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SUBJECT: Forwards results of use of revised ECCS evaluation models to support implementation of TS amendments 191/185.

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L-96-279
10 CFR §50.46

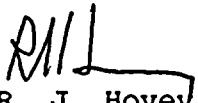
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Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
10 CFR 50.46, "Acceptance Criteria for
Emergency Core Cooling Systems in Light Water
Nuclear Power Reactors"

10 CFR 50.46(a)(3)(i) requires that licensees report to the Commission a summary of significant evaluation model changes. For this purpose; a significant change is one which results in a calculated peak fuel cladding temperature different by more than 50°F from the temperature calculated for the limiting transient. On September 26, 1996, the NRC issued Technical Specification Amendments 191/185 which approved raising core thermal power from 2200 MWt to 2300 MWt. On October 11, 1996, Turkey Point Unit 3 implemented the revised ECCS evaluation models and raised core thermal power to 2300 MWt. This letter provides Florida Power and Light Company's report for Turkey Point Units 3 and 4 as a result of the use of revised ECCS evaluation models to support the implementation of Technical Specification Amendments 191/185.

Should there be any questions, please contact us.

Very truly yours,


R. J. Hovey
Vice President
Turkey Point Plant

JAH

attachment

cc: S. D. Ebnetter, Regional Administrator, Region II, USNRC
T. P. Johnson, Senior Resident Inspector, USNRC,
Turkey Point Plant

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Small Break LOCA (SBLOCA)

By letter L-96-128, FPL reported a peak clad temperature (PCT) of 1998°F for the worst case SBLOCA transient analysis. This value was based upon a Turkey Point SBLOCA analysis performed by Westinghouse in 1991 using the NOTRUMP computer code. To support the NRC approval of the Core Thermal Power Uprate Technical Specification Amendments 191/185, a revised analysis of record was performed by Westinghouse in 1995 using the NOTRUMP computer code. This analysis accounted for Safety Injection in the Broken Loop and the Improved Condensation Model. The revised analysis resulted in a PCT of 1688°F. Due to the discovery of a computer coding error in Specific Enthalpy Characterization, a 20°F penalty has been identified. As a result of SALIBRARY double precision errors, a 15°F benefit has been identified. As a result of a Fuel Rod Initialization Error a 10°F penalty has been identified. As a result of a Loop Seal Elevation Error a 37°F benefit has been identified. Based on the PCT reported in L-96-128 of 1998°F, the net change in PCT for the worst case SBLOCA is -332°F, for a total PCT of 1666°F.

Large Break LOCA (LBLOCA)

By letter L-96-128, FPL reported a PCT of 2100°F for the worst case LBLOCA transient analysis. This value was based upon a Turkey Point LBLOCA analysis performed by Westinghouse in 1991 using the BART computer code. Due to the NRC approval of the Core Thermal Power Uprate Technical Specification Amendments 191/185, a revised analysis of record was performed by Westinghouse in 1995 using the BASH computer code. The revised analysis resulted in a PCT of 2117°F. Due to the effects of Containment Purging a 27°F penalty has been identified. Based on the PCT reported in L-96-128 of 2100°F, the net change in PCT for the worst case LBLOCA is 44°F, for a total PCT of 2144°F.

Summary

The revised peak clad temperatures of 1666°F for the worst case SBLOCA and 2144°F for the worst case LBLOCA, correcting for the effects discussed above and summarized in Tables 1 and 2, are below the 10 CFR 50.46 acceptance criteria limit of 2200°F. Turkey Point Units 3 and 4 remain in compliance with the Emergency Core Cooling System performance criteria specified in 10 CFR 50.46 (b).

TABLE 1

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

Analysis of Record 1688°F

Evaluations affecting the revised Analysis of Record

Specific Enthalpy coding error	20°F
SALIBRARY Double Precision error	-15°F
Fuel Rod Initialization error	10°F
Loop Seal Elevation error	-37°F
Total Estimated SBLOCA PCT	1666°F

Note: Total SBLOCA PCT reported in FPL letter L-96-128 was
1998°F

TABLE 2

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

Analysis of Record	2117°F
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Evaluations affecting the revised Analysis of Record

Effect of Containment Purging	27°F
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Total Estimated LBLOCA PCT	2144°F
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Note: Total LBLOCA PCT reported in FPL letter L-96-128 was
 2100°F



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