



L-2011-071
10 CFR 52.3

February 28, 2011

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555-0001

Re: Florida Power & Light Company
Proposed Turkey Point Units 6 and 7
Docket Nos. 52-040 and 52-041
Response to NRC Request for Additional Information Letter No. 010 (eRAI 5233)
Standard Review Plan Section 02.04.05 - Probable Maximum Surge and Seiche
Flooding

Reference:

1. NRC Letter to FPL dated December 2, 2010, Request for Additional Information Letter No. 010 Related to SRP Section 02.04.05 - Probable Maximum Surge and Seiche Flooding for the Turkey Point Nuclear Plant Units 6 and 7 Combined License Application
2. FPL Letter to NRC dated January 12, 2011, Schedule for Response to NRC Request for Additional Information Letter No. 010 (eRAI 5233) - Standard Review Plan Section 02.04.05 Probable Maximum Surge and Seiche Flooding

Florida Power & Light Company (FPL) provides, as an attachment to this letter, its response to the Nuclear Regulatory Commission's (NRC) request for additional information (RAI) 02.04.05-2 provided in the referenced letter. The attachment identifies changes that will be made in a future revision of the Turkey Point Units 6 and 7 Combined License Application (if applicable).

If you have any questions, or need additional information, please contact me at 561-691-7490.

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

Executed on February 28, 2011

Sincerely,

A handwritten signature in black ink, appearing to read 'William Maher'.

William Maher
Senior Licensing Director – New Nuclear Projects

Attachment: FPL Response to NRC RAI No. 02.04.05-2 (eRAI 5233)

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NRO

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cc:

PTN 6 & 7 Project Manager, AP1000 Projects Branch 1, USNRC DNRL/NRO
Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant 3 & 4

NRC RAI Letter No. PTN-RAI-LTR-010

SRP Section: 02.04.05 - Probable Maximum Surge and Seiche Flooding

QUESTIONS from Hydrologic Engineering Branch (RHEB)

NRC RAI Number: 02.04.05-2 (eRAI 5233)

Provide an evaluation of the potential for resonance within the makeup water reservoir resulting from the interaction of natural oscillations with storm-driven wind waves.

FPL RESPONSE:

The potential for resonance within the Makeup Water Reservoir (MWR) due to the interaction of natural oscillations with storm-driven wind waves was evaluated as described below. The evaluation determined that the storm related resonance in the MWR is not expected because the natural periods of the MWR are much longer than the wave periods generated from storms such as the probable maximum hurricane (PMH).

The natural periods of the MWR, which can be approximated as a rectangular basin, are estimated using Equation II-5-26 provided in the USACE Coastal Engineering Manual (Reference 1) for a closed water body. The dimensions along the two principal axes of the MWR are approximately 2200 feet and 766 feet (a north side dimension of 2260 feet is used for this evaluation). With the top of wall and bottom elevations at 24.0 feet and -2.0 feet NAVD 88, respectively (FSAR 2.4.8), the natural periods of the MWR are approximately 156 and 53 seconds, based on the two principal dimensions and a full reservoir with 26 feet of water to account for precipitation. The corresponding wave periods estimated for a maximum PMH wind condition at the site are 2.4 and 1.7 seconds, respectively, following the procedures in Reference 2. Because the natural periods of the MWR are significantly longer than the periods of waves generated from the PMH, the potential for resonance in the MWR due to storm-driven wind waves is not expected.

This response is PLANT SPECIFIC.

References:

1. U.S. Army Corps of Engineers, *Coastal Engineering Manual*, Part II, Chapter 5, 2008.
2. U.S. Army Corps of Engineers, *Coastal Engineering Manual*, Part II, Chapter 2, 2008.

ASSOCIATED COLA REVISIONS:

The following paragraph will be added at the end of Subsection 2.4.5.4.

The potential for resonance within the Makeup Water Reservoir (MWR) during the maximum PMH wind condition is also evaluated. The natural periods of the MWR, which can be approximated as a rectangular basin, are estimated using an approach provided in the USACE Coastal Engineering Manual (FSAR 2.4.5, Reference 210) for a closed water body. The dimensions along the two principal axes of the MWR are approximately 2200 feet and 766 feet (a north side dimension of 2260 feet is used for this evaluation). With the top of wall and bottom elevations at 24.0 feet and -2.0 feet NAVD 88, respectively (FSAR 2.4.8), the natural periods of the MWR are approximately 156 and 53 seconds, based on the two principal dimensions and a full reservoir with 26 feet of water to account for precipitation. The corresponding wave periods estimated for a maximum PMH wind condition at the site are 2.4 and 1.7 seconds, respectively, following the procedures in Reference 210 of FSAR 2.4.5. Because the natural periods of the MWR are significantly longer than the periods of waves generated from the PMH, the potential for resonance in the MWR due to any storm-driven wind waves is not expected.

ASSOCIATED ENCLOSURES:

None