September 22, 2000

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

SUBJECT: RIVER BEND STATION - ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT REGARDING POWER UPRATE (TAC NO. MA6185)

Dear Mr. Edington:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for amendment dated July 30, 1999, as supplemented by letters dated April 3, May 9, July 18, and August 24, 2000. The proposed amendment would increase the maximum reactor core power level from 2894 megawatts thermal (MWt) to 3039 MWt, an increase of five percent of rated core thermal power for the River Bend Station.

The assessment is being forwarded to the Office of Federal Register for publication.

Sincerely,

/RA/

Jefferey F. Harold, Project Manager, Section 1
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-458

Enclosure: Environmental Assessment

cc w/encl: See next page

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NAME	JHarold	DJohnson	CCarpenter	RHoefling	JNakoski for RGramm
DATE	9/11/00	9/11/00	9/13/00	9/21/00	9/22/00

Official Record Copy

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UNITED STATES NUCLEAR REGULATORY COMMISSION

ENTERGY GULF STATES, INC.

AND

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-458

RIVER BEND STATION, UNIT 1

ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an amendment to Facility Operating License No. NPF-47, issued to Entergy Gulf States, Inc. and Entergy Operations, Inc. (EOI, or the licensee) for operation of the River Bend Station, Unit 1 (RBS), located in Saint Francisville, Louisiana.

ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action:

The proposed action would allow EOI to increase the maximum reactor core power level from 2894 megawatts thermal (MWt) to 3039 MWt, which is an increase of five percent of rated core thermal power for the RBS.

The proposed action is in accordance with EOI's application for amendment dated July 30, 1999, as supplemented by letters dated April 3, May 9, July 18, and August 24, 2000.

Need for the Proposed Action:

The proposed action permits an increase in the licensed core thermal power from 2894 MWt to 3039 MWt and provides the flexibility to increase the potential electrical output of RBS.

Environmental Impacts of the Proposed Action:

EOI has submitted an environmental evaluation supporting the proposed power uprate and provided a summary of its conclusions concerning both the radiological and non-radiological environmental impacts of the proposed action. Based on the NRC's independent analyses and the evaluation performed by the licensee, the staff concludes that the proposed increase in power is not expected to result in a significant environmental impact.

Radiological Environmental Assessment:

Radwaste Systems

The reactor coolant contains activated corrosion products, which are the result of metallic materials entering the water and being activated in the reactor region. Under power uprate conditions, the feedwater flow increases with power and the activation rate in the reactor region increases with power. The net result may be an increase in the activated corrosion product production. However, the total volume of processed waste is not expected to increase appreciably.

Non-condensible radioactive gas from the main condenser, along with air inleakage, normally contains activation gases (principally N-16, O-19 and N-13) and fission product radioactive noble gases. This is the major source of radioactive gas (greater than all other sources combined). These non-condensible gases, along with non-radioactive air, are continuously removed from the main condensers which discharge into the offgas system. The gaseous effluents will remain within the original limits following implementation of power uprate.

EOI has concluded that the operation of the radwaste systems at RBS will not be impacted by operation at uprated power conditions and the slight increase in effluents discharged would continue to meet the requirements of Part 20 of Title 10 of the *Code of Federal Regulations* (10 CFR) and 10 CFR Part 50, Appendix I. Therefore, power uprate will not appreciably affect the ability to process liquid or gaseous radioactive effluents and there are no significant environmental effects from radiological releases.

Dose Consideration

EOI evaluated the effects of power uprate on the radiation sources within the plant and radiation levels during normal and post-accident conditions. Post-operation radiation levels in most areas of the plant are expected to increase by no more than the percentage increase in power level. In a few areas near the spent fuel pool cooling system piping and the reactor water piping, where accumulation of corrosion product crud is expected, as well as near some liquid radwaste equipment, the increase could be slightly higher. In this regard, procedural controls are expected to compensate for increased radiation levels. Occupational doses for normal operations will be maintained within acceptable limits by the site as-low-as-reasonably-achievable program.

Power uprate does not involve significant increases in the offsite doses to the public from noble gases, airborne particulates, iodine, tritium, or liquid effluents. A review of the normal radiological effluent doses shows that, at the current power level, doses are less than one percent of the doses allowed by Technical Specifications (TSs). Present offsite radiation levels are a negligible portion of background radiation. Therefore, the normal offsite doses are not significantly affected by operation at the uprated power level and remain below the limits of 10 CFR Part 20 and 10 CFR Part 50, Appendix I.

The change in core inventory resulting from power uprate is expected to increase post-accident radiation levels by no more than the percentage increase in power level. The licensee

reanalyzed the control rod drop accident, the loss-of-coolant accident (LOCA), the fuel handling accident, the instrument line break accident, and the main steam line break accident for power uprate conditions. The slight increase in the post-accident radiation levels has no significant effect on the plant nor on the habitability of the control room envelope, the Emergency Operations Facility, or the Technical Support Center. Thus, the licensee has determined that access to areas requiring post-accident occupancy will not be significantly affected by power uprate. The licensee evaluated the whole body and thyroid doses at the exclusion area boundary that might result from the postulated design basis LOCA and determined that doses remain below established regulatory limits. Therefore, the results of the radiological analyses remain below the 10 CFR Part 100 guidelines and all radiological safety margins are maintained.

Summary

The proposed power uprate will not significantly increase the probability or consequences of accidents, will not involve any new radiological release pathways, will not result in a significant increase in occupational or public radiation exposure, and will not result in significant additional fuel cycle environmental impacts. Accordingly, the NRC staff concludes that there are no significant radiological environmental impacts associated with the proposed action.

Non-Radiological Environmental Assessment:

The licensee reviewed the non-radiological environmental impacts of power uprate based on information submitted in the Environmental Report, Operating License Stage, the NRC Final Environmental Statement (FES), and the requirements of the Environmental Protection Plan. Based on this review, the licensee concluded that the proposed uprate has no significant effect on the non-radiological elements of concern and the plant will be operated in an environmentally acceptable manner as established by the FES. In addition, the licensee

states that existing Federal, State, and local regulatory permits presently in effect accommodate power uprate without modification.

The safety-related standby service water (SSW) at RBS is drawn from the ultimate heatsink (UHS), (e.g., the SSW cooling towers), where the maximum calculated temperature due to the uprate does not exceed the original maximum UHS temperature. As a result of power uprate to 105 percent of current licensed core power, there will be a slight increase in the normal heat loads rejected to the plant service water system. For normal operation, the maximum service water heat loads occur during peak summer months. The licensee calculates that the maximum summer discharge temperature for the service water system will be remain below the current TS limit of 88 °F. EOI determined that the effects of power uprate on air and land resources are negligible. The aesthetics of the physical plant and plant site, as well as actual land use, are not changed or increased by power uprate. An increase in operational consumption of natural resources is negligible and below the levels previously evaluated for two unit operation. Finally, air quality and noise levels remain the same as before the power uprate.

With regard to potential non-radiological impacts, the proposed action does not change the method of operation at RBS or the methods of handling effluents. No changes to land use would result and the proposed action does not involve any historic sites. Therefore, no new or different types of non-radiological environmental impacts are expected. Accordingly, the NRC concludes that there are no significant non-radiological environmental impacts associated with the proposed action.

Alternatives to the Proposed Action:

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the “no-action” alternative). Denial of the application would result in no change in current environmental impacts but would reduce the operational flexibility that would be afforded

by the proposed change. The environmental impacts of the proposed action and the alternative action are not significantly different.

Alternative Use of Resources:

This action does not involve the use of any resources not previously considered in the FES for RBS.

Agencies and Persons Consulted:

In accordance with its stated policy, on August 15, 2000, the staff consulted with the Louisiana State official, Prosanta Chowdhury, regarding the environmental impact of the proposed action. The State official had no comments.

FINDING OF NO SIGNIFICANT IMPACT

Based upon the environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letter dated July 30, 1999, as supplemented by letters dated April 3, May 9, July 18, and August 24, 2000, which may be examined, and/or copied for a fee, at the NRC's Public Document Room, located

at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the ADAMS Public Library component on the NRC Web site, (the Electronic Reading Room).

Dated at Rockville, Maryland this 22nd day of September 2000.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

John A. Nakoski, Acting Chief, Section 1
Project Directorate IV & Decommissioning
Division of Licensing Project Management
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