

March 17, 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 POST LOSS-OF-COOLANT ACCIDENT DOSE
CALCULATIONS (TAC NO. MA7137)

Dear Mr. Edington:

The Commission has issued the enclosed Amendment No. 111 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 October 29, 1999.

The amendment authorizes a revision to the post loss-of-coolant accident dose calculations 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 October 29, 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. 111 to NPF-47
2. Safety Evaluation

cc w/encls: See next page

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River Bend Station

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ENERGY GULF STATES, INC. **

AND

ENERGY OPERATIONS, INC.

DOCKET NO. 50-458

RIVER BEND STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 111
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 October 29, 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. 111, 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 October 29, 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 October 29, 1999, and evaluated in the staff's safety evaluation enclosed with 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 17, 2000

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 111 TO FACILITY OPERATING LICENSE NO. NPF-47

ENTERGY OPERATIONS, INC.

RIVER BEND STATION, UNIT 1

DOCKET NO. 50-458

1.0 INTRODUCTION

By letter dated October 29, 1999, Entergy Operations, Inc., the licensee for River Bend Station, Unit 1 (RBS), requested an amendment to Facility Operating License No. NPF-47 to revise the post loss-of-coolant accident (LOCA) dose calculations in the RBS Updated Safety Analysis Report (USAR). The licensee determined that the proposed changes involve an increase in radiological consequences, and thus constituted an unreviewed safety question in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.59(a)(2)(i).

Specifically, the licensee requested the following changes to the RBS USAR, Sections 6.2.3 and 15.6.5:

- Increase of the positive pressure period of the secondary containment following a design basis accident (DBA) to 195.5 seconds from 189 seconds.
- Decrease the suppression pool water volume to 1.2E5 ft³ from 1.35E5 ft³ for use in the post-LOCA dose calculation.
- Change to the engineered safety feature (ESF) liquid leakage model adding the leakage resulting from a gross failure of a passive component outside of primary containment.
- Direct release of ESF leakage through the Standby Gas Treatment System (SGTS) to the environment without hold up in the auxiliary building.

2.0 EVALUATION

The staff has reviewed the licensee's requested changes and finds that the proposed changes use more conservative assumptions in post-LOCA dose calculations than those in the current RBS USAR. The staff further finds that the proposed changes are consistent with Standard Review Plan (SRP) Section 15.6.5.

The increase of the positive pressure period of the secondary containment following a DBA to 195.5 seconds from 189 seconds provides a longer period (by 6.5 seconds) for radioactive material to bypass the SGTS from the auxiliary building to the environment. The licensee requested this increase based on its re-analysis of potential temperature-induced effects on the

secondary containment following a DBA. The licensee stated that this effect had been analyzed previously but did not upgrade the USAR at that time to reflect the analysis. This change will potentially increase the amount of radioactivity released to the environment and therefore, the change is more conservative.

The decrease of the suppression pool water volume will result in a higher radioactivity concentration in the pool water and in the ESF liquid leakage following a DBA. This change will also increase the amount of radioactivity that could be released to the environment. The licensee determined that submerged objects were not sufficiently accounted for when the suppression pool water volume was originally calculated.

Addition of the ESF leakage from a gross failure of a passive component in the auxiliary building to the post-LOCA dose calculation and change to the ESF liquid leakage pathway model will lead to a higher radiological consequence than the current model in the USAR. The licensee requested these changes based on its conservative re-evaluation of the potential leakage pathways from the ESF systems to the environment.

To confirm the licensee’s dose calculation, the staff performed a confirmatory assessment of the radiological consequence resulting from the postulated LOCA. In its assessment, the staff used the same parameters and assumptions previously used in License Amendment No. 98, dated August 26, 1999, except the changes proposed by the licensee. The radiological consequence analysis by the staff confirmed the calculated doses provided by the licensee in Table 1 of Attachment 1 to the licensee’s letter dated October 29, 1999. The doses provided in the table are still within the exposure guideline values of 10 CFR Part 100 and meet the acceptance dose criteria specified in SRP 6.4 for the control room operator.

LICENSEE’S CALCULATED RADIOLOGICAL CONSEQUENCES (in Rem)			
Exclusion Area Boundary			
Dose (Rem)	Previous Dose Calculation (Licensee)	Revised Dose Calculation (Licensee)	10 CFR Part 100 Regulatory Limit
Whole Body	4.61	4.63	25
Thyroid	32.8	37.8	300
Low Population Zone			
Whole Body	2.77	2.81	25
Thyroid	50.4	115.1*	300
Control Room			
Whole Body	0.42	0.42	5
Skin	8.82	8.82	30
Thyroid	5.57	6.33**	30

Licensee’s Notes: * 51.1 without the voluntary addition of the “IN 91-56” unfiltered leakage term
 ** 5.91 without the voluntary addition of the “IN 91-56” unfiltered leakage term

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

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 (64 FR 70084 dated December 15, 1999). 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 17, 2000