



# Entergy Operations

Entergy Operations, Inc.

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January 11, 1991

**W. T. Cottle**

Vice President  
Operations  
Grand Gulf Nuclear Station

U.S. Nuclear Regulatory Commission  
Mail Station P1-137  
Washington, D.C. 20555

Attention: Document Control Desk

SUBJECT: Grand Gulf Nuclear Station  
Unit 1  
Docket No. 50-416  
License No. NPF-29  
Removal of Battery Load Profile Requirements  
Proposed Amendment to the Operating  
License (PCOL-90/11)

GNRO-91/00004

Gentlemen:

Entergy Operations, Inc. is submitting by this letter a proposed amendment to the Grand Gulf Nuclear Station (GGNS) Operating License. This proposed amendment requests a deletion from the GGNS Technical Specifications (TS) of the specific DC battery load profiles specified in TS 4.8.2.1.d.2. The equivalent load profiles are explicitly defined in the GGNS Updated Final Safety Analysis Report (UFSAR). By removing the battery load profiles from the TS, TS changes will not be required each time an emergency load is added or deleted while the requirement to test to the design basis load profiles will still be preserved in the TS.

The proposed amendment is part of the corrective action discussed in LER 90-012-00, submitted in AECM-90/0151, dated August 23, 1990 and a GGNS/NRC meeting held in the NRC's Rockville Maryland Offices on November 6, 1990.

In accordance with the provisions of 10CFR50.4, the signed original of the requested amendment is enclosed. Attachment 2 provides the discussion and justification to support the requested amendment. This amendment has been reviewed and accepted by the Plant Safety Review Committee and the Safety Review Committee.

Based on the guidelines presented in 10CFR50.92, Entergy Operations has concluded that this proposed amendment involves no significant hazards considerations.

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Entergy Operations, Inc. is requesting action on this submittal by August 2, 1991 in order to complete the LER 90-012-00 corrective actions.

Yours truly,

*WTC/PRS*

WTC/PRS:mtc

attachments: 1. Affirmation per 10CFR50.30  
2. GGNS PCOL-90/11

cc: Mr. D. C. Hintz (w/a)  
Mr. J. Mathis (w/a)  
Mr. R. B. McGehee (w/a)  
Mr. N. S. Reynolds (w/a)  
Mr. H. L. Thomas (w/o)

Mr. Stewart D. Ebner (w/a)  
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Dr. Alton B. Cobb (w/a)  
State Health Officer  
State Board of Health  
P.O. Box 1700  
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BEFORE THE  
UNITED STATES NUCLEAR REGULATORY COMMISSION

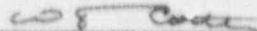
LICENSE NO. NPF-29

DOCKET NO. 50-416

IN THE MATTER OF  
MISSISSIPPI POWER & LIGHT COMPANY  
and  
SYSTEM ENERGY RESOURCES, INC.  
and  
SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION  
and  
ENTERGY OPERATIONS, INC.

AFFIRMATION

I, W. T. Cottle, being duly sworn, state that I am Vice President, Operations GGNS of Entergy Operations, Inc.; that on behalf of Entergy Operations, Inc., System Energy Resources, Inc., and South Mississippi Electric Power Association I am authorized by Entergy Operations, Inc. to sign and file with the Nuclear Regulatory Commission, this application for amendment of the Operating License of the Grand Gulf Nuclear Station; that I signed this application as Vice President, Operations GGNS of Entergy Operations, Inc.; and that the statements made and the matters set forth therein are true and correct to the best of my knowledge, information and belief.

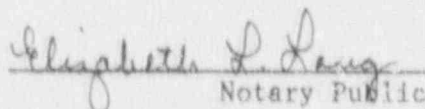


W. T. Cottle

STATE OF MISSISSIPPI  
COUNTY OF CLAIBORNE

SUBSCRIBED AND SWORN TO before me, a Notary Public, in and for the County and State above named, this 11<sup>th</sup> day of January, 1990.

(SEAL)

  
Notary Public

My commission expires:

December 29, 1991

## A. SUBJECT

1. NL-90/07 Removal of Battery Load Profile Requirements
2. Affected Technical Specifications:
  - a. Surveillance Requirement 4.8.2.1.d - Page 3/4 8-12
  - b. Bases 3/4.8.2 - Page B 3/4 8-2

## B. DISCUSSION

1. The requested change revises Surveillance Requirement 4.8.2.1.d of the Grand Gulf Nuclear Station (GGNS) Technical Specifications (TS). The DC battery load profiles specified in TS 4.8.2.1.d are deleted and replaced with a statement in the Bases for TS 3/4.8.2 that states the DC battery load profiles are defined in the GGNS Updated Final Safety Analysis Report (UFSAR).
2. On July 24, 1990 during a design basis review of the Division III 125 volt DC system, it was discovered that calculations currently in progress did not demonstrate that the GGNS TS load profile for the Division III battery was greater than the actual load for all periods. This condition was reported pursuant to 10CFR50.73(a)(2)(i)(B) in LER 90-012-00 via AECM-90/0151, dated August 23, 1990.
3. It was determined that the Division III load profile currently stated in TS 4.8.2.1.d.2.c ( $\geq 16$  amperes for the next 59 minutes) is non-conservative when compared with the actual emergency load profile during the 1-60 minute interval. As corrective action, GGNS immediately corrected the load profile and successfully performed TS surveillance 4.8.2.1.d.2.c using the corrected profile.
4. Part of the followup action associated with the condition reported is to amend the TS to remove the battery load profiles. This proposed TS change is in response to the corrective action associated with LER 90-012-00 and as discussed with the Staff at the November 6, 1990 GGNS/NRC meeting.
5. It should be noted that the revision of the TS is not necessary to address any safety concerns associated with the reported condition. The interim administrative controls which have been implemented ensure that the correct load profile is used to test the operability of the Division III battery.
6. The load profiles for all three divisional batteries are specified in TS 4.8.2.1.d.2. To eliminate the need to revise these TS load profiles each time an emergency load is added or deleted, it is proposed that the detailed listing of the load profiles be deleted from the TS.

7. Specifically, the following TS changes are proposed:
  - a. Surveillance Requirements 4.8.2.1.d.1 and 4.8.2.1.d.2 are combined into one Surveillance Requirement and the battery load profiles are deleted.
  - b. Basis 3/4.8.2 is revised to define the simulated load profile that is used in combined TS 4.8.2.1.d. The simulated load profile is defined as the 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 UFSAR. In addition, a statement is added specifying that the UFSAR defines the simulated emergency load profiles for the three divisional batteries. The UFSAR was revised December 1, 1990 to reflect the corrected Division III battery load profile.
8. The affected TS pages are attached and marked up to reflect the proposed changes described above.
9. The requested license amendment has been developed in a manner consistent with other recent license amendments approved by the NRC (e.g., Commonwealth Edison's LaSalle County Station, Units 1 and 2 and Alabama Power's Farley Nuclear Plant, Units 1 and 2). As with these other facilities, the deletion of the battery load profiles from the TS contributes to ongoing efforts to upgrade the TS into a more usable and less cumbersome document, while maintaining control over changes made to the profiles.

#### C. JUSTIFICATION

1. 125 volt DC power is required for emergency lighting; diesel generator field flashing; control and switching functions; control relays; and annunciators and the Class 1E inverters as well as power to DC components used in the reactor core isolation cooling system. The divisions that are essential to the safe shutdown of the reactor are supplied from three independent 125 volt DC systems, A, B and C. The 125 volt DC systems A, B and C are for supplying DC power to Divisions 1, 2 and 3, respectively. UFSAR Tables 2.3-6, 8.3-7 and 8.3-8 list the peak amperage requirements per time interval after an AC power loss during accident conditions for each of the three DC systems.
2. The TS changes proposed involve no changes to the operability requirements currently reflected in the GGNS TS. The frequencies of current TS Surveillance Requirements remain unchanged by the proposed amendment. The deletion of the TS battery load profiles and the use instead of the UFSAR to contain the load profile information constitutes an administrative revision to the TS. The operability and surveillance requirements for the DC electrical power sources remain in the TS. The deletion of the TS battery load profiles and the use of the UFSAR removes an administrative burden from the NRC and GGNS by no longer requiring that a license amendment be sought to change information in the battery load profiles.

3. As with all information in the UFSAR, changes to information in UFSAR Tables 8.3-6, 8.3-7 and 8.3-8 require a documented review in accordance with 10CFR50.59. These changes must be reported to the NRC in the annual report submitted pursuant to 10CFR50.59, as well as the annual UFSAR update required by 10CFR50.71(e).
4. There are no UFSAR changes associated with the proposed TS changes. All necessary changes were included in UFSAR Revision 5 which was submitted December 1, 1990. Listings of the battery load profiles will continue to be maintained in the UFSAR Tables 8.3-6, 8.3-7 and 8.3-8. These tables are updated annually as changes are made in accordance with 10CFR50.71(e).
5. Except for the Division III 1-60 minute interval, the differences between the current TS profiles and the UFSAR load profiles is the allowance that was added to the TS numbers to allow for any minor equipment changes or additions without needing to revise the TS. With the profiles removed from the TS the additional allowance is no longer needed since the UFSAR can be changed under the provisions of 10CFR50.59. Therefore, the UFSAR can contain the calculated profile values without including any allowance for load changes.
6. No design changes are associated with the proposed TS changes. The design basis of the DC power system and its interfaces with other systems remain unchanged. Design changes which potentially affect the loading of the batteries are forwarded to the appropriate work groups for review to determine the impact upon the battery load profiles. The process for controlling changes to the battery load profiles has not been changed and remains the same regardless of the location of the load profiles (UFSAR or TS).
7. Deletion of the load profiles from the TS will not change the surveillance testing of the batteries as currently being performed. The proposed TS states that the batteries shall be subjected to surveillance testing using an equivalent load profile based on anticipated operations as described in the UFSAR. Referencing the UFSAR load profiles in the TS Bases will ensure that the batteries are subjected to a design basis load profile service test. As battery service testing will still be required to be performed in a manner which will demonstrate their operability for design basis events, the proposed changes are considered administrative in nature and do not impact the technical basis used to support the safe operation of the facility.

#### D. NO SIGNIFICANT HAZARDS CONSIDERATIONS

The proposed amendment revises the TS by deleting the 1C battery load profiles shown in TS 4.8.2.1.d.2. In addition, the Bases are revised to include a description of the simulated emergency load profiles and their definition in the UFSAR.

The Commission has provided standards for determining whether a no significant hazards consideration exists as stated in 10CFR50.92(c). A proposed amendment to an operating license involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

Entergy Operations has evaluated the no significant hazards considerations in its request for a license amendment. In accordance with 10CFR50.91(a), Entergy Operations is providing the analysis of the proposed amendment against the three standards in 10CFR50.92:

1. No significant increase in the probability or consequences of an accident previously evaluated results from this change.
  - a. Because battery testing will still be required to be performed in a manner which will demonstrate their operability for the design basis event and that the process for controlling design changes to the load profiles remains unchanged, these TS changes do not impact operation of the facility.
  - b. Therefore, the probability or consequences of previously analyzed accidents are not increased.
2. The change would not create the possibility of a new or different kind of accident from any previously analyzed.
  - a. The proposed change does not reflect the addition or deletion of any plant hardware. In addition, no new modes of plant operation or testing are introduced.
  - b. Therefore, operating the plant with the proposed change will not create the possibility of a new or different kind of accident from any accident previously evaluated.
3. This change would not involve a significant reduction in the margin of safety.
  - a. Safety margin is established through the GGNS safety analyses as reflected in the TS, Limiting Conditions for Operations, and the Bases. The proposed change preserves all assumptions and results of the safety analyses.
  - b. Surveillance requirements for demonstrating the operability of the station batteries are still based on the recommendations of Regulatory Guide 1.129 and IEEE Standard 450-1980. The batteries are still required to demonstrate the ability to carry loads required under design basis emergency conditions.

- c. In addition, the requirements of 10CFR50.59 will continue to ensure that changes that are made to the UFSAR load profiles will be reviewed and a safety evaluation completed in accordance with 10CFR50.59.
- d. Therefore, this change will not involve a reduction in the margin of safety.

Therefore, based on the above evaluation, operation in accordance with the proposed amendment involves no significant hazards considerations.