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December 21, 1994

U.S. Nuclear Regulatory Commission
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Washington, D.C. 20555

Subject: River Bend Station - Unit 1
Docket No. 50-458
License No. NPF-47
Response to Follow-Up to the Request for Additional Information (RAI)
Regarding Generic Letter 92-08 Issued Pursuant to 10 CFR 50.54(f) on
December 22, 1993 (TAC No. M85596)

File No.: G9.5, G9.33.4

RBG-41123
RBF1-94-0143

Gentlemen:

In the Nuclear Regulatory Commission's (NRC) Follow-Up to the Request for Additional Information (RAI) Regarding Generic Letter 92-08 Issued Pursuant to 10 CFR 50.54(f) on December 22, 1993 (TAC No. M85596), River Bend Station (RBS) was requested to provide additional information for Section II.B., "Important Barrier Parameters," Section III.B., "Thermo-Lag Fire Barriers Outside the Scope of the NUMARC Program," Section V.B., "Alternatives," and Section VI.B., "Schedules," from its response to the NRC's letter requesting additional information regarding Generic Letter 92-08, "Thermo-Lag 330-1 Fire Barriers," pursuant to 10 CFR 50.54(f) dated February 9, 1994. Also, RBS was requested to revise its response to Section V in light of the Staff Requirements Memorandum (SRM) of June 27, 1994, "Options for Resolving the Thermo-Lag Fire Barrier Issues," which reflects the Commission's approval of the staff recommendation not to proceed with the development of a performance-based approach to resolve the Thermo-Lag issue. The responses to these sections are provided in Attachment 2.

Responses contained within this letter which address plans and schedules for resolving Thermo-Lag issues supersede previous commitments.

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This information is submitted under affirmation (Attachment 1). Please contact
Mr. O. P. Bulich at (504) 336-6251 should you have any questions, or require additional
information.

Sincerely,



JJF/kvm
attachments

cc: Mr. S. Varga
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BEFORE THE
UNITED STATES NUCLEAR REGULATORY COMMISSION

LICENSE NO. NPF-47

DOCKET NO. 50-458

IN THE MATTER OF

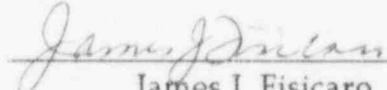
GULF STATES UTILITIES COMPANY

CAJUN ELECTRIC POWER COOPERATIVE AND

ENTERGY OPERATIONS, INC.

AFFIRMATION

I, James J. Fisicaro, state that I am Director-Nuclear Safety of Entergy Operations, Inc., at River Bend Station; that on behalf of Entergy Operations, Inc., I am authorized by Entergy Operations, Inc., to sign and file with the Nuclear Regulatory Commission, this follow-up to the request for additional information regarding Generic Letter 92-08 for the River Bend Station; that I signed this letter as Director-Nuclear Safety at River Bend Station 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.




James J. Fisicaro

STATE OF LOUISIANA
PARISH OF WEST FELICIANA

SUBSCRIBED AND SWORN TO before me, a Notary Public, in and for the Parish and State above named, this 21st day of December, 1994.

(SEAL)



Notary Public

My commission expires with life

ATTACHMENT 2

River Bend Station's Response to Follow-Up to the Request for Additional Information (RAI) Regarding Generic Letter 92-08 Issued Pursuant to 10 CFR 50.54(f) on December 22, 1993 (TAC No. M85596)

II.B. Important Barrier Parameters

Required Information

1. State whether or not you have obtained and verified each of the aforementioned parameters for each Thermo-Lag barrier installed in the plant. If not, discuss the parameters you have not obtained or verified. Retain detailed information on site for NRC audit where the aforementioned parameters are known.

Response

The RBS Thermo-Lag barriers were installed in accordance with plant standards, based on installation instructions and training provided by Thermal Science, Inc. The plant installation standards frequently allowed more than one option for certain attributes of the in-plant assemblies. However, current documentation does not identify which option was selected by the installers for use on a specific barrier. To better document the plant-specific installation parameters, RBS conducted walkdowns of Thermo-Lag assemblies in January 1994 to verify configuration parameters. Destructive examinations were completed in November 1994. The destructive examinations provided a sampling of the details not evident from an external examination. The results of the destructive examination will be used to provide a basis for evaluating the parameters for the remaining configurations.

Required Information

2. For any parameter that is not known or has not been verified, describe how you will evaluate the in-plant barrier for acceptability.

Response

Parameters described in Section I.B.2 have been verified.

Required Information

3. To evaluate NUMARC's application guidance, an understanding of the types and extent of the unknown parameters is needed. Describe the type and extent of the unknown parameters at your plant in this context.

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Response

Parameters described in Section I.B.2 have been verified.

III. B. Thermo-Lag Fire Barriers Outside the Scope of the NUMARC Program

Required Information

1. Describe the barriers discussed under Item I.B.1 that you have determined will not be bounded by the NUMARC [now NEI] test program.

Response

Several frequently observed characteristics of the Thermo-Lag barriers installed at RBS place them outside the scope of testing performed by NEI. Principal among these is the removal of stress skin on the interior of barriers and the use of dry fit, post buttered joints. Therefore, for all intents and purposes, none of the barriers discussed under Item I.B.1 are bounded by the NEI test program.

Required Information

2. Describe the plant-specific corrective action program or plan you expect to use to evaluate the fire barrier configurations particular to the plant. This description should include a discussion of the evaluations and tests being considered to resolve the fire barrier issues identified in GL 92-08 and to demonstrate the adequacy of existing in-plant barriers.

Response

RBS will pursue a comprehensive program to evaluate applications of Thermo-Lag in the plant. The project will be pursued in two sections. The first is a re-analysis of the Safe Shutdown Methodology. This effort is expected to result in a significant reduction in the amount of fire wrap material required. The second portion of the project will address Thermo-Lag directly. This portion will review the Thermo-Lag installations that remain and determine if the Thermo-

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Lag can be qualified as-is through additional testing (for example, three hour material installed in a one hour application), if the Thermo-Lag can be economically upgraded using methods similar to those tested by NEI, or if the Thermo-Lag must be replaced with a different material. Additional options of re-routing cables and adding suppression systems will also be evaluated and pursued. Any fire wrap that is utilized in the project, whether existing Thermo-Lag or replacement fire wrap material, will require justification based on fire testing of appropriate parameters to ensure qualification or will have a detailed engineering evaluation quantifying acceptability.

If Thermo-Lag is utilized, it will be necessary to develop a sampling program to verify chemical and physical parameters of the material to ensure the quality of the product. Any new materials will be purchased with appropriate quality assurance requirements to ensure product quality.

Required Information

3. If a plant-specific fire endurance test program is anticipated, describe the following:
 - a. Anticipated test specimens.
 - b. Test methodology and acceptance criteria including cable functionality.

Response

- a. As explained previously, RBS will re-analyze the Safe Shutdown Methodology. This effort is expected to result in a significant reduction in the amount of fire wrap material required. Until the results of this effort are known, specific test specimens cannot be determined.
- b. Testing that is performed will be done in accordance with accepted NEI test protocols or equivalent guidance. Where feasible, testing may be coordinated with other utilities.

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V. B. Alternatives

Required Information

Describe the specific alternatives available to you for achieving compliance with NRC fire protection requirements in plant areas that contain Thermo-Lag fire barriers.

Examples of possible alternatives to Thermo-Lag-based upgrades include the following:

1. Upgrade existing in-plant barriers using other materials.
2. Replace Thermo-Lag barriers with other fire barrier materials or systems.
3. Reroute cables or relocate other protected components.
4. Qualify 3-hour barriers as 1-hour barriers and install detection and suppression systems to satisfy NRC fire protection requirements.

Response

The specific alternatives available to RBS for achieving compliance with NRC fire protection requirements in plant areas that contain Thermo-Lag fire barriers include:

1. Re-evaluation of the post-fire safe shutdown analysis listing of components requiring protection per Appendix R
2. Thermo-Lag upgrades
3. Where no viable alternative exists, limited application of exemptions to 10 CFR 50, Appendix R using guidance provided in the Enclosure to the Follow-up to the Request for Additional Information (RAI) Regarding Generic Letter 92-08 Issued Pursuant to 10 CFR 50.54(f) on December 22, 1993
4. Product substitution

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5. Component relocation
6. Alternative protection strategies which place less dependence on rated fire barriers

VI. B. Schedules

Required Information

Submit an integrated schedule that addresses the overall corrective action schedule for the plant. At a minimum, the schedule should address the following aspects for the plant:

1. Implementation and completion of corrective actions and fire barrier upgrades for fire barrier configurations within the scope of the NUMARC program,
2. Implementation and completion of plant-specific analyses, testing, or alternative actions for fire barriers outside the scope of the NUMARC program.

Response

As explained in the Section III.B.2, RBS will pursue a comprehensive program to evaluate applications of Thermo-Lag in the plant. The project will be pursued in two sections. The first is a re-analysis of the Safe Shutdown Methodology. This effort is expected to result in a significant reduction in the amount of fire wrap material required. The second portion of the project will address Thermo-Lag directly. This portion will review the Thermo-Lag installations that remain and determine if the Thermo-Lag can be qualified as-is through additional testing, if the Thermo-Lag can be upgraded economically using methods similar to those tested by NEI, or if the Thermo-Lag must be replaced with a different material. This program is based on the Safe Shutdown Methodology as opposed to whether fire barrier configurations are within or

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outside the scope of the NEI program. As a result, implementation and completion of corrective actions and any fire barrier upgrades for fire barrier configurations within and fire barriers outside the scope of the NEI program will be addressed simultaneously.

Resolution of Thermo-Lag issues and completion of corrective actions is scheduled to be completed by the end of refueling outage (RF) 7, currently scheduled to begin in March 1997. The primary phases of the program and timelines are shown below:

1995	Engineering evaluation of shutdown methodology <ul style="list-style-type: none">- optimize equipment required- optimize methods of shutdown- optimize operator actions- optimize use of fire wrap material
	Develop required test configurations
	Perform tests
1996/1997	Non-outage fire barrier installation and upgrade work
RF-7	Fire barrier installation and upgrade work requiring an outage