February 25, 1992

Docket No. 50-416

Mr. William T. Cottle
Vice President, Operations GGNS
Entergy Operations, Inc.
Post Office Box 756
Port Gibson, Mississippi 39150

Dear Mr. Cottle:

SUBJECT: ISSUANCE OF AMENDMENT NO. 90 TO FACILITY OPERATING LICENSE NO. NPF-29 - GRAND GULF NUCLEAR STATION, UNIT 1 (TAC NO. M79418)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 90 to Facility Operating License No. NPF-29 for the Grand Gulf Nuclear Station (GGNS), Unit 1. This amendment revises the Technical Specifications (TS) in response to your application dated January 11, 1991, and supplements thereto dated March 13 and October 9, 1991

The amendment deletes the DC battery load profiles from TS 4.8.2.1.d.2. The battery load profiles being removed are contained in the GGNS Updated Final Safety Analysis Report (UFSAR). The TS Bases are also modified to include a description of the simulated emergency load profiles and their definition in the UFSAR.

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

Sincerely,

Original signed by:
Paul W. O'Connor, Senior Project Manager
Project Directorate IV-1
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 90 to NPF-29
2. Safety Evaluation

cc w/enclosures:
See next page

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Docket File	NRC/Local PDR	PD4-1 Reading	P. Noonan
M. Virgilio	OPA(MS2G5)	J. Larkins	PD4-1 Plant File
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G. Hill(4)	Wanda Jones(MS7103)	C. Grimes(MS11E22)	D. Pickett (MS13H15)
ACRS(10)	OC/LFMB(MS4503)	D. Verrelli	R. Hall (MS13E21)

OFC	LA:PD4-1	PM:PD4-1	OGC	D:PD4-1
NAME	PNoonan	PO'Connor		JLarkins
DATE	2/5/92	2/5/92	2/19/92	2/28/92

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

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Sincerely,

Paul W. O'Connor

Paul W. O'Connor, Senior Project Manager
Project Directorate IV-1
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

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cc w/enclosures:
See next page

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

ENTERGY OPERATIONS, INC.

SYSTEM ENERGY RESOURCES, INC.

SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION

MISSISSIPPI POWER AND LIGHT COMPANY

DOCKET NO. 50-416

GRAND GULF NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 90
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 11, 1991, and supplements thereto dated March 13 and October 9, 1991, comply 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. 90, 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.

FOR THE NUCLEAR REGULATORY COMMISSION

John T. Larkins, Director
Project Directorate IV-1
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical Specifications

Date of Issuance: February 25, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 90

FACILITY OPERATING LICENSE NO. NPF-29

DOCKET NO. 50-416

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

REMOVE PAGES	INSERT PAGES
3/4 8-12	3/4 8-12
B 3/4 8-2	B 3/4 8-2

4.8.2.1 Each of the above required 125-volt batteries and chargers shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1. The parameters in Table 4.8.2.1-1 meet the Category A limits, and

2. Total battery terminal voltage is greater than or equal to 129-volts on float charge.

b. At least once per 92 days and within 7 days after a battery discharge with battery terminal voltage below 110-volts, or battery overcharge with battery terminal voltage above 150-volts, by verifying that:

1. The parameters in Table 4.8.2.1-1 meet the Category B limits,

2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150×10^{-6} ohms, and

3. The average electrolyte temperature of every sixth connected cells is above 60°F.

c. At least once per 18 months by verifying that:

1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration,

2. The cell-to-cell and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material,

3. The resistance of each cell and terminal connection is less than or equal to 150×10^{-6} ohms, and

4. The battery charger will supply:

a) For Divisions 1 and 2, at least 400 amperes at a minimum of 125 volts for at least 10 hours.

b) For Division 3, at least 50 amperes at a minimum of 125 volts for at least 4 hours.

SURVEILLANCE REQUIREMENTS (Continued)

d. At least once per 18 months, during shutdown, by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for 4 hours for Divisions 1 and 2 and 2 hours for Division 3 when the battery is subjected to a battery service test.

e. At least once per 60 months during shutdown by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. Once per 60 month interval, this performance discharge test may be performed in lieu of the battery service test.

f. Annual performance discharge tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 90% of the manufacturer's rating.

BASES

A.C. SOURCES, D.C. SOURCES and ONSITE POWER DISTRIBUTION SYSTEMS (Continued)

The surveillance requirements for demonstrating the OPERABILITY of the unit batteries are in accordance with the recommendations of Regulatory Guide 1.129 "Maintenance Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants," February 1978, and IEEE Std 450-1980, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations.".

Verifying average electrolyte temperature above the minimum for which the battery was sized, total battery terminal voltage onfloat charge, connection resistance values and the performance of battery service and discharge tests ensures the effectiveness of the charging system, the ability to handle high discharge rates and compares the battery capacity at that time with the rated capacity.

The simulated emergency load profile used for the battery service test of Surveillance Requirement 4.8.2.1.d is verified to be at least equivalent to the actual emergency load profile and is based on anticipated operations required after an AC power loss during accident conditions as described in the Updated Final Safety Analysis Report (UFSAR). The simulated emergency load profiles for the three divisional batteries are defined and located in the UFSAR Section 8.3.

Table 4.8.2.1-1 specifies the normal limits for each designated pilot cell and each connected cell for electrolyte level, float voltage and specific gravity. The limits for the designated pilot cells float voltage and specific gravity, greater than 2.13 volts and 0.015 below the manufacturer's full charge specific gravity or a battery charger current that had stabilized at a low value, is characteristic of a charged cell with adequate capacity. The normal limits for each connected cell for float voltage and specific gravity, greater than 2.13 volts and not more than 0.020 below the manufacturer's full charge specific gravity with an average specific gravity of all the connected cells not more than 0.010 below the manufacturer's full charge specific gravity, ensures the OPERABILITY and capability of the battery. Exceptions to the specific gravity requirements are taken to allow for the normal deviations experienced after a battery discharge and subsequent recharge associated with a service or performance discharge test. The specific gravity deviations are recognized by and discussed in IEEE 450-1980.

Operation with a battery cell's parameter outside the normal limit but within the allowable value specified in Table 4.8.2.1-1 is permitted for up to 7 days. During this 7 day period: (1) the allowable values for electrolyte level ensures no physical damage to the plates with an adequate electron transfer capability; (2) the allowable value for the average specific gravity of all the cells, not more than 0.020 below the manufacturer's recommended full charge specific gravity, ensures that the decrease in rating will be less than the safety margin provided in sizing; (3) the allowable value for an individual cell's specific gravity ensures that an individual cell's specific gravity will not be more than 0.040 below the manufacturer's full charge specific gravity and that the overall capability of the battery will be maintained within an acceptable limit; and (4) the allowable value for an individual cell's float voltage, greater than 2.07 volts, ensures the battery's capability to perform its design function.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 90 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 11, 1991, and supplements dated March 13 and October 9, 1991, the licensee (Entergy Operations, Inc.) submitted a request for changes to the Grand Gulf Nuclear Station, Unit 1 (GGNS) Technical Specifications (TS). The requested changes would delete the DC battery load profiles from TS 4.8.2.1.d.2. The battery load profiles being removed are contained in the GGNS Updated Final Safety Analysis Report (UFSAR). The TS Bases are also modified to include a description of the simulated emergency load profiles and their definition in the UFSAR.

The March 13 and October 9, 1991, letters provided clarifying information that did not change the initial proposed no significant hazards consideration determination.

2.0 EVALUATION

Currently, TS 4.8.2.1.d requires that every 18 months the capacities of Division I, II, and III 125 Vdc batteries be verified to be adequate to supply and maintain operable all their actual emergency loads for specific durations when the batteries are subjected to battery service tests or alternately when supplying dummy loads with specified profiles while maintaining battery terminal voltage greater than or equal to 105 volts.

To eliminate the specified load profiles from the TS, the licensee proposed the following specific changes:

1. TS 4.8.2.1.d.2, which contains the specific load profiles and allows the alternate dummy load test instead of the service test utilizing actual emergency loads, is deleted in its entirety.

2. Under TS 4.8.2.1.d, delete "either."

3. Under TS 4.8.2.1.d.1, delete "1" and combine this paragraph with TS 4.8.2.1.d. Add "or simulated" between "actual" and "emergency" and delete "or" from the end of this paragraph.

4. On page B 3/4 8-2 under the Bases for electrical power systems, insert the following new paragraph after the second paragraph:

> "The simulated emergency load profile used for the battery service test of Surveillance Requirement 4.8.2.1.d is verified to be at least equivalent to the actual emergency load profile and is based on anticipated operations required after an AC power loss during accident conditions as described in the Updated Final Safety Analysis Report (UFSAR). The simulated emergency load profile for the three divisional batteries is defined and located in the UFSAR Section 8.3."

Since the effect of the above proposed changes is to reference the UFSAR for load profiles used in technical specification battery tests, which is consistent with current staff policy, we find the changes acceptable on the condition that the licensee revises the UFSAR to include the minimum acceptable battery terminal voltage to be maintained during the service test, as committed to on page 1 of the attachment to the licensee's October 9, 1991, letter.

3.0 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.

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 and changes in surveillance requirements. 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 (56 FR 49917). 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: F. Burrows
P. O'Connor

Date: February 25, 1992