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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

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SUBJECT: "Acceptance Criteria for ECCS in Light Water Nuclear Power Reactors," annual rept for CY92.

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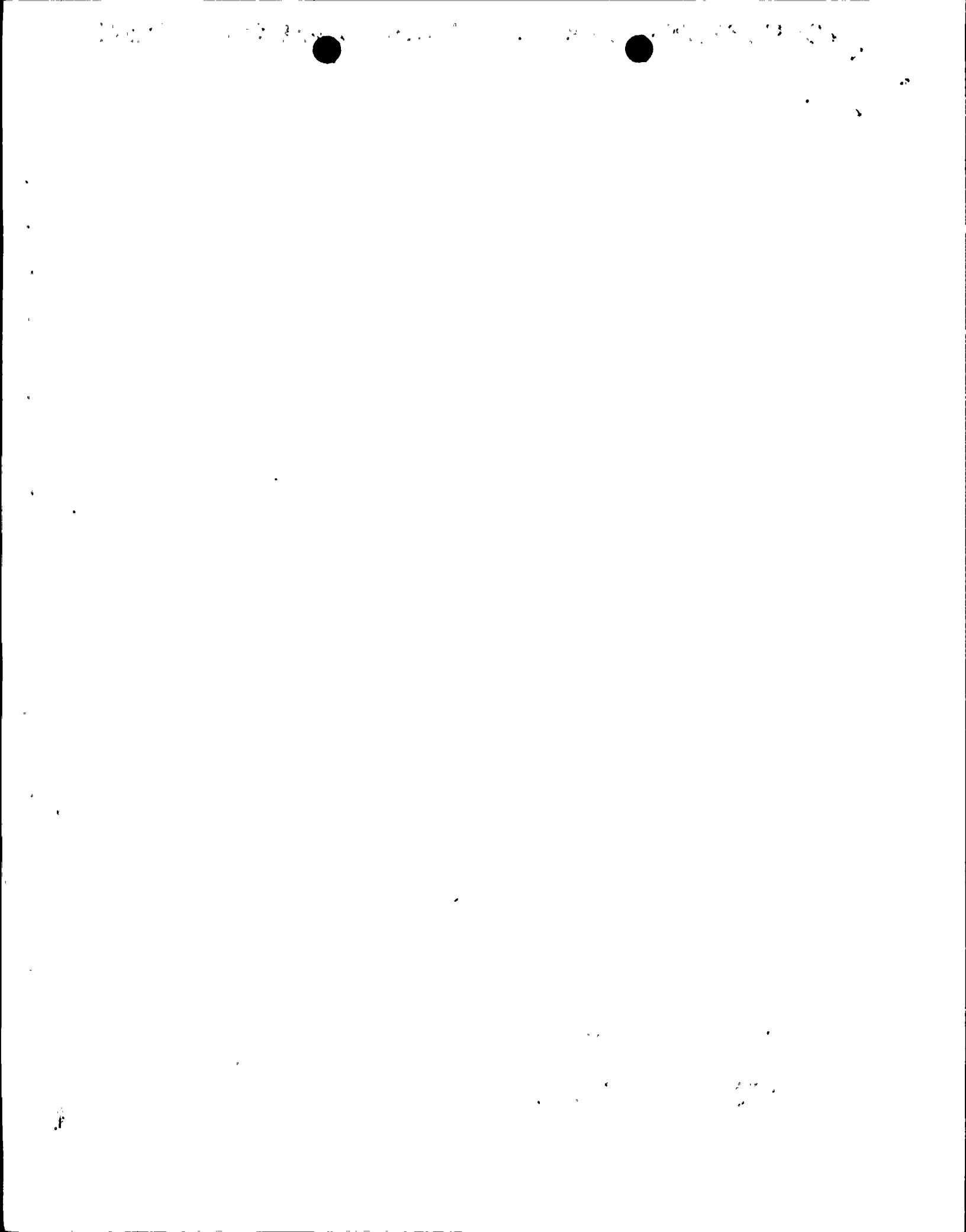
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DEC 18 1992

L-92-338
10 CFR 50.46

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
10 CFR 50.46, "Acceptance Criteria for
Emergency Core Cooling Systems In Light Water
Nuclear Power Reactors" - Annual Report

Gentlemen:

10 CFR 50.46 (a) (3) (ii) requires that licensees report to the Commission at least annually the nature of changes to, or errors discovered in, the emergency core cooling system (ECCS) evaluation models, or in the application of such models that affect the peak clad temperature calculation and their effect on the limiting ECCS analysis. This letter provides Florida Power and Light Company's report for Turkey Point Units 3 and 4 for calendar year 1992.

Should there be any questions, please contact us.

Very truly yours,

T.F. Plunkett by S.W. Poace

T. F. Plunkett
Vice President
Turkey Point Nuclear

Attachment

TFP/RJT/rjt

cc: Stewart D. Ebnetter, Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant

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ATTACHMENT

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
10 CFR 50.46, "Acceptance Criteria for Emergency Core
Cooling Systems In Light Water Nuclear Power Reactors"
Annual Report

Large Break LOCA (LBLOCA)

By letter L-91-165 dated June 7, 1991, Florida Power and Light Company (FPL) reported a peak clad temperature of 2132°F in the event of a worst case large break loss of coolant accident (LBLOCA) transient. This value included a calculated peak temperature of 2082°F plus 50°F increment due to containment purge coincident with a LBLOCA, increased steady-state pressurizer pressure uncertainty band, transition fuel core penalty, implementation of debris resistant fuel assemblies and stainless steel rods in fuel assemblies, and steam generator tube collapse during an earthquake.

Recent corrections to LBLOCA modelling have resulted in a decrease in the peak clad temperature for the worst case LBLOCA of 3°F for a total of 2129°F. This 3°F benefit is a result of a revision in the grid loss coefficients for the Optimized Fuel Assemblies (OFA).

The LBLOCA analysis as described in the Updated Final Safety Analysis Report (UFSAR) was performed by Westinghouse in 1991 using the BART computer model with fuel assembly spacer grids.

Small Break LOCA (SBLOCA)

By letter L-91-165, Florida Power and Light Company reported a peak clad temperature of 1749°F in the event of a worst case small break loss of coolant accident (SBLOCA) transient. This value was based upon a new Turkey Point SBLOCA analysis performed by Westinghouse in 1991 using the NOTRUMP digital computer code.

Recent plant changes and corrections in SBLOCA coding have resulted in a decrease in the peak clad temperature for the worst case SBLOCA of 33°F for a total of 1716°F. This value includes a 2°F increase due to the presence of stainless steel rods in fuel assemblies, and a 35°F benefit due to a NOTRUMP Bessel function correction.

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Summary

The revised peak clad temperatures of 2129°F for the worst case LBLOCA and 1716°F for the worst case SBLOCA, correcting for the effects discussed herein and summarized in the enclosed Tables 1 and 2, are below the 10 CFR 50.46 acceptance limit of 2200°F.

TABLE 1
TURKEY POINT UNITS 3 AND 4
PREDICTED PEAK CLAD TEMPERATURES
CURRENT LBLOCA EVALUATIONS
THAT HAVE ASSESSED PCT PENALTIES

Analysis of Record		2082°F
<u>Evaluations specified in FPL letter L-91-165</u>		
Effect of Containment Purging	9°F	
Pressurizer Pressure Uncertainty	8°F	
Implementation of Debris Resistant FA	3°F	
Transition Core Penalty	10°F	
Stainless Steel Rods in Fuel Assemblies		2°F
Steam Generator Tube Collapse During an Earthquake	18°F	
Total LBLOCA PCT specified in FPL Letter L-91-165		2132°F
<u>Evaluations since issuance of FPL letter L-91-165</u>		
Increase Core Pressure Drop	- 3°F	
Total Estimated LBLOCA PCT		2129°F

TABLE 2
TURKEY POINT UNITS 3 AND 4
PREDICTED PEAK CLAD TEMPERATURES
CURRENT SBLOCA EVALUATIONS
THAT HAVE ASSESSED PCT PENALTIES

Analysis of Record		1749°F
<u>Evaluations since issuance of L-91-165</u>		
Stainless Steel Rods - Cycle 12 Fuel	2°F	
NOTRUMP Bessel Function Correction	-35°F	
Total Estimated SBLOCA PCT		1716°F

