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

FPL.

DEC 22 2011
L-2011-542
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
Response to NRC Reactor Systems Branch Request for Additional Information
Regarding Extended Power Uprate License Amendment Request No. 205

References:

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

(2) M. Kiley (FPL) to NRC (L-2011-248), "Response to NRC Request for Additional Information Regarding Extended Power Uprate License Amendment Request No. 205 and Mechanical and Civil Engineering Issues," August 25, 2011.

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 Turkey Point 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 represents an approximate increase of 15% and is therefore considered an extended power uprate (EPU).

On November 18, 2011, the NRC Project Manager (PM) informed FPL that the NRC Reactor Systems Branch (SRXB) technical reviewer had indicated that he needed more justification for the proposed revision to the current referenced methodology for determining axial flux difference limits in Technical Specification 6.9.1.7, Core Operating Limits Report. FPL has determined that the current reference to WCAP-10216-P-A, Relaxation of Constant Axial Offset Control - F_Q Surveillance Technical Specification," dated June 1983 should not be updated to the February 1994 edition as proposed and therefore will withdraw the proposed change.

On December 14, 2011, during the Advisory Committee on Reactor Safeguards (ACRS) subcommittee meeting on the EPU application, an ACRS subcommittee member questioned the wording of the proposed license conditions 3.I.1 and 3.J.1 for DPR-31 and DPR-41, respectively. The proposed license conditions were provided under letter L-2011-248 dated August 25, 2011 [Reference 2] involving the spent fuel pool cooling system design and installation details for the system's new supplemental heat exchanger. Specifically, the subcommittee member questioned the wording of the license condition and whether it made sense to allow the licensee to operate at EPU levels without the system's supplemental heat exchanger installation being complete. Accordingly, the license condition language will be revised. FPL's responses to NRC's requests for additional information are presented in the Attachment to this letter.

This submittal does not alter the significant hazards consideration or environmental assessment previously submitted by FPL letter L-2010-113 [Reference 1].

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This submittal contains no new commitments; however, the existing license conditions (3.I.1 for Unit 3 and 3.J.1 for Unit 4) regarding the EPU spent fuel pool cooling system supplemental heat exchanger design and installation for each unit are being revised to reflect required completion of the modification for each unit prior to its startup from its EPU refueling outage.

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,

Erin McCarthy for M. Kiley

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

ATTACHMENT

RAI RESPONSE

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].

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 Turkey Point 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 represents an approximate increase of 15% and is therefore considered an extended power uprate (EPU).

On November 18, 2011, the NRC Project Manager (PM) informed FPL that the NRC Reactor Systems Branch (SRXB) technical reviewer had indicated that he needed more justification for the proposed revision to the current referenced methodology for determining axial flux difference limits in Technical Specification 6.9.1.7, Core Operating Limits Report. FPL has determined that the current reference to WCAP-10216-P-A, Relaxation of Constant Axial Offset Control - F_Q Surveillance Technical Specification," dated June 1983 should not be updated to the February 1994 edition as proposed and therefore will withdraw the proposed change.

On December 14, 2011, during the Advisory Committee on Reactor Safeguards (ACRS) subcommittee meeting on the EPU application, an ACRS subcommittee member questioned the wording of the proposed license conditions 3.I.1 and 3.J.1 for DPR-31 and DPR-41, respectively. The proposed license conditions were provided under FPL letter L-2011-248 dated August 25, 2011 [Reference 2] involving the spent fuel pool system design and installation details for the system's new supplemental heat exchanger. Specifically, the subcommittee member questioned the wording of the license condition and whether it made sense to allow the licensee to operate at EPU levels without the system's supplemental heat exchanger installation being complete. Accordingly, the license condition wording will be revised to assure that each of these plant modifications is complete prior to its unit's startup from its EPU refueling outage. FPL's responses to the NRC's requests for additional information are presented below.

During review of the proposed EPU TS changes, the SRXB technical reviewer stated that he could not find the technical justification for the proposed change to current TS 6.9.1.7 Core Operating Limits Report (COLR) Reference 1 on Relaxed Axial Offset Control (RAOC).

Reference 1 under Technical Specification 6.9.1.7, Core Operating Limits report, currently cites WCAP-10216-P-A, Relaxation of Constant Axial Offset Control - F_Q Surveillance Technical Specification," June 1983 as the current methodology for determining axial flux difference limit. EPU License Amendment Request No. 205 dated October 31, 2010 [Reference 1] proposed to revise the referenced WCAP to the current February 1994 edition but did not provide sufficient basis for the change. The proposed revision was intended to update the WCAP reference from Revision 0 dated June 1983 to Revision 1a dated February 1994. However, further review indicates that other TS changes would have been required to coincide with the later revision and Turkey Point's methods are not based on the Revision 1a methodology. Therefore, the proposed change to Reference 1 under TS 6.9.1.7 is not applicable to PTN and is hereby withdrawn.

TS as proposed in EPU LAR letter L-2010-113 dated October 31, 2010

6.9.1.7 Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT (COLR) before each reload cycle or any remaining part of a reload cycle for the following:

...

The analytical methods used to determine the AFD limits shall be those previously reviewed and approved by the NRC in:

1. **WCAP-10216-P-A, Revision 1A,** "RELAXATION OF CONSTANT AXIAL OFFSET CONTROL OF F_Q SURVEILLANCE TECHNICAL SPECIFICATION," **February 1994**

TS as proposed and currently issued

6.9.1.7 Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT (COLR) before each reload cycle or any remaining part of a reload cycle for the following:

...

The analytical methods used to determine the AFD limits shall be those previously reviewed and approved by the NRC in:

1. WCAP-10216-P-A, RELAXATION OF CONSTANT AXIAL OFFSET CONTROL F_Q SURVEILLANCE TECHNICAL SPECIFICATION," June 1983

Basis for the Change: The newer revision of WCAP-10216-P-A is not applicable, i.e., is not consistent with the RAOC methodology currently used at Turkey Point.

On December 14, 2011, during the ACRS subcommittee meeting on the EPU application, an ACRS subcommittee member questioned the wording of the proposed license conditions 3.I.1 and 3.J.1 for DPR-31 and DPR-41, respectively. The proposed license conditions were provided under FPL letter L-2011-248 dated August 25, 2011 involving the spent fuel pool cooling system design and installation details for the system's new supplemental heat exchanger. Specifically, the ACRS subcommittee member questioned whether that given the wording of the license condition it made sense to allow the licensee to operate at EPU levels without first completing the installation of the system's supplemental heat exchanger installation.

The current license conditions 3.I.1 for Unit 3 and 3.J.1 for Unit4 read as follows:

> "Prior to the use of additional cooling capacity from the supplemental spent fuel pool heat exchanger, the licensee shall confirm 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."

The license condition 3.I.1 for Unit 3 is hereby revised as follows:

> "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."

The license condition 3.J.1 for Unit 4 is hereby revised as follows:

> "Prior to completion of the Cycle 27 refueling outage for Unit 4, 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."

Basis for the Change: The new language in the license conditions prevents unit operation without first completing the design and installation of the spent fuel pool cooling system supplemental heat exchangers in order to assure that adequate cooling capacity is available to handle a full core offload within a reasonable timeframe following shutdown from EPU operating conditions.

See Figures 1 and 2 below for DPR-31 and DPR-41 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.

4. This renewed license is effective as of the date of issuance, and shall expire at midnight July 19, 2032.

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

Figure 1

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(d) FPL will not move any fuel assemblies into the Unit 4 SFP subsequent to the successful completion of startup physics tests for Unit 4 Cycle 25.

I. Alternative Source Term Modifications

1. FPL will relocate the CR Ventilation System emergency air intakes prior to implementation of AST. The relocated intakes and associated ductwork will be designed to seismic criteria, protected from environmental effects, and will meet the requirements of 10 CFR 50 Appendix A, GDC 19. The new intakes will be located near the ground level extending out from the southeast and northeast corners of the auxiliary building and will fall within diverse wind sectors for post-accident contaminants. FPL will perform post-modification testing in accordance with the plant design modification procedures to ensure the TS pressurization flow remains adequate to demonstrate the integrity of the relocated intakes. In addition, FPL will provide to the NRC a confirmatory assessment which demonstrates that the requirements of 10 CFR 50 Appendix A, GDC 19 will be met. The confirmatory assessment will follow the methodology in Amendment 240 [the alternative source term amendment] including the methods used for the establishment of the atmospheric dispersion factors (X/Q values).

2. FPL will install ten (two large and eight small) stainless steel wire mesh baskets containing NaTB located in the containment basement to maintain pH during the sump recirculation phase following a Design Basis LOCA.

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.

J. Extended Power Uprate Modifications

1. Prior to completion of the Cycle 27 refueling outage for Unit 4, 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.

Figure 2

References

1. M. Kiley (FPL) to U.S. Nuclear Regulatory Commission (NRC) (L-2010-113), "License Amendment Request for Extended Power Uprate (LAR 205)," Accession No. ML103560169, October 21, 2010.
2. M. Kiley (FPL) to NRC (L-2011-248), "Response to NRC Request for Additional Information Regarding Extended Power Uprate License Amendment Request No. 205 and Mechanical and Civil Engineering Issues," August 25, 2011.