



August 20, 2013
L-2013-237
10 CFR 50.46

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555-0001

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" – 30 Day Special Report

References:

1. FPL letter, M. Kiley to U. S. Nuclear Regulatory Commission, "Turkey Point Units 3 and 4, Dockets Nos. 50-250 and 50-251, 10 CFR 50.46, 'Acceptance Criteria for Emergency Core Cooling Systems in Light Water Nuclear Reactors' – 2012 Annual Report," L-2013-108, April 29, 2013.
2. FPL letter, M. Kiley to U. S. Nuclear Regulatory Commission, "Turkey Point Unit 4, Docket No. 50-251, 10 CFR 50.46, 'Acceptance Criteria for Emergency Core Cooling Systems in Light Water Nuclear Reactors' – 30 Day Special Report," L-2013-032, February 11, 2013.
3. Westinghouse letter, E. Malek to R. Klein, "Turkey Point Units 3 & 4, 10 CFR 50.46 Report for the Initial Fuel Pellet Average Temperature Uncertainty Calculation for Turkey Point Units 3 and 4," NF-FP-13-122, July 30, 2013.
4. Westinghouse letter, E. Malek to R. Klein, "Turkey Point Units 3 & 4, 10 CFR 50.46 Notification and Reporting for WCOBRA/TRAC Changes and Error Corrections," NF-FP-13-125, August 1, 2013.
5. Westinghouse letter, E. Malek to R. Klein, "Turkey Point Units 3 & 4, 10 CFR 50.46 Report for Revised Heat Transfer Multiplier Distributions," NF-FP-13-127, August 7, 2013.

10 CFR 50.46(a)(3)(ii) requires that changes to the Large Break Loss of Coolant Accident (LBLOCA) Evaluation Model (EM) and Small Break LOCA (SBLOCA) EM peak clad temperature (PCT) exceeding 50°F have to be reported to the NRC within 30 days. This letter meets this requirement with the LBLOCA EM errors reported in References 3, 4 and 5.

FPL letter L-2013-108 (Reference 1), submitted the Turkey Point Units 3 and 4 10 CFR 50.46 2012 annual report. The 2012 annual report documented the Extended Power Uprate (EPU) LBLOCA PCT of 2164°F and EPU SBLOCA PCT of 1231°F for Turkey Point Unit 3. The 2012 annual report documented the Pre-EPU LBLOCA PCT of 1917°F and Pre-EPU SBLOCA PCT of 1689°F for Turkey Point Unit 4.

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FPL letter L-2013-032 (Reference 2), submitted the 30 day special report updating the Turkey Point Unit 4 LBLOCA PCT and SBLOCA PCT as a result of EPU implementation. The special report documented the EPU LBLOCA PCT of 2164°F and EPU SBLOCA PCT of 1231°F for Turkey Point Unit 4.

Per References 3, 4 and 5, Westinghouse notified FPL of several errors in the Turkey Point LBLOCA EM. Reference 3 reported a LBLOCA PCT assessment of -54°F to account for erroneous initial fuel pellet average temperature uncertainties in ASTRUM. Reference 4 reported a series of errors in WCOBRA/TRAC, all with 0°F impact on LBLOCA PCT and Reference 5 reported an assessment of +5°F in WCOBRA/TRAC to account for errors in the heat transfer multiplier distributions. The resulting new LBLOCA PCT is 2115°F with a cumulative change of 71°F. The table below provides a summary of the LBLOCA EM errors and the resultant new LBLOCA PCT.

**Turkey Point Units 3 and 4
LBLOCA EM Errors Summary**

<u>LBLOCA</u>	<u>Peak Cladding Temperature</u>	<u>Cumulative Change</u>
EPU 10 CFR 50.46 Reports ^(Refs 1,2)	2164 °F	12 °F ^(Note 1)
<u>Changes / Errors (January–August 2013)</u>		
- Initial Fuel Pellet T _{avg} Uncertainty Calculation ^(Ref 3)	-54 °F	54 °F
- Heat Transfer Model Error Corrections ^(Ref 4)	0 °F	0 °F
- Heat Transfer Node Initialization Correction ^(Ref 4)	0 °F	0 °F
- Mass Conservation Error Fix ^(Ref 4)	0 °F	0 °F
- Split Channel Momentum Equation Correction ^(Ref 4)	0 °F	0 °F
- Changes to Vessel Superheated Steam Properties ^(Ref 4)	0 °F	0 °F
- Update to Metal Density Reference Temperatures ^(Ref 4)	0 °F	0 °F
- Decay Heat Model Error Corrections ^(Ref 4)	0 °F	0 °F
- Pipe Exit Pressure Drop Error Correction ^(Ref 4)	0 °F	0 °F
- Revised Heat Transfer Multiplier Distributions ^(Ref 5)	+5 °F	5 °F
	2115 °F	71 °F

Note 1 The +12 °F penalty is only applicable for mixed cores at Turkey Point with 15X15 DRFA and 15X15 Upgrade Fuel Assemblies in the same core.

10 CFR 50.46(a)(3)(ii) also requires that a schedule for reanalysis be provided or compliance with the requirements of the regulation be shown if the error is significant. For the Turkey Point Units continued compliance with 10 CFR 50.46 requirements is demonstrated by the new estimated LBLOCA PCT of 2115°F remaining below the limit of 2200°F.

Should there be any questions, please contact Robert Tomonto, Licensing Manager, at 305-246-7327.

Very truly yours,



Michael Kiley
Vice President
Turkey Point Nuclear Plant

cc: Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant