SEP 14 2012

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
Reactor Vessel Material Surveillance Program –
Revised Surveillance Capsule Withdrawal Schedule for X_4

References:

(1) M. Kiley (FPL) to U.S. Nuclear Regulatory Commission (L-2010-113), "License Amendment Request No. 205: Extended Power Uprate (EPU)," (TAC Nos. ME4907 and ME4908), Accession No. ML103560169, October 21, 2010.

(2) M. Kiley to U. S. Nuclear Regulatory Commission (L-2011-029), "Response to NRC Request for Additional Information Regarding Extended Power Uprate Amendment Request No. 205 and Reactor Materials Issues – Round 1, Accession No. ML110700068, March 9, 2011.

(3) J. Paige (NRC) to M. Nazar (FPL), "Turkey Point Units 3 and 4 – "Issuance of Amendments Regarding Extended Power Uprate (TAC Nos. ME4907 and ME4908)," Accession No. ML11293A365, June 15, 2012.

By letter L-2010-113 dated October 21, 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 (PTN) Units 3 and 4 Technical Specifications (TS). The proposed amendment will increase each unit's licensed core power level from 2300 megawatts thermal (MWt) to 2644 MWt and revise the Renewed Facility Operating Licenses and TS to support operation at this increased core thermal power level. This represented an approximate increase of 15% and was therefore considered an Extended Power Uprate (EPU). Section 2.1.1 of Attachment 4 to the license amendment request addressed PTN's Reactor Vessel Materials Surveillance Program and Surveillance Capsule Withdrawal Schedule.

By letter L-2011-029 dated March 9, 2011 [Reference 2], FPL provided its response to a NRC Request for Additional Information (RAI) regarding the surveillance capsule withdrawal schedule for the last coupon X_4. In the response, FPL stated that "Surveillance Capsule X_4 will be withdrawn when it reaches a fluence that is approximately equivalent to the 80-year (67 EFPY) peak reactor vessel fluence of 8.14×10^{19} neutrons per square centimeter (n/cm^2) (E >1.0MeV). Therefore, accounting for EPU conditions, Capsule X_4 will be withdrawn at the vessel refueling date that is nearest to 35.8 EFPY."

On June 15, 2012, the U.S. Nuclear Regulatory Commission (NRC) issued Amendment Nos. 249 and 245 to Renewed Facility Operating License Nos. DPR-31 and DPR-41 for the Turkey Point Nuclear Plant, Units Nos. 3 and 4, respectively, with supporting Safety Evaluation Report (SER) regarding the Extended Power Uprate [Reference 3] which reflected the above withdrawal date.

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However, the supporting calculation has been revised and, as a result, the X_4 capsule withdrawal schedule has changed from 35.8 EFPY at 8.14 x 10^{19} n/cm^2 to 38.1 EFPY at 9.297 x 10^{19} n/cm^2

Pursuant to 10 CFR 50, Appendix H, III.C.3, FPL requests a NRC review and approval of the enclosed revision to the integrated surveillance capsule removal schedule for PTN Units 3 and 4. The proposed reactor vessel surveillance capsule removal schedule was developed to implement the recommendations for PTN Units 3 and 4 in *MRP-326, Coordinated PWR Reactor Vessel Surveillance Program (CRVSP) Guidelines.* MRP-326 addresses the need for reactor vessel property data at fluences representative of 60 years of operation and beyond for PTN Units 3 and 4 and the industry. The requested change to the Appendix H program for PTN Units 3 and 4 satisfies the requirements of 10 CFR 50, Appendix H and ASTM E-185-82, "Standard Practice for Conducting Surveillance Tests for Light-Water Cooled Nuclear Power Reactor Vessels", dated July 1, 1982, and is consistent with the guidance of NUREG-1801, Rev. 2, *Generic Aging Lessons Learned.*

The NRC SER Section 2.1.1 on the Reactor Vessel Material Surveillance Program states:

> "ASTM E 185-82, "Standard Practice for Conducting Surveillance Tests for Light-Water Cooled Nuclear Power Reactor Vessels," recommends that if the maximum shift in ΔRT_{NDT} is greater than 200 °F, as it is for Turkey Point Units 3 and 4, then five capsules should be withdrawn and tested. PTN meets this criterion. The only change to the surveillance capsule withdrawal schedule to account for EPU is for capsule X_4. Prior to the EPU, per the most recent approved revision to the withdrawal schedule, this capsule was to be withdrawn at 33.2 EFPY. In the initial recommended withdrawal schedule considering EPU, provided in LR Table 2.1.1-6, the licensee proposed to withdraw the last capsule, X_4, between 31.4 and 47.8 EFPY, which the licensee stated met the requirement that the fluence for the last capsule be at least once and no greater than twice the projected RV end-of-life (EOL) fluence. However, in response to request for additional information (RAI) CVIB-1.1, by letter dated March 9, 2011 [Reference 2], the licensee provided a withdrawal date to the nearest refueling outage of 35.8 EFPY at an estimated fluence of 8.14 x 10^{19} neutrons per square centimeter (n/cm^2). The licensee indicated fluence is equivalent to the 80 year (67 EFPY) RV fluence."

Subsequent to the EPU LAR submittal [Reference 1] and the (RAI) CVIB-1.1 response [Reference 2], EPRI and the industry developed and finalized MRP-326," *Coordinated PWR Reactor Vessel Surveillance Program (CRVSP) Guidelines*" in order to address the need for reactor vessel property data at fluences representative of 60 years of operation and beyond for PTN and the industry. During preparation of that report, FPL corrected the fluence projection for Capsule X_4 and determined the capsule should be withdrawn at **38.1** EFPY to assure it accumulates a fluence that is approximately equivalent to the 80-year peak reactor vessel fluence of **9.297 x 10^{19}** n/cm^2. As previously identified, this is the last capsule scheduled to be removed for PTN Units 3 and 4 integrated surveillance capsule removal schedule. The revised schedule is provided below:

Surveillance Capsule Withdrawal Schedule for Turkey Point Units 3 and 4[5]

Capsule	Location	Withdrawal EFPY[1]	Lead Factor	Fluence (n/cm^2, $E > 1.0$ MeV)
T_3	270°	1.15	2.736	0.599×10^{19} [3]
T_4	270°	1.17	2.740	0.649×10^{19} [3]
S_3	280°	3.46	1.997	1.272×10^{19} [3]
S_4	280°	3.41	2.030	1.290×10^{19} [3]
V_3	290°	8.06	0.891	1.223×10^{19} [3]
X_3	270°/50° [2]	19.85	1.129	2.897×10^{19} [3]
X_4	270°/50° [2]	38.1[4]	2.088	9.297×10^{19} [4]
V_4	290°	Standby	1.015	—
U_3	30°	Standby	0.767	—
U_4	30°	Standby	0.767	—
W_3	40°	Standby	0.523	—
W_4	40°	Standby	0.523	—
Y_3	150°	Standby	0.767	—
Y_4	150°	Standby	0.767	—
Z_3	230°	Standby	0.523	—
Z_4	230°	Standby	0.523	—

1. Effective Full Power Years (EFPY) from plant startup.
2. Capsules X_3 and X_4 were moved from the 50° location to the 270° location in 1990.
3. Fluence is measured.
4. Capsule X_4 removal time of 38.1 EFPY fulfills the "5th Capsule" to be withdrawn. The EFPY will yield a capsule fluence approximately equivalent to 80 year (67 EFPY) peak vessel fluence of 9.297×10^{19} n/cm^2 ($E > 1.0$ MeV).
5. Capsule removal schedule changes require NRC approval per 10 CFR 50 Appendix H.

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

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