May 14, 2002

Mr. William A. Eaton
Vice President, Operations GGNS
Entergy Operations, Inc.
P. O. Box 756
Port Gibson, MS 39150

SUBJECT: GRAND GULF NUCLEAR STATION, UNIT 1 - ISSUANCE OF LICENSE AMENDMENT RE: CONTROL ROD SCRAM TIME TESTING FREQUENCY (TAC NO. MB1304)

Dear Mr. Eaton:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 150 to Facility Operating License No. NPF-29 for the Grand Gulf Nuclear Station, Unit 1 (GGNS). This amendment revises the GGNS Technical Specifications (TSs) in response to your application dated January 25, 2001, supplemented by letter dated February 20, 2002. The supplemental letter contained information clarifying provisions of the original submittal, and did not change the scope of the *Federal Register* notice published on March 21, 2001 (66 FR 15923).

The amendment authorizes an increase in the surveillance interval for performing sample tests of control rod insertion times. The surveillance interval is increased from 120 days cumulative operation in MODE 1 to 200 days cumulative operation in MODE 1.

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

Sincerely,

/RA/

S. Patrick Sekerak, Project Manager, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-416

Enclosures: 1. Amendment No. 150 to NPF-29
2. Safety Evaluation

cc w/encls: See next page

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S. Patrick Sekerak, Project Manager, Section 1
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ENTERGY OPERATIONS, INC.

SYSTEM ENERGY RESOURCES, INC.

SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION

ENTERGY MISSISSIPPI, INC.

DOCKET NO. 50-416

GRAND GULF NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 150
License No. NPF-29

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Entergy Operations, Inc. (the licensee) dated January 25, 2001, as supplemented by letter dated February 20, 2002, 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, 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 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.

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-29 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 150 , are hereby incorporated into this license. Entergy Operations, Inc. shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

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

Attachment: Changes to the Technical Specifications

Date of Issuance: May 14, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 150

FACILITY OPERATING LICENSE NO. NPF-29

DOCKET NO. 50-416

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove	Insert
3.1-13	3.1-13

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 150 TO FACILITY OPERATING LICENSE NO. NPF-29

ENTERGY OPERATIONS, INC., ET AL.

GRAND GULF NUCLEAR STATION, UNIT 1

DOCKET NO. 50-416

1.0 INTRODUCTION

By letter dated January 25, 2001 (Reference 1), as supplemented by letter dated February 20, 2002 (Reference 2), Entergy Operations, Inc. (Entergy or the licensee) submitted a request for changes to the Grand Gulf Nuclear Station, Unit 1 (GGNS), Technical Specifications (TSs). The changes would revise the TSs to increase the surveillance interval for performing sample tests of control rod insertion time from 120 days cumulative operation in MODE 1 to 200 days cumulative operation in MODE 1.

2.0 BACKGROUND

The TS governing the control rod scram time surveillance is intended to assure proper function of control rod insertion. Following each refueling outage, all control rod scram times are verified. In addition, periodically during power operation, a representative sample of control rods are randomly selected to be partially inserted to verify the insertion speed. A representative sample is defined as a sample containing at least 10 percent of the total number of control rods. The current TS stipulates that no more than 20 percent of the control rods in this representative sample can be "slow" during the post outage testing. In response to discussions with the Nuclear Regulatory Commission (NRC) (Reference 3), Entergy has redefined the acceptance criterion for at-power surveillance testing from 20 percent to 7.5 percent. This tightened acceptance criterion for at-power surveillance aligns with the TS 3.1.4 requirement for the total control rods allowed to have scram times exceeding the specified limit.

3.0 EVALUATION

Over the course of the operating life of GGNS, the control rod insertion time test results have shown the control rod scram rates to be highly reliable. Out of 7,660 control rod insertion tests, only 12 control rods have been slower than the insertion time limit, with the exception of test data from Cycle 7, which is discussed further below. The extensive historical data base substantiates the licensee's claim of high reliability of the GGNS control rod drive system. The current TS requires that 10 percent of the 193 control rods, or 20 rods, be tested via random sampling every 120 cumulative days of operation in MODE 1. Entergy has requested an extension of the surveillance interval to 200 cumulative days of operation in MODE 1.

The current TS bases states that the acceptance criteria have been met if 20 percent or fewer of the random sample control rods that are tested within the 120 day surveillance period are found to be slow. Entergy has proposed in Reference 2 that the control rod insertion time acceptance criterion for percentage of slow rods allowed, be reduced to 7.5 percent of the random at-power surveillance sample when the surveillance period is extended to 200 cumulative days of operation in MODE 1. The staff finds this to be acceptable since the more restrictive 7.5 percent acceptance criterion for testing the random sample is consistent with the TS 3.1.4 objective of ensuring that no more than 14 operable control rods are slow at any given time, and is in conformance with the Standard TS requirements for control rod insertion time acceptance.

The results of initial testing in Cycle 7 are excluded due to faulty hardware that was installed during the refueling outage for that cycle. It was found that a number of scram solenoid pilot valve tophead assemblies were replaced with units later proven to be prone to slow operation. All tophead assemblies within that group were subsequently replaced or rebuilt so as to eradicate the slow operation. Since that time, there has not been a problem for any of the 2,344 tests that have been performed. The staff agrees that the results of the tests performed with the slow tophead assemblies can be excluded from the data base, because the subsequent control rod testing history has demonstrated that the test anomaly encountered during Cycle 7 was an isolated occurrence and is not representative of components currently installed in the plant.

3.1 Conclusion of Technical Evaluation

The staff has reviewed the Entergy proposal to extend the control rod scram time surveillance interval in MODE 1 operation from 120 days to 200 days. The staff considers the extended surveillance interval to be justified by the demonstrated reliability of the GGNS control rod insertion system, based on historical control rod scram time test data, and by the more restrictive acceptance criterion for the number of slow rods allowed during at-power surveillance testing. The staff finds the proposed TS change acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Mississippi 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 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 (66 FR 15923, published March 21, 2001). 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. Letter from William A. Eaton, Entergy Operations, Inc. (GNRO-2001/00002) to NRC, "Grand Gulf Nuclear Station, Docket No. 50-416, License No. NPF-29, Control Rod Scram Time Testing Frequency, Proposed Amendment to the Operating License, LDC 2001-001," dated January 25, 2001.

2. Letter from William A. Eaton, Entergy Operations, Inc. (GNRO-2002/00012) to NRC, "Grand Gulf Nuclear Station, Docket No. 50-416, Supplement to Amendment Request Concerning Control Rod Scram Time Testing Frequency," dated February 20, 2002.

3. Telephone conference between NRC and Entergy, December 5, 2001.

Principal Contributors: R. Landry
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Date: May 14, 2002

Grand Gulf Nuclear Station

cc:

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