

# Florida Power

CORPORATION  
Crystal River Unit 3  
Docket No. 50-302

April 15, 1993  
3F0493-06

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

Subject: Generic Letter 92-08: Thermo-lag 330-1 Fire Barriers

References:

- A. NRC to FPC Bulletin 92-01, 3N0692-17, dated June 24, 1992
- B. FPC to NRC letter, 3F0792-12, dated July 29, 1992
- C. NRC to FPC Bulletin 92-01, Supplement 1, 3N0892-13, dated August 28, 1992
- D. FPC to NRC letter, 3F1092-04, dated October 2, 1992
- E. NRC to FPC Generic Letter 92-08, 3N1292-17, dated December 17, 1992

Dear Sir:

Florida Power Corporation (FPC) hereby submits, as Attachment 1, the information requested in NRC Generic Letter 92-08, "Thermo-lag 330-1 Fire Barriers." The information provided includes confirmation of the use of Thermo-lag material (TSI) at Crystal River Unit 3, TSI fire barrier testing and installation information, ampacity testing and configuration information, planned corrective actions, and a compensatory measures update.

Crystal River Unit 3 relies on TSI fire barrier material for protection of safe shutdown capability in accordance with 10CFR50.48, Appendix R, Section G.2. FPC considers it appropriate to note that the requirements of Appendix R are arbitrary and conservative. FPC is pursuing analytical efforts as an expansion to the fire aspect of our IPEEE effort that will help quantify the degree of conservatism and comparative risk posed by potentially reduced barrier capacity.

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A Florida Progress Company

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The use and installation of TSI material at CR-3 was based on industry test results and manufacturers recommended procedures at the time of material installation in the mid-1980's. Compensatory measures consistent with the Technical Specifications have been established to support the recommended actions of Bulletin 92-01 and Supplement 1. These measures will remain in effect until the TSI fire barrier issue is resolved. It is FPC's intent to monitor and as necessary participate in the NUMARC industry Thermo-Lag program, and once the results of this program are available, a corrective action plan for resolution of the Thermo-Lag fire endurance and ampacity concerns will be developed and provided to the NRC.



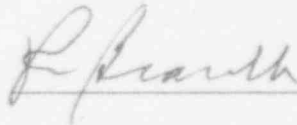
P. M. Beard, Jr.  
Senior Vice President  
Nuclear Operations

xc: Regional Administrator, Region II  
NRR Project Manager  
Senior Resident Inspector

STATE OF FLORIDA

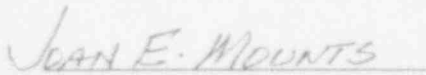
COUNTY OF CITRUS

P. M. Beard, Jr. states that he is the Senior Vice President, Nuclear Operations for Florida Power Corporation; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the information attached hereto; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information, and belief.

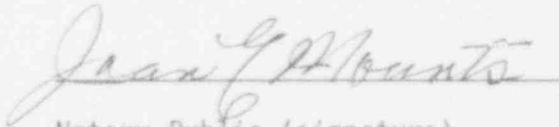


P. M. Beard, Jr.  
Senior Vice President  
Nuclear Operations

Subscribed and sworn to before me, a Notary Public in and for the State and County above named, this 15<sup>th</sup> day of April, 1993.



Notary Public (print)



Notary Public (signature)

Notary Public, State of Florida at Large,

My Commission Expires:

Notary Public, State of Florida

~~My Commission Expires Oct. 17, 1994~~

Bonded Troy Talm - Insurance Inc.

**Reliance on TSI Material**

(GL 92-08 Reporting Requirement #1)

Crystal River Unit 3 installed Thermo-lag 330-1 material to meet the requirements of 10CFR50.48, Appendix R, Section G.2 to protect safe shutdown trains in the event of a fire. In References B and D, Florida Power Corporation provided the NRC summaries of those areas in the plant which contain TSI material, including that used to protect conduits, cable trays, enclosures, junction boxes and supports.

**TSI Fire Endurance Testing and Installation Configuration**

(GL 92-08 Reporting Requirements #2(a) and 2(b))

The use and installation of the TSI configurations at CR-3 was based on fire endurance testing conducted by the manufacturer and other utilities at the time of installation. FPC has not conducted any supplemental fire endurance testing on the TSI configurations installed at CR-3.

The TSI material used at CR-3 was installed using established procedures which reflected the manufacturer's installation instructions and quality control measures in force at that time. Deviations from the original established configurations were evaluated in accordance with NRC Generic Letters 85-01 and 86-10 guidance.

**Ampacity Testing and Raceway Configuration**

(GL 92-08 Reporting Requirement #2(c))

Florida Power Corporation installed the TSI material in conformance with the established procedures which reflected the manufacturer's installation instructions and quality control measures in force at that time. The ampacity derating factors used relied upon data provided by Thermal Science, Incorporated. There was, and is, no formal NRC guidance addressing the appropriate ampacity derating factors to be used to compare the tested to the installed configurations. The extent to which installed configurations are consistent with tested configurations was based on engineering evaluations at the time of installation. Since numerous derating factors have been reported as the result of the testing of similar configurations, it is Florida Power Corporation's intent to wait for the results of the NUMARC industry program on ampacity derating testing. The intent of this program is to develop generic ampacity derating factors to be used in place of existing information. FPC's electrical calculation program will allow for a rapid reassessment of cable capacities once the new factors are determined.

#### Planned Corrective Actions

(GL 92-08 Reporting Requirement #3)

The Thermo-Lag fire barriers installed at Crystal River Unit 3 were evaluated and qualified consistent with existing guidance at the time of installation, however, Florida Power Corporation recognizes it is now necessary to address the apparent discrepancies in the fire barrier endurance ratings and ampacity derating factors that have been identified through recent testing. It is our intent to monitor and as necessary participate in the NUMARC industry Thermo-Lag program which is intended to provide generic testing and information necessary to accomplish corrective actions. It is our understanding that the specific test schedules for the generic industry program will be provided to the NRC by NUMARC. Once the results of the industry program are available, a corrective action plan for resolution of the Thermo-Lag fire endurance and ampacity concerns will be developed and provided to the NRC.

#### Compensatory Measures Update

(GL 92-08 Reporting Requirement #3)

As stated in our response to Bulletin 92-01, Supplement 1, dated October 2, 1992, all areas that use TSI on cable trays, conduits, enclosures, junction boxes, and supports as fire barrier material for protection of safe shutdown functions are surveilled by one hour roving fire watches. Each of these areas has fire detection capability. This type of compensatory measure is consistent with CR-3's Technical Specifications as well as the Fire Protection Plan, and was established to support the recommended actions of Bulletin 92-01 and the associated Supplement 1. FPC still considers that the TSI material retains significant value as a fire barrier material and continues to track breaches and replace or repair damaged barriers in accordance with plant procedures.