FPL.

March 24, 2014
L-2014-077
10 CFR 50.46

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

Re: Turkey Point Unit 3
Docket No. 50-250
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 Unit 3, Docket No. 50-250, 10 CFR 50.46, 'Acceptance Criteria for Emergency Core Cooling Systems in Light Water Nuclear Power Reactors' – 30 Day Special Report," L-2012-263, July 3, 2012.
2. 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 Power Reactors' – 30 Day Special Report," L-2013-237, August 20, 2013.
3. 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 Power Reactors' – 30 Day Special Report," L-2014-037, February 18, 2014.

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.

FPL letter L-2012-263 (Reference 1), submitted the Turkey Point Unit 3 30-day special report documenting implementation of the Extended Power Uprate (EPU) for Unit 3. The revised LBLOCA PCT reported was 2164 °F with a cumulative change of 12 °F. The 12 °F change from the EPU EM LBLOCA PCT of 2152 °F was due to a mixed core penalty affecting the LBLOCA PCT due to the presence of the new 15x15 Upgrade fuel assemblies and the old 15x15 Debris Resistant Fuel Assemblies (DRFAs). The SBLOCA PCT reported was 1231 °F with a cumulative change of 0 °F. The SBLOCA PCT was not affected by the presence of a mixed core. The mixed core penalty was only applicable to Unit 3 Cycle 26 and any future cycles during which 15x15 DRFAs and 15x15 Upgrade fuel assemblies are both present in the core. Unit 3 Cycle 27 consists of 15x15 Upgrade fuel assemblies only; therefore, the mixed core penalty does not apply during this cycle. This 30-day special report provides the LBLOCA PCT applicable to Unit 3 Cycle 27 and future cycles with only 15x15 Upgrade fuel assemblies. The SBLOCA PCT is not affected by the mixed core penalty; however, it is included in this report for completeness.

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FPL letter L-2013-237 (Reference 2), submitted the Turkey Point Units 3 and 4 30-day special report documenting several errors in the Turkey Point LBLOCA EM regarding erroneous initial fuel pellet average temperature uncertainties and revised heat transfer multiplier distributions. The initial fuel pellet average temperature uncertainties error correction resulted in a -54 °F change in PCT. The revised heat transfer multiplier distributions correction resulted in a +5 °F penalty. The LBLOCA PCT reported was 2115 °F with a cumulative change of 71 °F. The SBLOCA EM was not affected by this special report.

FPL letter L-2014-037 (Reference 3), submitted the Turkey Point Units 3 and 4 30-day special report documenting several errors in the Turkey Point LBLOCA EM related to calculation of the burst strain perform by the HOTSPOT code. Correction of the burst strain errors resulted in an 18 °F penalty in PCT. The revised LBLOCA PCT reported for Units 3 and 4 was 2133 °F with a cumulative change of 89°F due to the EM error. The SBLOCA EM was not affected by the identified error.

Table 1 below provides a summary of the LBLOCA and SBLOCA PCTs for Turkey Point Unit 3 Cycle 27 and future cycles with Upgrade fuel assemblies only. The LBLOCA PCT for Unit 3 is 2121 °F with a cumulative change of 77°F. The SBLOCA PCT is 1231°F.

Table 1

Turkey Point Unit 3 LBLOCA and SBLOCA PCT Summary

LBLOCA	Peak Cladding Temperature	Cumulative Change
10 CFR 50.46 30-day Special Report (Ref.1) Mixed Core Penalty	2164 °F	12 °F
10 CFR 50.46 30-day Special Report (Ref.2) ECCS Model Assessments	2115 °F	71 °F
10 CFR 50.46 30-day Special Report (Ref.3) ECCS Model Assessments	2133 °F	89 °F
Unit 3 Cycle 27 and future cycles with only Upgrade Fuel assemblies – (The 12 °F mixed core penalty no longer applies and has been removed)	**2121 °F**	**77 °F**

SBLOCA	Peak Cladding Cumulative Temperature	Change
EPU EM (Ref. 1)	**1231 °F**	**0 °F**

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 Turkey Point Unit 3 continued compliance with 10 CFR 50.46 requirements is demonstrated by the new estimated LBLOCA PCT of 2121°F and SBLOCA PCT of 1231°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