



DEC 22 2011
L-2011-540
10 CFR 50.90

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
Safety Evaluation Report Review Supporting
Fuel Storage Criticality Amendments 246 and 242

References:

- (1) M. Kiley (FPL) to U. S. Nuclear Regulatory Commission (L-2010-169), "License Amendment Request No. 207 Fuel Storage Criticality Analysis," Accession No. ML102220022, August 5, 2010.
- (2) J. Paige (NRC) to M. Nazar (FPL), "Turkey Point Units 3 and 4 – "Issuance of Amendments Regarding Fuel Criticality Analysis (TAC Nos. ME4470 and ME4471)," Accession No. ML11216A057, October 31, 2011.

By letter L-2010-169 dated August 5, 2010 [Reference 1], Florida Power and Light Company (FPL) requested to amend Renewed Facility Operating Licenses DPR-31 and DPR-41 and revise the Turkey Point Units 3 and 4 Technical Specifications (TS). The amendments proposed to revise TS 5.5.1 Fuel Storage – Criticality, to include new spent fuel storage patterns that account for both the increase in fuel maximum enrichment from 4.5 wt% U-235 to 5.0 wt% U-235 and the impact on the fuel of higher power operation proposed under the Extended Power Uprate (EPU) project.

On October 31, 2011, the U.S. Nuclear Regulatory Commission (NRC) issued Amendment No. 246 to Renewed Facility Operating License No. DPR-31 and Amendment No. 242 to Renewed Facility Operating License No. DPR-41 for the Turkey Point Nuclear Plant, Units Nos. 3 and 4, respectively, with a supporting Safety Evaluation Report (SER) [Reference 2]. After completion of a review of the SER, FPL offers the following two comments:

1. On page 1 of Enclosure 1 to Reference 2 titled "Amendment No. 246 to DPR-31," two of the supplemental letters dated September 14, 2011 and September 22, 2011 have been omitted in the Unit 3 amendment letter while both letters have been included in the Unit 4 amendment letter on page 1 of Enclosure 2 to Reference 2 titled "Amendment No. 242 to DPR-41."
2. On the bottom of page 4 and top of page 5 in the SER, it states the following:
"Hafnium Vessel Flux Depression (HVFD) absorbers are used in a few highly burned fuel assemblies on the core periphery during the third cycle of operation. These absorber inserts are present only near the mid-plane of the fuel assembly's axial length to reduce the fluence at critical weld locations along the core vessel. The associated burnup profiles of those assemblies that contain HVFD are limiting, since the HVFDs push the neutron flux out of the middle of the core and toward the ends of the fuel during fuel depletion. The selection of limiting axial burnup profiles for pre-EPU fuel includes shapes from assemblies with HVFDs. These absorbers have not been in use since Cycle 24, and they are not used in EPU fuel."

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Contrary to the above, the associated burnup profiles of those assemblies that contain HVFDs are typically *not* limiting (see Section 4.2.2.3 of WCAP-17094-P, Rev. 3, "Turkey Point Units 3 and 4 New Fuel Storage Rack and Spent Fuel Pool Criticality Analysis"). The reactivity of the heavily burned fuel is predominantly dictated by the upper end region of the fuel. Since the HVFDs push the neutron flux out of the middle of the core and toward the ends of the fuel during fuel depletion, those assemblies accrue more burnup in the region important to reactivity therefore producing non-limiting axial burnup profiles. Although the overall conclusions are correct, FPL recommends that the text be modified to better describe the basis as follows:

Hafnium Vessel Flux Depression (HVFD) absorbers are used in a few highly burned fuel assemblies on the core periphery during the third cycle of operation. These absorber inserts are present only near the mid-plane of the fuel assembly's axial length to reduce the fluence at critical weld locations along the core vessel. While the selection of limiting axial burnup profiles for pre-EPU fuel included shapes from assemblies with HVFDs, those profiles proved to be non-limiting because the HVFDs push the neutron flux out of the middle of the core and toward the ends of the fuel during fuel depletion. These absorbers have not been in use since Cycle 24, and they are not used in EPU fuel.

In accordance with 10 CFR 50.91(b)(1), a copy of this letter is being forwarded to the State Designee of Florida.

Should you have any questions regarding this submittal, please contact Mr. Robert J. Tomonto, Licensing Manager, at (305) 246-7327.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on December 22, 2011.

Very truly yours,



Michael Kiley
Site Vice President
Turkey Point Nuclear Plant

cc: USNRC Regional Administrator, Region II
USNRC Project Manager, Turkey Point Nuclear Plant
USNRC Senior Resident Inspector, Turkey Point Nuclear Plant
William Passetti, Florida Department of Health