

March 2, 2000

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 - ISSUANCE OF AMENDMENT RE: REVISION
TO FUEL HANDLING ACCIDENT DOSE CALCULATION (TAC NO. MA7701)

Dear Mr. Edington:

The Commission has issued the enclosed Amendment No. 110 to Facility Operating License No. NPF-47 for the River Bend Station, Unit 1(RBS). The amendment approves changes to the RBS Updated Safety Analysis Report (USAR) in response to your application dated December 16, 1999.

The amendment authorizes a revision to fuel handling accident dose calculations for three scenarios described in the RBS USAR. These analyses are being updated to account for several changes that were determined by you to involve an unreviewed safety question in accordance with Title 10 of the *Code of Federal Regulations*, Section 50.59(a)(2)(i), as further explained in your December 16, 1999, letter.

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/

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

Docket No. 50-458

Enclosures: 1. Amendment No. 110 to NPF-47
2. Safety Evaluation

cc w/encls: See next page

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

March 2, 2000

SUBJECT: RIVER BEND STATION, UNIT 1 - ISSUANCE OF AMENDMENT RE: REVISION TO FUEL HANDLING ACCIDENT DOSE CALCULATION (TAC NO. MA7701)

Dear Mr. Edington:

The Commission has issued the enclosed Amendment No. 110 to Facility Operating License No. NPF-47 for the River Bend Station, Unit 1(RBS). The amendment approves changes to the RBS Updated Safety Analysis Report (USAR) in response to your application dated December 16, 1999.

The amendment authorizes a revision to fuel handling accident dose calculations for three scenarios described in the RBS USAR. These analyses are being updated to account for several changes that were determined by you to involve an unreviewed safety question in accordance with Title 10 of the *Code of Federal Regulations*, Section 50.59(a)(2)(i), as further explained in your December 16, 1999, letter.

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/

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

Docket No. 50-458

- Enclosures: 1. Amendment No. 110 to NPF-47
 2. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION:

File Center	K.Brockman, RIV
PUBLIC	J.Kilcrease, RIV
PDIV-1 Reading	L.Hurley, RIV
OGC (15B18)	S.Richards (cover ltr only)
ACRS	G.Hill (2)
W.Beckner	J. Lee

* No major changes made to SE **No legal objection

To receive a copy of this document, indicate "C" in the box										
OFFICE	PDIV-1/PM	C	PDIV-1/LA	C	SPSB/SC		OGC		PDIV-1/SC	C
NAME	R.Fretz		C. Jamerson for D.Johnson		FReinhart*		McGurrens**		R.Gramm	
DATE	2/22/00		2/22/00		02/04/00		03/02/00		3/2/00	

DOCUMENT NAME: C:\AmdMA7701.wpd

OFFICIAL RECORD COPY

River Bend Station

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

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

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

ENERGY GULF STATES, INC. **

AND

ENERGY OPERATIONS, INC.

DOCKET NO. 50-458

RIVER BEND STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 110
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 December 16, 1999, 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, by Amendment No. 110, the license is amended to authorize revision of the Updated Safety Analysis Report (USAR) as set forth in the application for amendment by Entergy Operations, Inc., dated December 16, 1999. Entergy Operations, Inc. shall update the USAR to reflect the revised licensing basis authorized by this amendment in accordance with 10 CFR 50.71(e).
- 3. The license amendment is effective as of its date of issuance and shall be implemented in the next periodic update to the USAR in accordance with 10 CFR 50.71(e). Implementation of the amendment is the incorporation into the USAR update, the changes to the description of the facility as described in the licensee's application dated December 16, 1999, and evaluated in the staff's Safety Evaluation attached to this amendment.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Robert A. Gramm, Chief, Section 1
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Date of Issuance: March 2, 2000

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 110 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 December 16, 1999, Entergy Operations, Inc. (the licensee) requested changes to Facility Operating License No. NPF-47 for the River Bend Station, Unit 1 (RBS). The proposed changes would revise the fuel handling accident dose calculations described in the RBS Updated Safety Analysis Report (USAR). The licensee determined that the fuel handling accident dose analyses in the current RBS USAR will not bound irradiated fuel handling for the upcoming refueling outage 9. Therefore, the licensee further determined that the requested changes constitute an unreviewed safety question.

Specifically, the licensee requested the following changes:

- Increase of the radial peaking factor from 1.50 to 1.65 to reflect the current core design strategies.
- Increase of iodine-131 gap fraction from 0.10 to 0.12 to account for the potential impact of extended fuel burnup.
- Revision of control room atmospheric dispersion factors (χ/Q values) to take credit for dual air inlet design at RBS. The Standard Review Plan (SRP) Section 6.4 allows credit for manual selectivity of the more favorable air inlet to the control room.
- Correction of an error in the containment air release rate assumed in one of the fuel handling accident dose calculations performed by the licensee in the USAR.

2.0 EVALUATION

The staff has reviewed the licensee's requested changes and finds that the parameters and assumptions used in its revised fuel handling accident dose calculations are consistent with those provided in applicable sections of the SRP and the regulatory guide. To confirm the licensee's dose calculations, the staff performed a confirmatory assessment of the radiological consequences resulting from the postulated fuel handling accident. In its assessment, the staff used the same parameters and assumptions previously used in License Amendment No. 85 of January 11, 1996, for a fuel handling accident except the staff used a more conservative radial peaking factor of 1.65 and an iodine-131 gap fraction of 0.12 percent, as proposed by the licensee. In addition, the staff allowed a credit (divided by a factor of 4) for control room atmospheric dispersion factors (χ/Q values) for dual air inlet design at RBS. SRP Section 6.4 allows such credit for manual selectivity of the more favorable air inlet to the control room. The staff and the licensee assumed 150 fuel rods to be damaged as a result of a fuel handling accident and that the reactor was operating at 3100 MWt power level.

The radiological consequence analyses by the staff confirm the calculated doses provided by the licensee, and they are well within the exposure guideline values of Title 10 of the *Code of Federal Regulations*, Part 100 and meet the acceptance dose criteria specified in SRP 6.4 for the control room operator. The calculated doses by the staff and licensee are listed in Table 1.

On the basis of its evaluation, the staff concludes that the licensee's proposed changes to the RBS USAR are acceptable.

TABLE 1

CALCULATED RADIOLOGICAL CONSEQUENCES (in Rem)			
Exclusion Area Boundary			
	Dose (NRC) ⁽¹⁾	Dose (Licensee)	SRP Limits
Whole Body	0.2	0.2	6
Thyroid	67	52	75
Low Population Zone			
Whole Body	0.1	<0.1	6
Thyroid	8.8	6.8	75
Control Room			
Whole Body	0.1	<0.1	5
Thyroid	3.6	2.5	30
⁽¹⁾ Used NRC computer code ACTICODE.			

3.0 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.

4.0 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 (65 FR 4272 dated January 26, 2000). 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.

5.0 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: J. Lee

Date: March 2, 2000