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 FACIL: 50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250
 50-251 Turkey Point Plant, Unit 4, Florida Power and Light C 05000251
 AUTH. NAME AUTHOR AFFILIATION
 HOVEY, R.J. Florida Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION
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SUBJECT: Responds to 970129 RAI re GL 92-08, "Thermo-Lag 330-1 Fire Barriers." Calculations encl.

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MAR 07 1997

L-97-045
10 CFR 50.54(f)

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

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Response to the Follow-Up Request for
Additional Information - Generic Letter 92-08
Thermo-Lag 330-1 Fire Barriers

By letter dated January 29, 1997, the NRC issued to Florida Power and Light Company (FPL) a request for additional information regarding Generic Letter 92-08, "Thermo-Lag 330-1 Fire Barriers." The January 29, 1997 letter requested information needed to complete the review of FPL's response to ampacity derating issues for Turkey Point Units 3 and 4.

In accordance with the NRC request, FPL provides the attached response. This information is provided pursuant to the requirements of Section 182a of the Atomic Energy Act of 1954, as amended, and 10 CFR 50.54(f).

Should there be any questions please contact us.

Very truly yours,

R. J. Hovey
Vice President
Turkey Point Plant

OIH

Attachment

cc: L. A. Reyes, Regional Administrator, Region II, USNRC
T. P. Johnson, Senior Resident Inspector, USNRC, Turkey
Point Plant

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L-97-045

Turkey Point Units 3 and 4

Docket Nos. 50-250 and 50-251

Response to Request for Additional Information

Regarding Generic Letter 92-08

STATE OF FLORIDA)
) ss.
COUNTY OF DADE)

Robert J. Hovey being first duly sworn, deposes and says:

That he is Vice President, Turkey Point Plant,
of Florida Power and Light Company, the Licensee herein;

That he has executed the foregoing document; that the statements
made in this document are true and correct to the best of his
knowledge, information and belief, and that he is authorized to
execute the document on behalf of said Licensee.

MJH
Robert J. Hovey

Subscribed and sworn to before me this

7th day of MARCH, 1997.

Olga Hanek - Olga Hanek
Name of Notary Public (Type or Print)
NOTARY PUBLIC, in and for the County of
Dade, State of Florida



My Commission expires June 18, 2000
Commission No. CC 562742

Robert J. Hovey is personally known to me.

**Response to NRC Questions on Cable Ampacity for Thermo-Lag
at Turkey Point Units 3 and 4**

The following are Florida Power and Light (FPL) responses to NRC Request for Additional Information - Generic Letter 92-08, "Thermo-Lag 330-1 Fire Barriers", Turkey Point Units 3 and 4, dated January 29, 1997.

NRC Question 2.1

The staff, through its examinations of other licensee submittals in this area, has found several errors or points of concern pertaining to heat transfer assumptions and modeling with respect to ampacity derating calculations. Therefore, the staff requests that the licensee provide the following ampacity derating calculations for our review:

- a. FPL Calculation PTN-BFJE-93-001, "Ampacity Derating Response to NRC GL 92-08 for Cable Routed in Conduit and Tray with Thermo-Lag 330-1 Fire Barrier System Coating"
- b. FPL Calculation PTN-BFJM-96-028, "Fire Barrier Ampacity Correction Factors for T-Lag 330-1/770-1 Assemblies"
- c. FPL Evaluation JPN-PSL-SEEP-96-011, "Engineering Evaluation for Review of Ampacity Ratings for Power Cables in Conduits and Trays with Thermo-Lag 330-1 Covering"

FPL Response 2.1

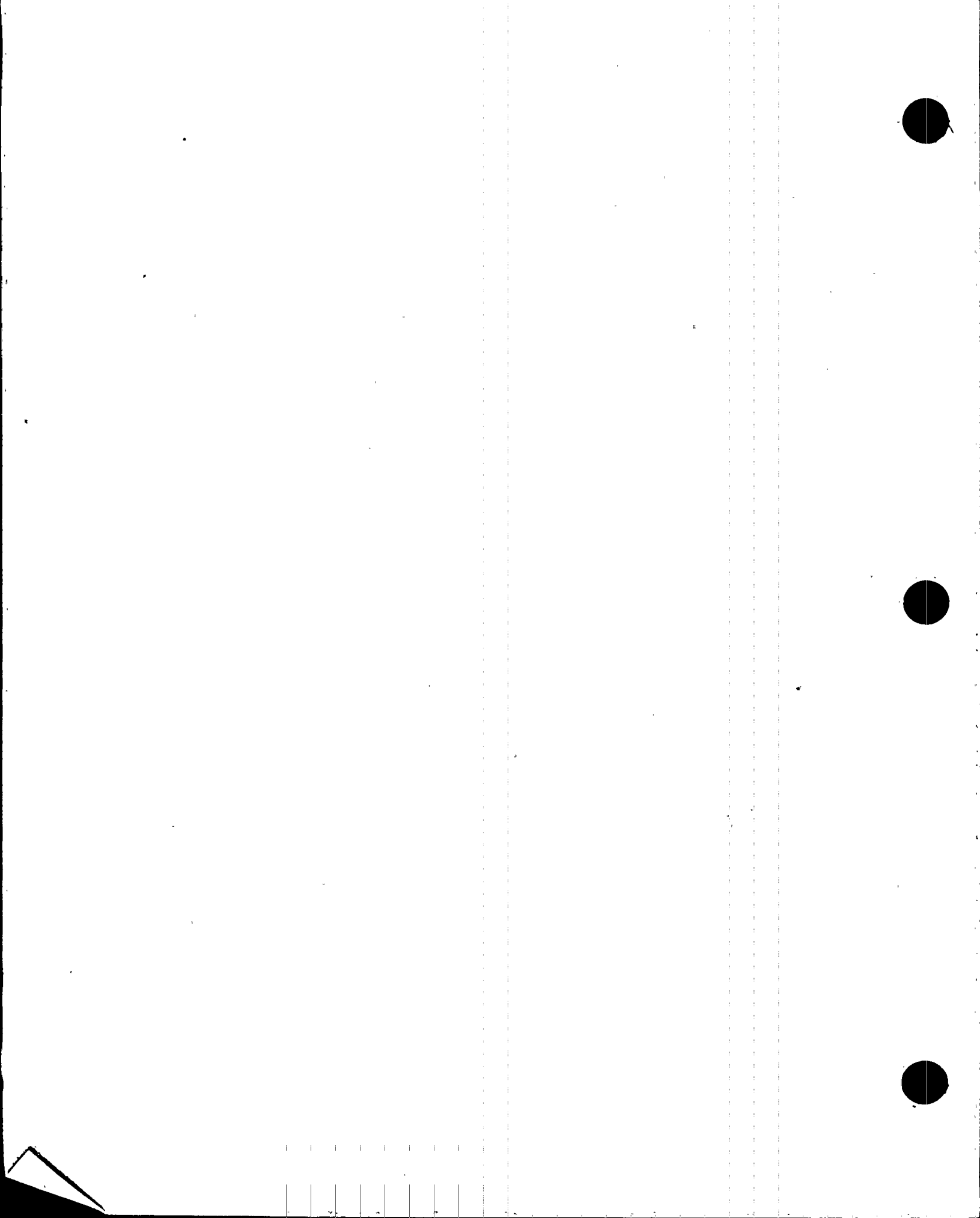
As requested by NRC letter dated January 29, 1997, FPL is providing the following NRC Requested Information items 2.1.a, 2.1.b and 2.1.c.

- a. Calculation PTN-BFJE-93-001, Revision 0, "Ampacity Derating Response to NRC GL 92-08 for Cable Routed in Conduit and Tray with Thermo-Lag 330-1 Fire Barrier System Coating"

NOTE: This is an historical document only, and has been superseded by Evaluation JPN-PTN-SEEP-96-011.

- b. Calculation PTN-BFJM-96-028, Revision 0, "Fire Barrier Ampacity Correction Factors for T-Lag 330-1/770-1 Assemblies"

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- c. NRC Requested Information Item 2.1.c requested calculation JPN-PSL-SEEP-96-011. This calculation does not exist. Evaluation JPN-PTN-SEEP-96-011, Revision 0, "Engineering Evaluation for Review of Ampacity Ratings for Power Cables in Conduits and Trays with Thermo-Lag 330-1 Covering" is provided.

FPL is providing the following additional calculations. These documents, along with the documents listed above, provide a more complete perspective of cable ampacity derating for Thermo-Lag at Turkey Point:

- d. Calculation PTN-BFJM-96-005, Revision 0, "Fire Barrier Ampacity Correction Factors - Extrapolation of Test Results for 3 Hour Barrier"

NOTE: This document was provided via FPL letter L-96-211, dated October 27, 1996, for St. Lucie (Docket Nos. 50-335 and 50-389).

- e. Calculation PTN-BFSE-96-006, Revision 0, "Ampacity Derating for Cables in Raceways and Boxes with Thermo-Lag 330 and with Thermo-Lag 330 with Layers of Thermo-Lag 770 Fire Barrier Coating"

In overview, Items c and d address Thermo-Lag 330-1 material, and Items b and e address Thermo-Lag 770-1 over Thermo-Lag 330-1 configurations.

NRC Question 2.2

The licensee should confirm that all fire barrier construction for the applicable configurations are representative of the barrier construction used in the Watts Bar Plant or Comanche Peak Steam Electric Station, Unit 2, ampacity derating tests (i.e., TVA or TUEC tests). If there are deviations or differences between Turkey Point installed Thermo-Lag configurations and tested configurations, the licensee should provide an assessment of the impact of the test results that are being credited by the licensee.

FPL Response 2.2

By letter L-96-150, dated June 28, 1996, FPL informed the NRC of having evaluated Thermo-Lag configurations for Turkey Point Units 3 and 4 using test reports developed for the Texas Utilities Comanche Peak Steam Electric Station, Unit 2, and verified that power cables are adequately sized when Texas Utilities ampacity derating factors are applied to Turkey Point configurations. The

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L-97-045
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testing for Texas Utilities used 1-hour rated Thermo-Lag 330-1 fire barriers. These fire barrier configurations were determined to be representative of the 1-hour Thermo-Lag fire barrier systems installed at Turkey Point, which are addressed in Calculation PTN-BFJM-96-005 and Evaluation JPN-PTN-SEEP-96-011.

FPL evaluated the 3-hour Thermo-Lag 330-1 configurations by extrapolating from the 1-hour Thermo-Lag 330-1 configuration test results. Since the 1-hour and 3-hour fire barriers were both constructed with Thermo-Lag 330-1 material, the evaluation of 3-hour fire barrier systems was based on changes in heat transfer characteristics. These evaluations are also described in Calculation PTN-BFJM-96-005 and Evaluation JPN-PTN-SEEP-96-011.

In addition, by letter L-96-236, dated September 27, 1996, FPL committed to addressing ampacity derating for raceways upgraded with Thermo-Lag 770-1 fire barrier systems, based on testing for other utilities on 1-inch and 4-inch conduit. Since Tennessee Valley Authority (TVA) performed electrical ampacity tests which addressed 1-hour rated Thermo-Lag 330-1 systems and 3-hour rated Thermo-Lag 770/330 systems, and since TVA also described a reasonable basis for selecting test configurations, the Turkey Point designs are based on TVA analyses and test results. The methodology described in FPL letter L-96-150 is being applied to Thermo-Lag 770/330 designs installed at Turkey Point, and is reflected in Calculations PTN-BFJM-96-028 and PTN-BFSE-96-006.

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