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

FPL.

FEB 2 3 2012
L-2012-081
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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
Response to NRC Reactor Systems Branch Request for Additional Information Regarding Extended Power Uprate License Amendment Request No. 205 and Spent Fuel Pool Storage Requirements

References:

(1) M. Kiley (FPL) to U.S. Nuclear Regulatory Commission (L-2010-113), "License Amendment Request for Extended Power Uprate (LAR 205)," Accession No. ML103560169, October 21, 2010.

(2) J. Paige (U. S. Nuclear Regulatory Commission) to M. Nazar (FPL), "Turkey Point Nuclear Plant, Units 3 and 4 – Issuance of Amendments Regarding Fuel Criticality Analysis (TAC Nos. ME4470 and ME4471)," Accession No. ML11216A057, October 31, 2011.

(3) M. Kiley (FPL) to U.S. Nuclear Regulatory Commission (L-2011-390), "Supplement 2 to the Extended Power Uprate License Amendment Request No. 205 Regarding New and Spent Fuel Storage Requirements," Accession No. ML11318A284, November 9, 2011.

(4) M. Kiley (FPL) to U.S. Nuclear Regulatory Commission (L-2011-541), "Response to NRC Reactor Systems Branch Request for Additional Information Regarding Extended Power Uprate License Amendment Request No. 205," Accession No. ML11362A356, December 22, 2011.

(5) Email from J. Paige (NRC) to S. Hale (FPL), "RE: SE Open Item on New Fuel Storage Area," February 13, 2012.

(6) M. Kiley (FPL) to U.S. Nuclear Regulatory Commission (L-2012-050), "Response to NRC Reactor Systems Branch Request for Additional Information Regarding Extended Power Uprate License Amendment Request No. 205 and New Fuel Storage Requirements," February 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 Units 3 and 4 (PTN) 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 represents an approximate increase of 15% and is therefore considered an extended power uprate (EPU).

On October 31, 2011, the U.S. Nuclear Regulatory Commission (NRC) issued Amendments 246 and 242 to Renewed Facility Operating Licenses DPR-31 and DPR-41 for Turkey Point Units 3 and 4, respectively, addressing both new and spent fuel storage requirements [Reference 2].

By letter L-2011-390 dated November 9, 2011 [Reference 3], FPL revised the originally proposed EPU changes to Technical Specification 5.5.1 Fuel Storage – Criticality to account for the NRC's issuance of Amendments 246 and 242 for Turkey Point Units 3 and 4. This reduced the scope of the remaining TS changes to only TS 5.5.1.1.d that revises the maximum fuel enrichment loading to 5.0 wt% U-235 and TS 5.5.1.2.b that revises the existing new fuel storage requirements.

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On November 18, 2011, the NRC Project Manager (PM) informed FPL that the Reactor Systems Branch (SRXB) Technical Reviewer questioned the language used in the proposed change to TS 5.5.1.2.b. Specifically, the reviewer questioned the inclusion of the parenthetical statement *"or an equivalent amount of other burnable absorber."* On December 22, 2011, FPL provided its response with documentation to support this language in the proposed TS to the NRC via letter L-2011-541 [Reference 4]. Subsequent review by the SRXB Technical Reviewer resulted in several more questions regarding this issue as documented in an email from the NRC PM to FPL on February 13, 2012 [Reference 5] and indicated that FPL's position would not be acceptable to the staff. On February 15, 2012, FPL proposed a TS change via letter L-2012-050 [Reference 6] that would eliminate the parenthetical statement from TS 5.5.1.2.b. During a follow-up telephone call with the NRC PM and SRXB Technical Reviewer on February 21, 2012, FPL agreed to submit license conditions to specifically prohibit crediting burnable absorbers in the spent fuel pool other than IFBA. FPL's response is provided in Attachment 1 to this letter.

This submittal contains no new commitments and no revisions to existing commitments but does contain one new license condition for each unit (3.K.1 for Unit 3 and 3.L.1 for Unit 4) regarding crediting of burnable absorbers in the spent fuel pool.

The Turkey Point Plant Nuclear Safety Committee (PNSC) has reviewed the proposed license conditions. This proposed license conditions do not alter the significant hazards consideration or environmental assessment previously submitted by FPL letter L-2010-113 [Reference 1].

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 February 23, 2012.

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

RESPONSE TO NRC REACTOR SYSTEMS BRANCH REQUEST FOR ADDITIONAL INFORMATION REGARDING EXTENDED POWER UPRATE LICENSE AMENDMENT REQUEST NO. 205 AND SPENT FUEL POOL STORAGE REQUIREMENTS

ATTACHMENT

Response to Request for Additional Information

The following information is provided by Florida Power and Light Company (FPL) in response to the U. S. Nuclear Regulatory Commission's (NRC) Request for Additional Information (RAI). This information was requested to support License Amendment Request (LAR) 205, Extended Power Uprate (EPU), for Turkey Point Nuclear Plant (PTN) Units 3 and 4 that was submitted to the NRC by FPL via letter (L-2010-113) dated October 21, 2010 [Reference 1].

On October 31, 2011, the U.S. Nuclear Regulatory Commission (NRC) issued Amendments 246 and 242 to Renewed Facility Operating Licenses DPR-31 and DPR-41 for Turkey Point Units 3 and 4, respectively, addressing both new and spent fuel storage requirements [Reference 2].

By letter L-2011-390 dated November 9, 2011 [Reference 3], FPL revised the originally proposed EPU changes to Technical Specification 5.5.1 Fuel Storage – Criticality to account for the NRC's issuance of Amendments 246 and 242 for Turkey Point Units 3 and 4. This reduced the scope of the remaining TS changes to only TS 5.5.1.1.d that revises the maximum fuel enrichment loading to 5.0 wt% U-235 and TS 5.5.1.2.b that revises the existing new fuel storage requirements.

On November 18, 2011, the NRC Project Manager (PM) informed FPL that during review of the supplemental submittal the Reactor Systems Branch (SRXB) Technical Reviewer questioned the language used in the proposed change to TS 5.5.1.2.b. Specifically, the reviewer questioned the basis for the inclusion of the parenthetical statement *"or an equivalent amount of other burnable absorber"* and requested that the parenthetical statement be deleted. The basis for the NRC's request was apparently that the criticality analysis provided in WCAP-17094-P, Revision 3, "Turkey Point Units 3 and 4 New Fuel Storage Rack and Spent Fuel Pool Criticality Analysis," dated February 2011 [Reference 4] did not discuss how an equivalent amount of another burnable absorber would be determined. Also, there was nothing in the analysis about how a different absorber would affect the criticality analysis for both fresh and depleted fuel.

On November 22, 2011, FPL informed the NRC PM during the weekly telephone call that it intended to keep the parenthetical statement as written and indicated that further documentation would be provided to support the technical basis for the change. FPL provided the supporting documentation to the NRC via letter L-2011-541 [Reference 5] on December 22, 2011. Subsequent review by the SRXB Technical Reviewer resulted in several more questions regarding this issue as documented in an email from the NRC PM to FPL on February 13, 2012 [Reference 6] which indicated that FPL's position would not be acceptable to the staff. On February 15, 2012, FPL proposed a TS change via letter L-2012-050 [Reference 7] that would eliminate the parenthetical statement from TS 5.5.1.2.b. During a follow-up telephone call with the NRC PM and SRXB Technical Reviewer on February 21, 2012, FPL agreed to submit license conditions to specifically prohibit crediting burnable absorbers in the spent fuel pool other than IFBA. FPL's response containing one new license condition for each unit (3.K.1 for Unit 3 and 3.L.1 for Unit 4) regarding crediting burnable absorbers in the spent fuel pool is provided below.

Response

FPL letter L-2011-390 dated November 9, 2011 [Reference 3] supplemented the EPU application by a proposed revision to TS 5.5.1 of the TS Amendments 246 and 242, which were approved on October 31, 2011 [Reference 2]. Specifically, the supplement proposed a revision to TS 5.5.1.1.d and 5.5.1.2.b to increase the maximum allowable enrichment in the Spent Fuel Pool (SFP) storage racks and the New Fuel Storage Area (NFSA) from 4.5 wt% ^{235}U to 5.0 wt% ^{235}U. The proposed

change to TS 5.5.1.2.b required that storage of fresh fuel assemblies in the NFSA with nominal enrichments greater than 4.5 wt% ^{235}U have 16 or more Integral Fuel Burnable Absorber (IFBA) rods or an equivalent amount of other burnable absorber. As the staff has indicated that the parenthetical statement will not be acceptable without further substantiating analyses, FPL proposed to credit only IFBA rods in the NFSA and to delete the previously proposed parenthetical phrase "*or an equivalent amount of other burnable absorber*" in FPL letter L-2012-050 dated February 15, 2012 [Reference 7].

Similar language also appears in two tables and one figure under TS 5.5.1.3 on spent fuel pool storage requirements. Therefore, FPL proposes the following license conditions to address this concern that specifically prohibit crediting burnable absorbers in the spent fuel pool other than IFBA. A description of the proposed license conditions is provided below.

Proposed License Condition 3.K.1 for DPR-31 (Unit 3)

With respect to Technical Specification 5.5.1.3, FPL shall not credit any burnable absorber other than Integral Fuel Burnable Absorber (IFBA) for storage of fuel assemblies in the Region I spent fuel racks.

Proposed License Condition 3.L.1 for DPR-41 (Unit 4)

With respect to Technical Specification 5.5.1.3, FPL shall not credit any burnable absorber other than Integral Fuel Burnable Absorber (IFBA) for storage of fuel assemblies in the Region I spent fuel racks.

Basis for the Changes:

Allowance for use of an equivalent amount of other burnable absorber was included in Tables 5.5-1 and 5.5-3 and in Figure 5.5-1 for the spent fuel pool storage as part of Amendments 246 and 242 [Reference 2] and was originally proposed for new fuel storage in TS 5.5.1.2.b. prior to its recent removal via letter L-2012-050 [Reference 7]. The SRXB technical reviewer has indicated that this provision is not considered acceptable for either the new fuel or spent fuel storage requirements. Accordingly, FPL proposes the above license conditions that specifically prohibit crediting burnable absorbers in the spent fuel pool other than IFBA to address this concern.

See attached DPR-31 (pages 6 and 7) and DPR-41 (page 7) markups.

3. The CREVS compensatory filtration unit, which is being installed by FPL as part of the AST methodology implementation at Turkey Point, will be designed in accordance with the Class I Structures, Systems, and Equipment Design Requirements defined in Appendix 5A of the Turkey Point UFSAR. As such, the compensatory filtration unit will be designed so that the stress limits found in Table 5A-1 of the Turkey Point UFSAR will not be exceeded due to the loadings imposed by a maximum hypothetical earthquake. FPL shall ensure that the design of the compensatory filtration unit satisfies these stress limits prior to the implementation of the proposed AST methodology at Turkey Point.

I. Extended Power Uprate Modifications

1. Prior to completion of the Cycle 26 refueling outage for Unit 3, the licensee shall provide confirmation to the NRC staff that the design and structural integrity evaluations associated with the modifications related to the spent fuel pool supplemental heat exchangers are complete, and that the results demonstrate compliance with appropriate UFSAR and code requirements. As part of the confirmation, the licensee shall provide a summary of the structural qualification results of the piping, pipe supports, supplemental heat exchanger supports, and the inter-tie connection with the existing heat exchanger for the appropriate load combinations along with the margins.

J. PAD TCD Safety Analyses

1. PAD 4.0 TCD has been specifically approved for use for the Turkey Point licensing basis analyses. Upon NRC's approval of a revised generic version of PAD that accounts for Thermal Conductivity Degradation (TCD), FPL will within six months:
   a. Demonstrate that PAD 4.0 TCD remains conservatively bounding in licensing basis analyses when compared to the new generically approved version of PAD w/TCD, or
   b. Provide a schedule for the re-analysis using the new generically approved version of PAD w/TCD for any of the affected licensing basis analyses.

K. Burnable Absorbers in Spent Fuel Pool

1. With respect to Technical Specification 5.5.1.3, FPL shall not credit any burnable absorber other than Integral Fuel Burnable Absorber (IFBA) rods for the storage of fuel assemblies in the Region I spent fuel racks.

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FOR THE NUCLEAR REGULATORY COMMISSION

Signed by
Samuel J. Collins, Director
Office of Nuclear Reactor Regulation

Attachments:
Appendix A – Technical Specifications for Unit 3
Appendix B – Environmental Protection Plan

Date of Issuance: June 6, 2002

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K. PAD TCD Safety Analyses

1. PAD 4.0 TCD has been specifically approved for use for the Turkey Point licensing basis analyses. Upon NRC's approval of a revised generic version of PAD that accounts for Thermal Conductivity Degradation (TCD), FPL will within six months:
   a. Demonstrate that PAD 4.0 TCD remains conservatively bounding in licensing basis analyses when compared to the new generically approved version of PAD w/TCD, or
   b. Provide a schedule for the re-analysis using the new generically approved version of PAD w/TCD for any of the affected licensing basis analyses.

L. Burnable Absorbers in Spent Fuel Pool

1. With respect to Technical Specification 5.5.1.3, FPL shall not credit any burnable absorber other than Integral Fuel Burnable Absorber (IFBA) rods for the storage of fuel assemblies in the Region I spent fuel racks.

4. This renewed license is effective as of the date of issuance, and shall expire at midnight April 10, 2033.

FOR THE NUCLEAR REGULATORY COMMISSION

Signed by
Samuel J. Collins, Director
Office of Nuclear Reactor Regulation

Attachments:
Appendix A – Technical Specifications for Unit 4
Appendix B – Environmental Protection Plan

Date of Issuance: June 6, 2002

References

1. M. Kiley (FPL) to U.S. Nuclear Regulatory Commission (L-2010-113), "License Amendment Request for Extended Power Uprate (LAR 205)," Accession No. ML103560169, October 21, 2010.
2. J. Paige (U. S. Nuclear Regulatory Commission) to M. Nazar (FPL), "Turkey Point Nuclear Plant, Units 3 and 4 – Issuance of Amendments Regarding Fuel Criticality Analysis (TAC Nos. ME4470 and ME4471)," Accession No. ML11216A057, October 31, 2011.
3. M. Kiley (FPL) to U.S. Nuclear Regulatory Commission (L-2011-390), "Supplement 2 to the Extended Power Uprate License Amendment Request No. 205 Regarding New and Spent Fuel Storage Requirements," Accession No. ML11318A284, November 9, 2011.
4. WCAP-17094-P, Revision 3, "Turkey Point Units 3 and 4 New Fuel Storage Rack and Spent Fuel Pool Criticality Analysis," February 2011.
5. M. Kiley (FPL) to U.S. Nuclear Regulatory Commission (L-2011-541), "Response to NRC Reactor Systems Branch Request for Additional Information Regarding Extended Power Uprate License Amendment Request No. 205," Accession No. ML11362A356, December 22, 2011.
6. Email from J. Paige (NRC) to S. Hale (FPL), "RE: SE Open Item on New Fuel Storage Area," February 13, 2012.
7. M. Kiley (FPL) to U.S. Nuclear Regulatory Commission (L-2012-050), "Response to NRC Reactor Systems Branch Request for Additional Information Regarding Extended Power Uprate License Amendment Request No. 205 and New Fuel Storage Requirements," February 15, 2012.