, dated August 5, 1987 as supplemented November 23, 1987, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the 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 amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - 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.

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P PDR

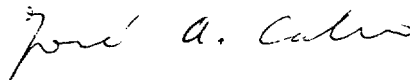
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility Operating License No. NPF-47 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No.        and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. GSU 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



Jose A. Calvo, Director  
Project Directorate - IV  
Division of Reactor Projects - III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: February 11, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 18

FACILITY OPERATING LICENSE NO. NPF-47

DOCKET NO. 50-458

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains a vertical line indicating the area of change. Overleaf page provided to maintain document completeness.

REMOVE

3/4 7-36

INSERT

3/4 7-36

## PLANT SYSTEMS

### 3/4.7.10 STRUCTURAL SETTLEMENT

#### LIMITING CONDITION FOR OPERATION

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3.7.10 Structural settlement shall be within the predicted values as shown in Table 3.7.10-1 and calculated differential settlements shall be within the allowable ranges shown in Table 3.7.10-2 for the following structures:

- a. Reactor Building
- b. Auxiliary Building
- c. Fuel Building
- d. Control Building
- e. Diesel Generator Building
- f. Standby Cooling Tower, Basin and Pump House
- g. BF Tunnel
- h. Main Steam Tunnel
- i. E Tunnel
- j. G Tunnel

APPLICABILITY: At all times.

#### ACTION:

With the measured structural settlement of any of the above required structures outside of the limits of Tables 3.7.10-1 and 3.7.10-2, prepare and submit, within the next 30 days, a Special Report to the Commission, pursuant to Specification 6.9.2, providing a record of the settlement measurements and the predicted settlement, an analysis to demonstrate the continued structural integrity of the affected structure(s), and plans to monitor the settlement of the affected structure(s) in the future. The provisions of Specification 3.0.3 and 3.0.4 are not applicable to the limits established in Table 3.7.10-1.

#### SURVEILLANCE REQUIREMENTS

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4.7.10 The structural settlement of the above required structures shall be demonstrated to be within the limits of Tables 3.7.10-1 and 3.7.10-2:

- a. At least once per 92 days, until there is essentially no movement during those 92 days.
- b. At least once per 24 months, for at least 10 years.
- c. Following any seismic event equal to or greater than an Operational Basis Earthquake (OBE).

TABLE 3.7.10-1  
TOTAL PREDICTED SETTLEMENTS OF MAJOR STRUCTURES

<u>STRUCTURE</u>	<u>SETTLEMENT MARKER NO.</u>	<u>PREDICTED SETTLEMENT (IN.)</u>
Reactor Building	15	4.0
	16	4.0
	17	4.0
Auxiliary Building	18	3.8
	19	3.6
	20	3.9
	21	3.7
Fuel Building	11	3.7
	12	4.0
	13	3.5
	14	3.8
Control Building	5	3.7
	6	3.3
	7	3.7
	8	3.7
Diesel Generator Building	1	3.4
	2	3.7
	3	3.6
	4	3.8
Standby Cooling Tower, Basin and Pump House	30	2.7
	31	3.2
	32	2.4
BF Tunnel	9	2.1
	10	2.5
Main Steam Tunnel	22	3.8
	23	3.8
E Tunnel	28	3.3
	29	2.8
G Tunnel	33	2.6
	34	1.3



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 18 TO FACILITY OPERATING LICENSE NO. NPF-47  
GULF STATES UTILITIES COMPANY  
RIVER BEND STATION, UNIT 1  
DOCKET NO. 50-458

1.0 INTRODUCTION

By letter dated August 5, 1987, as supplemented November 23, 1987, Gulf States Utilities Company (GSU) (the licensee) requested an amendment to Facility Operating License No. NPF-47 for the River Bend Station, Unit 1. The proposed amendment would revise the total predicted structural settlement for two settlement markers.

The licensee has been monitoring the settlement of major Category I structures in accordance with the River Bend Station (RBS) Technical Specifications (TSs). The settlement values specified in the TSs are limits based on assumptions made in the static design of the major safety related structures. Monitoring of the settlement is required to confirm that the limits are not exceeded. The licensee's proposed amendment would change the predicted total settlement values of Marker No. 28 in E-Tunnel and Marker No. 34 in G-Tunnel. The E-Tunnel is adjacent to the Unit 1 Reactor Building and the G-Tunnel runs from near the Unit 1 Fuel Building to the cancelled, Unit 2 area. The G-Tunnel was to be used to interconnect the Standby Cooling Tower (SCT) loops of Units 1 and 2. Since Unit 2 has been cancelled the safety related piping in the G-Tunnel has been terminated near the Unit 1 SCT. Settlement Marker No. 34 is located near the terminated (west) end of the G-Tunnel at least 150 feet from any safety related equipment.

The total predicted settlements for Marker Nos. 28 and 34 shown in Table 3.7.10-1 of the RBS Technical Specifications are 3.8 inches and 0.4 inch, respectively. Actual measurements at Marker No. 34 have indicated settlement values much higher than the TS limit, while at Marker No. 28 the measured settlement is within the limit. The licensee has now proposed to change the TS settlement limits to 3.3 inches and 1.3 inches respectively at these markers based on the actual measurements and theoretical calculations (Ref. 1). This safety evaluation gives the results of the staff review of the licensee's submittals (Refs. 1, 2, 3, and 4). References 2 and 3 are Special Reports on the settlement of Marker No. 34 submitted in accordance with the provisions of the TSs.

2.0 EVALUATION

2.1 Settlement at Marker No. 34

Although the original prediction of total settlement at Marker No. 34 was only 0.4 inch, actual measurements at the marker from June 1985



through October 1987 have shown settlement values ranging from 0.85 inch to 1.03 inches (Ref. 3). Since the measured values have exceeded the Technical Specification limits, the licensee seeks to change the TS limit to 1.3 inches based on the following factors described in Reference 1:

- 1) The original theoretical calculation indicated a total settlement of 1.32 inches at the location of Marker No. 34 at the west end of G-Tunnel (Ref. 4). The licensee, however, adjusted this value to 0.4 inch assuming that the G-Tunnel had already settled about 0.9 inch due to loads imposed in adjacent areas before measurements were initiated at this location (Ref. 5, p. 2.5 109a). The value of 0.9 inch is the same as the settlement measured at Marker No. 32 (which is the closest to Marker No. 34) before readings were initiated at Marker No. 34. The licensee has belatedly recognized that the assumption of prior settlement of 0.9 inch at Marker No. 34 was overly conservative (Ref. 1).
- 2) There is no safety related equipment within at least 150 feet of Marker No. 34. Since this marker is located at the west end of the G-Tunnel, which is near the unconstructed Unit 2, the settlement of Marker No. 34 is of no concern with respect to differential settlement.
- 3) Since the proposed TS limit of 1.3 inches for the total settlement of Marker No. 34 is within the previously calculated value of 1.32 inches (Refs. 1 and 4), it does not involve a design change or physical change in the plant.

The staff's review of the licensee's submittals (Refs. 1, 2, 3, and 4) indicates that the settlement readings at Marker No. 34 have been gradually approaching a value of about 1.0 inch and have remained stable near that value for the past two years. The roof of the G-Tunnel was completed in the Spring of 1982 (Ref. 5 Fig. 2.5-106). During a teleconference with the licensee's staff on December 1, 1987, the NRC staff was informed that a walkdown along the G-Tunnel did not indicate any structural distress in the tunnel except for minor hairline cracks common in concrete structures. The staff also finds that the licensee's original assumption of 0.9 inch prior settlement was overly conservative and that the proposed value of 1.3 inches total settlement is reasonable. This proposed value is less than the 1.32 inches settlement originally calculated by the licensee. Therefore, although the settlement measured by the licensee exceeds the current TS value of 0.4 inch, the proposed limit of 1.3 inches based on the licensee's original calculations, has not been exceeded. Thus, no adverse impact on G tunnel is anticipated and, to date, none has been observed; hence, the staff finds that there has been no adverse impact on Unit No. 1 related to the settlement of G tunnel at Marker No. 34. Further, because Marker No. 34 has already settled about 1.0 inch., the proposed total settlement of 1.3 inches

will limit any additional allowable settlement to 0.3 inch. Because there is no safety related equipment within at least 150 feet of Marker No. 34 it is the staff's judgement that there will not be any adverse impact on Unit No. 1 should Marker No. 34 settle this additional 0.3 inch. Based on these factors, the staff finds that the licensee's proposed change in the TS limit of total settlement at Marker No. 34 from 0.4 inch to 1.3 inches is acceptable.

## 2.2 Settlement at Marker No. 28

With regard to the change in the predicted total settlement from 3.8 inches to 3.3 inches at Marker No. 28, the licensee states that the higher figure was erroneously entered in Table 3.7.10-1 of the TSs. The lower value provides a conservative limit compared to the higher value. The staff finds that this change is acceptable.

## 3.0 SUMMARY

Based on a review of the licensee's submittals (References 1, 2, 3, and 4) justifying its proposed changes in the Technical Specification Table 3.7.10-1, the staff agrees with the licensee's basis for the proposed changes in predicted total settlements for Marker Nos. 34 and 28 in G-Tunnel and E-Tunnel, respectively; i.e., from 0.4 inch to 1.3 inches for Marker No. 34 and from 3.8 inches to 3.3 inches for Marker No. 28. Accordingly, the staff concludes that the proposed changes are acceptable.

## 4.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and/or changes to the surveillance requirements. The 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 exposures. 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. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Section 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.

## 5.0 CONCLUSION

The staff 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, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public. The staff therefore concludes that the proposed changes are acceptable, and they are hereby incorporated into the River Bend Unit 1 Technical Specifications.

## 6.0 REFERENCES

1. Letter dated August 5, 1987 from J. C. Deddens, GSU to NRC, subject: River Bend Station Unit 1, Docket No. 50-458, Settlement Monitoring.
2. Letter dated August 18, 1987 from J. C. Deddens, GSU to NRC, subject: River Bend Station Unit 1, Docket No. 50-458, Special Report.
3. Letter dated November 2, 1987 from J. C. Deddens, GSU to NRC, subject: River Bend Station Unit 1, Docket No. 50-458, Special Report.
4. Letter dated November 23, 1987 from J. E. Booker, GSU to NRC, subject: River Bend Station - Unit 1, Docket No. 50-458.
5. River Bend Station Final Safety Analysis Report (FSAR) Section 2.5.4.13.2.2.

Principal Contributor: R. Pichumani

Dated: February 11, 1988