



**Florida
Power**
CORPORATION
Crystal River Unit 3
Docket No. 80-302

October 31, 1994
3F1094-10

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

Subject: Thermo-lag Testing

Reference: NRC to FPC letter, 3N1293-36, dated December 22, 1993

Dear Sir:

In accordance with a request contained in the above Reference, the following information is provided to the NRC. Florida Power Corporation (FPC) is conducting tests of Thermo-lag specimens representative of installed configurations at Crystal River Unit 3 (CR-3), which include samples of Thermo-lag material presently installed in the plant. The purpose of these tests will be (1) to determine if the Thermo-lag material installed at CR-3 provides improved barrier endurance ratings as compared to the NEI and other tests, (2) to evaluate other products as fire barriers, and (3) to evaluate age related changes to the Thermo-lag material as a result of curing time. We have generally relied on Supplement 1 to Generic Letter 89-10 as guidance for establishing test parameters. The following discusses the planned testing as well as a summary of our overall resolution strategy for the Thermo-lag issue.

TESTING PLANNED

Testing of cable tray and conduit configurations will be conducted on representative test specimens at the Mecatiss test facilities in Morestel, France, and the St. Louis, Missouri Thermal Science Incorporated (TSI) offices in December, 1994 and February, 1995, respectively. The tests to be conducted in France will include representative Thermo-lag protected conduit specimens from CR-3 and like specimens with an added overlay of Mecatiss material, a French fire barrier product, as an upgrade to these configurations. The TSI tests will include specimens representative of cable tray configurations at CR-3 and like configurations using an overlay of Thermo-lag 770 material. Core sample testing to determine aging characteristics of Thermo-lag is being performed by TSI and will conclude in October, 1994.

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THERMO-LAG RESOLUTION STRATEGY

These activities are being conducted as part of FPC's continuing efforts to resolve the Thermo-lag fire barrier issue. FPC will adhere to sound technical bases in resolving this issue and will ensure that one train of plant systems necessary to achieve and maintain safe shutdown will remain free of fire damage. This is consistent with the stated objectives of 10 CFR 50.48 and Appendix R. The existing installations at CR-3 do not provide sufficient margins in structural support capabilities or cable ampacity derating to allow for the significant addition of material to upgrade the fire barriers. Therefore, FPC is planning to eliminate unneeded Thermo-lag material through re-analysis of the individual fire areas in the plant with respect to required safe shutdown train separation, the postulation of concurrent loss of offsite power and the use of fire barriers. Exemptions will be requested for fire barriers in those areas where resolution cannot be achieved by these means. These exemptions will use current fire modeling techniques, the NEI application guidelines, and the results of these additional tests to demonstrate that the installed barriers are capable of protecting the safe shutdown circuits from any fire hazard present in the area. Supporting information will be provided in the exemption requests including fire brigade response capabilities, suppression and detection abilities, and IPEEE evaluations of risk associated with these requests.

Providing significant physical upgrades to the existing fire barriers at CR-3 is not a viable cost-effective option due to the above mentioned support and ampacity limitations. The re-analysis of fire barrier needs, fire modeling, and other defense-in-depth concepts to support exemption requests on a fire area by fire area basis is considered the most appropriate alternative to arbitrary barrier capabilities. These will not affect the safe shutdown capability of the unit or the health and safety of the public. A detailed response to the recent request under 10 CFR 50.54(f) will be provided on the requested schedule.

Sincerely,



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

PMB:ff

Attachment

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