

September 25, 1995

MEMORANDUM TO: David B. Matthews, Director
 Project Directorate II-1
 Division of Reactor Projects I/II

FROM: José A. Calvo, Chief (Original signed by J. Calvo)
 Electrical Engineering Branch
 Division of Engineering

SUBJECT: RESPONSE TO THE FOLLOWUP TO THE REQUEST FOR
 ADDITIONAL INFORMATION REGARDING GENERIC
 LETTER 92-08 (TAC NO. M85610)

Plant: Virgil C. Summer Nuclear Station, Unit 1
 Licensee: South Carolina Electric & Gas Company
 Review Status: Open

We have reviewed South Carolina Electric & Gas Company's responses of December 21, 1994, and March 23, 1995, to the requests for additional information (RAI) of September 23, 1994, and December 23, 1994, respectively, regarding Generic Letter 92-08, "Thermo-Lag 330-1 Fire Barriers." The licensee was required, pursuant to Section 182A of the Atomic Energy Act of 1954, as amended, and 10 CFR 50.54(f), to submit written reports, under oath of affirmation, that provided the information specified in the RAIs. On the basis of our review, we have determined that the licensee's responses to the RAIs are incomplete. The specific areas where we found the licensee's responses to be incomplete are discussed in the attachment. Please forward this RAI to the licensee expeditiously so that the outstanding issues can be resolved for the application of Thermo-Lag 330-1 Fire Barriers at Virgil C. Summer Nuclear Station.

Docket No.: 50-395

Attachment: As stated

CONTACT: R. Jenkins, EELB/DE
415-2985

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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Division of Reactor Projects I/II

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CONTACT: R. Jenkins, EELB/DE
415-2985

VIRGIL C. SUMMER NUCLEAR STATION, UNIT 1
DOCKET NO. 50-395
FOLLOWUP REQUEST FOR ADDITIONAL INFORMATION REGARDING
GENERIC LETTER 92-08
"THERMO-LAG 330-1 FIRE BARRIERS"

1.0 REQUEST FOR ADDITIONAL INFORMATION (RAI) OF SEPTEMBER 23, 1994

In the RAI of September 23, 1994, the NRC staff requested information regarding important barrier parameters, Thermo-Lag barriers outside the scope of the Nuclear Energy Institute (NEI) program, ampacity derating, alternatives, and schedules.

In its submittal of December 21, 1994, the licensee asserted that the absence of a NEI ampacity test program or test reports will not affect the licensee's ability to achieve resolution of the Thermo-Lag 330-1 fire endurance issues. Except for Cable Tray 3088, the licensee expects that the remaining circuits protected by Thermo-Lag 330-1 fire barrier will have sufficient margin to allow for the values reported in the Comanche Peak Steam Electric Station (CPSES) ampacity derating test report with some modifications. The licensee considered the single barrier enclosed tray (i.e., Cable Tray 3088) as the only raceway with potential ampacity concerns.

During a public meeting on March 14, 1995, with the licensees for the four lead plants for the resolution of Thermo-Lag issues, the staff responded to the question, "Will the resolution of the ampacity derating concern be deferred until agreement is reached on the appropriate testing protocol (i.e., IEEE P848)?" The staff reiterated its position, which was previously stated in the September 1994, RAI, that the ampacity derating concern could be resolved independently of the fire endurance concerns. After a review of the tests performed under the draft Institute of Electrical and Electronics Engineers (IEEE) Standard P848, the staff transmitted comments which were designed to ensure the repeatability of test results to the IEEE working group responsible for the test procedure. At this time the staff is not aware of any existing or planned NEI initiative which will address the ampacity derating issue. The licensee is requested to submit its ampacity derating evaluations, including any applicable test reports, in order to provide an adequate response to Generic Letter 92-08 Reporting Requirement 2(c).

2.0 REQUEST FOR ADDITIONAL INFORMATION OF DECEMBER 23, 1994

In the RAI of December 23, 1994, the staff requested information describing the examinations and inspections that will be performed to obtain the important barrier parameters for the Thermo-Lag configurations installed at Virgil C. Summer Nuclear Station.

In its submittal of March 23, 1995, the licensee did not provide any further information on the disposition of Cable Tray 3088 except to state that replacement options are being considered for final resolution. The licensee also identified the 1-hour barrier enclosing Conduit XX-7177A as a candidate for retention and/or modification. The licensee stated that in the event that the 1-hour barrier is retained and/or modified the barrier will be restored to operability without conclusive determination of actual ampacity derating values. The licensee asserted that the existing derating margin (>62%) is sufficient to ensure that there will be no long-term cable life issue. The licensee will readdress the ampacity derating issue for Conduit XX-7177A if future industry tests indicate that the present margin is insufficient.

On May 18, 1995, members of the NRC staff held a telephone conference call with NEI representatives on ampacity derating issues for Thermo-Lag fire barriers. The staff indicated that the latest IEEE P848 draft procedure can be used by licensees or NEI as the basis for an ampacity derating test program. NEI agreed to review the CPSES, Unit 2 Safety Evaluation (SE) in order to develop a generic test program. The memorandum dated May 22, 1995, which documents the subject telephone conference meeting, is attached for your information. In addition, a copy of the subject SE dated June 14, 1995, was sent to those licensees who rely on Thermo-Lag installations.

In its submittal of December 21, 1994, the licensee referred to a site specific determination regarding the acceptability of plant ampacity margins. If this evaluation represent the licensee's final determination of ampacity derating parameters for Thermo-Lag fire barriers please forward a copy of the subject evaluation for staff review. The statement in its submittal of March 23, 1995, which denotes that no conclusive determination of the ampacity design parameter will be made for Conduit XX-7177A is considered non-responsive. Given that there are no unresolved technical issues, the licensee is requested to provide its site-specific schedule and plans for the resolution of the ampacity derating issue for Thermo-Lag fire barriers.

The staff recognizes that most licensee may have excess ampacity margin using valid test data. However, those licensees who utilize industry test data must evaluate whether installed configurations are representative of the tested configurations. The subject evaluations should also analyze any deviations of the installed configuration with respect to the test configuration. The licensee did not indicate that CPSES Unit 2 Thermo-Lag fire barrier configurations were representative of the Virgil C. Summer Nuclear Station configurations.

Finally, the staff expects that the licensee will submit in conjunction with the resolution of the fire endurance issues, a description of the analytical methodology including typical calculations which will be used to determine the ampacity derating parameters for the Thermo-Lag fire barriers that are installed at the Virgil C. Summer Nuclear Station.

May 22, 1995

NOTE TO: Brian W. Sheron, Director, DE, NRR

FROM: Carl H. Berlinger, Chief, EELB, DE, NRR

SUBJECT: MEMORANDUM OF RECORD

On May 18, 1995, members of the NRC staff (B. Sheron, C. Berlinger, P. Gill, M. Gamberoni and R. Jenkins) held a telephone conference call with Mr. Alex Marion and Mr. Biff Bradley of the Nuclear Energy Institute (NEI) on ampacity derating issues for Thermo-Lag fire barriers. Mr. Marion contacted the staff regarding two topics: (1) Status of the Safety Evaluation (SE) on the Comanche Peak Steam Electric Station (CPSES), Unit 2 Ampacity Derating Test Program; and (2) Staff Acceptance of the IEEE Standard P848, "Procedure for the Determination of the Ampacity Derating of Fire Protected Cables."

Dr. Berlinger stated that the subject SE for CPSES 2 had been completed and we expected that it will be transmitted to the licensee within the next two weeks. Dr. Berlinger agreed to notify Mr. Marion by phone after the SE had been issued by the staff. Due to potential generic applications the staff will provide a copy of the CPSES, Unit 2 SE to licensees with Thermo-Lag fire barriers.

The staff has been interfacing with the IEEE Task Force responsible for IEEE P848 over the last 2 years to improve the subject procedure. This effort has resulted in recent revisions to the subject procedure which addressed the majority of the concerns raised by EELB (reference: Letter dated 10/13/94 from C. Berlinger to A. K. Gwal). Although not all of the concerns were addressed by the IEEE Task Force Dr. Berlinger indicated that the latest IEEE P848 draft procedure can be used by licensees or NEI as the basis for an ampacity derating test program. The latest procedure revision (Draft 16) addresses the major test concerns regarding inductive heating and conduit surface emissivities effects.

The staff emphasized that licensees should submit the actual test procedures or plans to the staff for comment. After discussion of the various options to develop a generic test program NEI agreed to review the CPSES 2 SE and then contact the staff as necessary for further discussions or questions on this matter.

cc: Alex Marion, NEI

CONTACT: Ronaldo Jenkins, EELB/DE
415-2985

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