50-250/251

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

July 22, 1997

LICENSEE: Florida Power and Light Company

FACILITY: Turkey Point Nuclear Plant Units 3 and 4

SUBJECT: SUMMARY OF MEETING ON JULY 7, 1997, REGARDING FIRE BARRIER MODIFICATIONS (TAC NOS. M85616 AND M85617)

On January 7, 1997, representatives of the Florida Power and Light Company (FPL), licensee for Turkey Point Nuclear Plant Units 3 and 4, met with members of the staff to discuss the current plans to upgrade the Thermo-lag fire barriers. Enclosure 1 is a list of attendees. Enclosure 2 contains copies of handouts distributed at the meeting.

The meeting focussed on the U.S Nuclear Regulatory Commission (NRC) request for additional information dated June 16, 1997, in response to the licensee's exemption request dated December 12, 1996. The exemption request involves fire barriers in outdoor fire areas, excluding the turbine area. The NRC staff had requested additional information regarding the specific protection scheme (e.g., barrier, separation) for equipment, and other details on the various fire zones to evaluate the exemption request.

FPL indicated that it appeared that the NRC was taking a cable-specific approach to the exemption request, however, the licensee intended a plant-attribute approach. The licensee stated that a cable-specific approach increases cost over the life of the plant and adversely impacts the schedule for resolution of the Thermo-lag issue.

The NRC staff indicated that additional information, as indicated in the June 16 letter, was necessary in order to evaluate the adequacy of use of horizontal separation or radiant energy shields in specific areas.

The licensee indicated that they would provide the requested information in two submittals. First, the specific zones/areas using the 25-minute barriers would be provided approximately 30 days from the date of the meeting. Subsequently, information would be provided in October 1997 regarding either (1) the specific details for each use or horizontal spacing or radiant energy

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DFO1

shields, or (2) the criteria to be used to determine if the proposed horizontal spacing or use of a radiant energy shield would be adequate. The NRC staff indicated that it may not be possible to develop an acceptable basis for option (2).

Original signed by

Richard P. Croteau, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-250 and 50-251

Enclosures: 1. Attendance List
2. Handouts

cc w/Enclosures: See next page

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DATE	07/15/97		07/21/97		07/14/97		07/22/97	

OFFICIAL RECORD COPY

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FPL/NRC Meeting

July 7, 1997

List of Attendees

NAME	OFFICE
R. Kundalkar	FPL
R. Hovey	FPL
C. Fisher	FPL
T. Martin	NRC
S. Newberry	NRC
F. Hebdon	NRC
T. Marsh	NRC
G. Hollinger	FPL
J. Manso	FPL
M. Ross	FPL
S. West	NRC
P. Madden	NRC
M. Schoppman	FPL
R. Croteau	NRC

TURKEY POINT NUCLEAR PLANT
THERMO-LAG UPGRADE PROJECT

Nuclear Regulatory Commission

and

Florida Power & Light
Turkey Point Plant

Interface Meeting

July 7, 1997

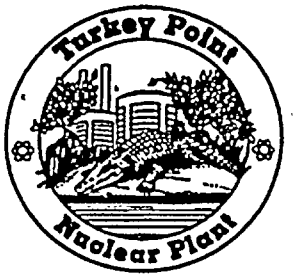
ENCLOSURE 2

TURKEY POINT NUCLEAR PLANT
THERMO-LAG UPGRADE PROJECT

Introduction

- Purpose
  - To discuss FPL's December 12, 1996 submittal requesting an Appendix R exemption for specified outdoor areas at Turkey Point Units 3 & 4.
  - Obtain NRC concurrence that the "plant attribute based" outdoor exemption request satisfies NRC exemption criteria.
- FPL wants to bring the Thermo-Lag program to closure quickly
  - Maintain an adequate level of plant safety and fire safety
  - Continue an aggressive implementation schedule
- In May, NRC indicated agreement with Plant Attribute Based exemption
  - No Request for Additional Information was expected
  - Cable Specific exemption requirements not discussed
- Expenditure of estimated $20 million
- Cable specific exemption approach increases cost over the life of plant and adversely impacts schedule
- Turkey Point is unique in its design and application of Thermo-Lag
  - Outdoor application
  - Quantity

Plant attribute based - takes into account open air configuration, low in-situ combustible load, transient combustible controls, and available suppression compared to circuit protection options



TURKEY POINT NUCLEAR PLANT
THERMO-LAG UPGRADE PROJECT

Recent Progress

1996

- Ampacity Derating resolution submitted (6/96)
- Indoor circuit analysis and modification package completed (12/96)
- Containments and indoor areas modification packages issued(12/96)
- Outdoor area exemption request submitted (12/96)

1997

- January 7th meeting with NRC Staff
- Responded to RAI regarding Ampacity Derating (3/97)
- Completed modifications inside Unit 3 containment (3/97)
- Completed fire barrier upgrades in two indoor zones (6/97)
  - Unit 3 West Penetration Room
  - Elevator Vestibule area
- Fire barrier upgrades in progress in three indoor zones (6/97)
  - North D.C. Equipment Room
  - South D.C. Equipment Room
  - New Electrical Equipment Room
- Developed turbine building fire scenario and proposed upgrades
- May 6th & 7th meeting with NRC staff on turbine building
- Turbine building upgrades design in progress
- Unit 4 Containment modifications scheduled for Fall 1997 outage

Thermo-Lag Installed

- Turkey Point is unique in the large quantity of outdoor Thermo-Lag applications

	Estimate Thermo-Lag Installed
◆ Containment	685 linear feet
◆ Indoor Areas	636 linear feet
◆ Outdoor Area (excluding the Turbine Building)	13,225 linear feet
◆ Turbine Building Outdoor Area	2,322 linear feet
Total	16,868 linear feet

Outdoor Area Exemption Methodology

Turkey Point Historic Exemptions

- Majority of outdoor exemptions were not cable specific
- Selected exemptions have been cable/function specific

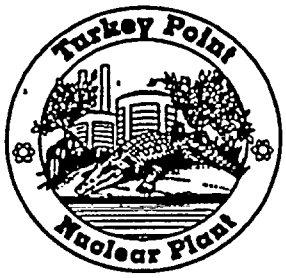
Turkey Point Plant Attribute Based Outdoor Exemption Request (12/96)

- Plant features vs. protection level
- Establishes plant attribute specific locations
  - Roof Tops, platforms, open landscape
  - Negligible, In-situ, Low transient Combustible Areas
  - Interface area from Turbine Building (Column line E to J)
    (Being defined by 7/97 exemption request, in progress)
  - Turbine building Area
- Establishes location specific protection
  - Separation (20-feet or 10-feet)
  - Fire Barriers (1-hour, & 25-minutes resistive ratings)
  - Radiant Energy Shields (30-minute fire barrier resistive rating)
    - Feedwater platform

Outdoor Area Exemption Methodology

Basis for Plant Attribute Based Exemption Request

- "B" train circuits are protected
  - Few exceptions
  - Protection/Separation is based on fire hazard/geometry
  - "A" train is assumed to be affected by same fire
  - Any "A" train separation provides additional safety margin
- Clearly defined areas of applicability allows for future inspections
- Minimize/eliminate future exemption requests
- Allows plant modifications without additional exemptions
- Allows flexibility of design
- Efficient, cost effective solution with no reduction in safety



TURKEY POINT NUCLEAR PLANT
THERMO-LAG UPGRADE PROJECT

Outdoor Area Exemption Methodology

FPL requests NRC concurrence with:

Outdoor Exemptions Request (Summarized by Plant Location)
Includes: Outdoor Area Exemption Request submitted 12/96
Turbine Building Exemption Request Scheduled 7/97

- Roof Top Locations
  - 25-minute fire barrier, or;
  - 10-foot horizontal separation, or;
  - Radiant Energy Shield

- Low/Negligible In-situ Combustible Locations (Non-Turbine Building)
  - 25-minute fire barrier, or;
  - 20-foot horizontal separation, or;
  - Radiant Energy Shield

- Turbine Building Interface (Column Lines E to J)
  - 25-minute fire barrier with suppression, or;
  - 20-foot separation with suppression, or;
  - Radiant Energy Shield with suppression

- Turbine Building Analyzed Fire Location
  - 1-hour barrier with suppression
  - Separation requirements do not apply

Outdoor Exemption
- Request for Additional Information (6/97)

Impacts of "Cable Specific " Exemption

- ◆ Outdoor Circuit Analysis Phase
  - ◇ Outdoor circuit analysis results would require future exemption submittals and approvals for implementation

    Impact : - Final resolution of Thermo-Lag may be delayed
    - Additional regulatory review

- ◆ Implementation Phase
  - ◇ Resolution of implementation issues may result in additional exemptions

    Impact: - Final resolution of Thermo-Lag may be delayed
    - Additional regulatory review

- ◆ Future Changes
  - ◇ Plant modifications affecting Safe Shutdown raceways may require specific exemptions

    Impact: - Prior NRC approval required despite 10 CFR 50.59 acceptability
    - Potential for NRC review and approval on real time basis

TURKEY POINT NUCLEAR PLANT
THERMO-LAG UPGRADE PROJECT

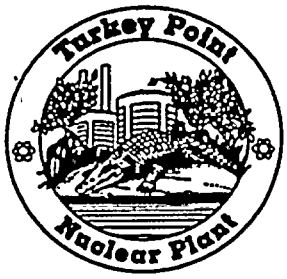
Summary

Positive features of plant attribute based exemption

- Plant attribute based exemption basis would remain consistent with previous exemptions
- Plant attribute based exemption would not require future new exemptions to support plant modifications
- Enhance timely resolution of Thermo-Lag issues and maintain current schedule
- Plant attribute based exemption assures acceptable level of protection based on fire protection attributes of the affected zone
- Plant attribute based exemption is auditable based on clearly specified criteria and areas of applicability

Outdoor Exemption
- Request for Additional Information (6/97)

- Proposed RAI response based on acceptance of plant attribute exemption methodology;
  - Information as requested by RAI ¶ 2.a would be provided
  - Information as requested by RAI ¶ 2.b would be provided for the existing areas where separation and radiant energy shields are applicable.
  - Information as requested by RAI ¶ 2.c would be provided
- FPL can provide the response outlined above by July 31, 1997



TURKEY POINT NUCLEAR PLANT
THERMO-LAG UPGRADE PROJECT

Conclusion

- Plant attribute based exemption provides adequate assurance level of plant safety and fire safety is maintained
- Plant attribute based exemption will support efficient implementation of Thermo-Lag upgrades
- Plant attribute based exemption allows flexibility of design
- Plant attribute based exemption will reduce future exemption requests
- Plant attribute based exemption provides the most efficient use of FPL and NRC resources with no reduction in safety

Outdoor Exemption - Request for Additional Information

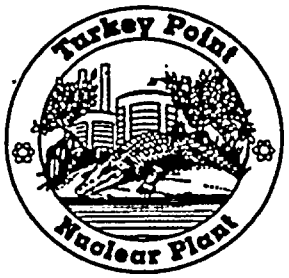
2.0 Request for Additional information

In order to support the staff's review of the requested exemption, the following information is requested:

a. Confirm that redundant post-fire safe shutdown trains/functions are separated by 20 feet, and for roof top fire zones, separated by 10 feet, the intervening space is free of in-situ or transient combustibles.

b. - Identify the redundant post-fire safe shutdown trains/functions located within each fire zone; describe by fire zone;
   - Raceway routing for each post-fire safe shutdown function and its separation from the redundant train;
   - Identify the conduit/raceway and the post-fire safe shutdown function being protected and by what means;
   - And the extent they are protected in each zone

c. - Describe the radiant energy shield design and construction;
   - Address how the design of these outdoor radiant energy shields will provide an adequate level of fire safety
   - Provide reasonable assurance that one train of post-fire safe shutdown capability will be maintained free of fire damage.



TURKEY POINT NUCLEAR PLANT
THERMO-LAG UPGRADE PROJECT

FPL Attendees

Bob Hovey	Vice President - Turkey Point
Raj Kundalkar	Vice President - Engineering
Gary Hollinger	Licensing Manager - Turkey Point
Chuck Fisher	Fire Protection Engineer
John Manso	Thermo-Lag Project Engineer

3 CONCLUSION

Based on the above the staff concludes that the revised criteria for nonseismic moderate-energy lines at Perry is not consistent with Position B.3.d of BTP ASB 3-1 attached to SRP Section 3.6.1, Revision 1. The staff further concludes that the revised criteria were not considered in the conclusions reached in the staff's 1982 SER. The conclusions reached in the Section 3.6.1 of the SER were based on the staff's discussions with the AE and the licensee that complete ruptures of nonseismic moderate-energy piping systems were considered in the flooding analyses at Perry. The staff requests that the licensee provide additional information to show how the requirements of GDC 2 and the guidance of RG 1.29 are met with respect to protection against the effects of earthquakes. Such information should provide technical justification for the leak rates assumed for the nonseismic moderate-energy piping following an SSE. If the licensee cannot justify the assumed crack size during a seismic event, then leak rates associated with a full circumferential rupture should be assumed.

SUBJECT: SUMMARY OF MEETING ON JULY 7, 1997, REGARDING FIRE BARRIER MODIFICATIONS (TAC NOS. M85616 AND M85617)

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