Florida Power & Light, 9760 S.W. 344 St. Homestead, FL 33035

FPL.

SEP 14 2011
L-2011-386
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
License Amendment Request No. 207
Fuel Storage Criticality Analysis Supplement 2

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) M. Kiley (FPL) to U. S. Nuclear Regulatory Commission (L-2011-032), "License Amendment Request No. 207, Supplement 1 to Fuel Storage Criticality Analysis," Accession No. ML110560335, February 22, 2011.

(3) U. S. Nuclear Regulatory Commission, Division of Safety Systems Interim Staff Guidance, DSS-ISG-2010-01, Staff Guidance Regarding the Nuclear Criticality Safety Analysis for Spent Fuel Pools, Accession No. ML102220567, August 25, 2010.

(4) Email from J. Paige (NRC) to T. Abbatiello (FPL), "Turkey Point Fuel Storage Criticality Analysis LAR - Requests for Additional Information," Accession No. ML11119A000, April 28, 2011.

(5) M. Kiley (FPL) to U. S. Nuclear Regulatory Commission (L-2011-154), "Response to NRC Request for Additional Information Regarding Fuel Storage Criticality Analysis License Amendment Request No. 207," Accession No. ML11145A174, May 20, 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 proposed amendment will revise TS 5.5.1, Fuel Storage – Criticality, to include new spent fuel storage patterns that account for both the increased maximum fuel enrichment from 4.5 wt% U-235 to 5.0 wt% U-235 and the impact of higher power operation proposed under the Extended Power Uprate (EPU) project. Although nuclear fuel storage has been analyzed at the increased fuel enrichment in the new criticality analysis, the enrichment limit of 4.5 wt% U-235 specified in TS 5.5.1 will not be changed under this license amendment request (LAR).

On February 22, 2011, FPL supplemented LAR No. 207 by letter L-2011-032 [Reference 2] to provide a revised fuel storage criticality analysis and updated revisions to TS 5.5.1 to address the NRC Interim Staff Guidance (ISG) contained in DSS-ISG-2010-01 [Reference 3].

On April 28, 2011, FPL received a Request for Additional Information (RAI) via email [Reference 4] from the NRC Project Manager regarding the fuel storage criticality analysis associated with LAR No. 207. FPL responded to the RAI questions by letter L-2011-154, dated May 20, 2011 [Reference 5].

A001
NRR

During a subsequent teleconference between FPL and NRC staff held on September 1, 2011, the NRC requested one additional change to clarify the allowable fuel storage configurations in TS 5.5.1.1f. The attachment to this submittal revises TS 5.5.1.1f consistent with the staff's request. The fuel storage criticality analysis included in Reference 2 is not affected by this submittal.

This submittal does not alter the significant hazards consideration or the environmental assessment previously submitted by FPL letter L-2011-032 [Reference 2].

This submittal contains no new commitments and no revisions to existing commitments.

The Turkey Point Plant Nuclear Safety Committee (PNSC) has reviewed the proposed license amendment. 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 September 14, 2011.

Very truly yours,

Michael Kiley
Site Vice President
Turkey Point Nuclear Plant

Attachment

cc: USNRC Regional Administrator, Region II
USNRC Project Manager, Turkey Point Nuclear Plant
USNRC Resident Inspector, Turkey Point Nuclear Plant
Mr. W. A. Passetti, Florida Department of Health

Turkey Point Units 3 and 4

LAR NO. 207 FUEL STORAGE CRITICALITY ANALYSIS
SUPPLEMENT 2

ATTACHMENT

LAR 207 Fuel Storage Criticality Analysis Supplement 2

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 proposed amendment will revise TS 5.5.1, Fuel Storage – Criticality, to include new spent fuel storage patterns that account for both the increased maximum fuel enrichment from 4.5 wt% U-235 to 5.0 wt% U-235 and the impact of higher power operation proposed under the Extended Power Uprate (EPU) project.

On February 22, 2011, FPL supplemented LAR No. 207 by letter L-2011-032 [Reference 2] to provide a revised fuel storage criticality analysis and updated revisions to TS 5.5.1 to incorporate the NRC Interim Staff Guidance (ISG) contained in DSS-ISG-2010-01 [Reference 3].

During a subsequent teleconference between FPL and NRC staff held on September 1, 2011, the NRC requested one additional change to clarify the allowable fuel storage configurations in TS 5.5.1.1f. The requested revision to the affected page (TS Page 5-5) and the associated description and justification are presented below.

This submittal only affects the revision to TS 5.5.1.1f. The revisions shown to TS 5.5.1.1b and TS 5.5.1.1c are retained from Reference 2.

TS Changes

Technical Specification 5.5.1.1, Fuel Storage – Criticality

Current TS

5.5.1.1 The spent fuel storage racks are designed and shall be maintained with:

f. Fresh or irradiated fuel assemblies not stored in the cask area storage rack shall be stored in accordance with Specification 5.5.1.3 or configurations that have been shown to comply with Specification 5.5.1.1a and 5.5.1.1b using the NRC approved methodology in UFSAR Chapter 9.

Proposed TS

5.5.1.1 The spent fuel storage racks are designed and shall be maintained with:

f. Fresh or irradiated fuel assemblies not stored in the cask area storage rack shall be stored in accordance with Specification 5.5.1.3.

Basis for the Change: TS 5.5.1.1f is updated to ensure that fuel assembly storage in spent fuel pool storage racks other than the cask storage area rack complies with only the storage configurations allowed by TS 5.5.1.3, as revised in Supplement 1 to LAR 207 [Reference 2].

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) M. Kiley (FPL) to U. S. Nuclear Regulatory Commission (L-2011-032), "Supplement 1 to License Amendment Request No. 207 Fuel Storage Criticality Analysis," Accession No. ML110560335, February 22, 2011.

(3) DSS-ISG-2010-01, Staff Guidance Regarding the Nuclear Criticality Safety Analysis for Spent Fuel Pools, Accession No. ML102220567, August 25, 2010.

DESIGN FEATURES

5.5 FUEL STORAGE

5.5.1 CRITICALITY

5.5.1.1 The spent fuel storage racks are designed and shall be maintained with:

a. A k_{eff} less than 1.0 when flooded with unborated water, which includes an allowance for biases and uncertainties as described in UFSAR Chapter 9.

b. A k_{eff} less than or equal to 0.95 when flooded with water borated to ~~650~~ 500 ppm, which includes an allowance for biases and uncertainties as described in UFSAR Chapter 9.

c. A nominal 10.6 inch center-to-center distance for Region I and 9.0 inch center-to-center distance for Region II for the two region spent fuel pool storage racks. A nominal 10.1 inch center-to-center distance in the east-west direction and a nominal 10.7 inch center-to-center distance in the north-south direction for the ~~Region I~~ cask area storage rack.

d. A maximum enrichment loading for fuel assemblies of 4.5 weight percent of U-235.

e. No restriction on storage of fresh or irradiated fuel assemblies in the cask area storage rack.

f. Fresh or irradiated fuel assemblies not stored in the cask area storage rack shall be stored in accordance with Specification 5.5.1.3 ~~or configurations that have been shown to comply with Specification 5.5.1.1a and 5.5.1.1b using the NRC approved methodology in UFSAR Chapter 9~~.

5.5.1.2 The racks for new fuel storage are designed to store fuel in a safe subcritical array and shall be maintained with:

a. A nominal 21 inch center-to-center spacing to assure k_{eff} equal to or less than 0.98 for optimum moderation conditions and equal to or less than 0.95 for fully flooded conditions.

b. Fuel assemblies placed in the New Fuel Storage Area shall contain no more than 4.5 weight percent of U-235.