FPL.

L-2011-501
10 CFR 52.3

November 16, 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. 036 (eRAI 5860)
SRP Section: 02.04.05 Probable Maximum Surge and Seiche Flooding

Reference:

1. NRC Letter to FPL dated September 21, 2011, Request for Additional Information Letter No.036 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 October 21, 2011, Response and Response Schedule to NRC Request for Additional Information Letter No. 036 (eRAI 5860) SRP 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) 02.04.05-4 provided in Reference 1. FPL provided a schedule for the response to RAI 02.04.05-4 in Reference 2. 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 November 16, 2011

Sincerely,

William Maher
Senior Licensing Director – New Nuclear Projects

WDM/RFB

Florida Power & Light Company
700 Universe Boulevard, Juno Beach, FL 33408

D097
NRO

Attachment: FPL Response to NRC RAI No. 02.04.05-4 (eRAI 5860)

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-036

SRP Section: 02.04.05 - Probable Maximum Surge and Seiche Flooding

Question from Hydrologic Engineering Branch (RHEB)

NRC RAI Number: 02.04.05-4 (eRAI 5860)

The applicant's analysis of PMH-related storm surge includes apparently limited analysis of the sensitivity of storm surge predictions to variations in input parameters, including PMH forward speed.

Analysis of the effect of PMH forward speed on storm surge considered only two values for PMH forward speed, 6 knots and 20 knots, the upper and lower end of the range specified in NWS 23. The analysis found that the higher value resulted in higher storm surge elevations. Research has shown, however, that storm surge height is not always correlated with storm forward speed; somewhat slower storms sometimes can result in higher surge elevations. Therefore, the analysis may not demonstrate that a 20-knot forward speed is bounding, that is, that values of forward speed between 6 knots and 20 knots would not result in higher storm surge at the site of Turkey Point Units 6 and 7.

Provide reasoning and analysis suffiicient to demonstrate that the effect of forward speed on storm surge elevation at the site of Turkey Point Units 6 and 7 has been bounded.

FPL RESPONSE:

The effect of probable maximum hurricane (PMH) forward speed on the storm surge elevation at the Turkey Point Units 6 & 7 site was evaluated for the range between 6 knots and 20 knots, the lower and upper bounds specified in NWS 23 (FSAR 2.4.5 Reference 201), as described in the following.

As indicated in FSAR Subsection 2.4.5.2.2, the probable maximum storm surge (PMSS) elevation of 18.2 feet NAVD 88 (19.8 feet NGVD 29) at the Turkey Point Units 6 & 7 site would be generated by a PMH that has the following characteristics:

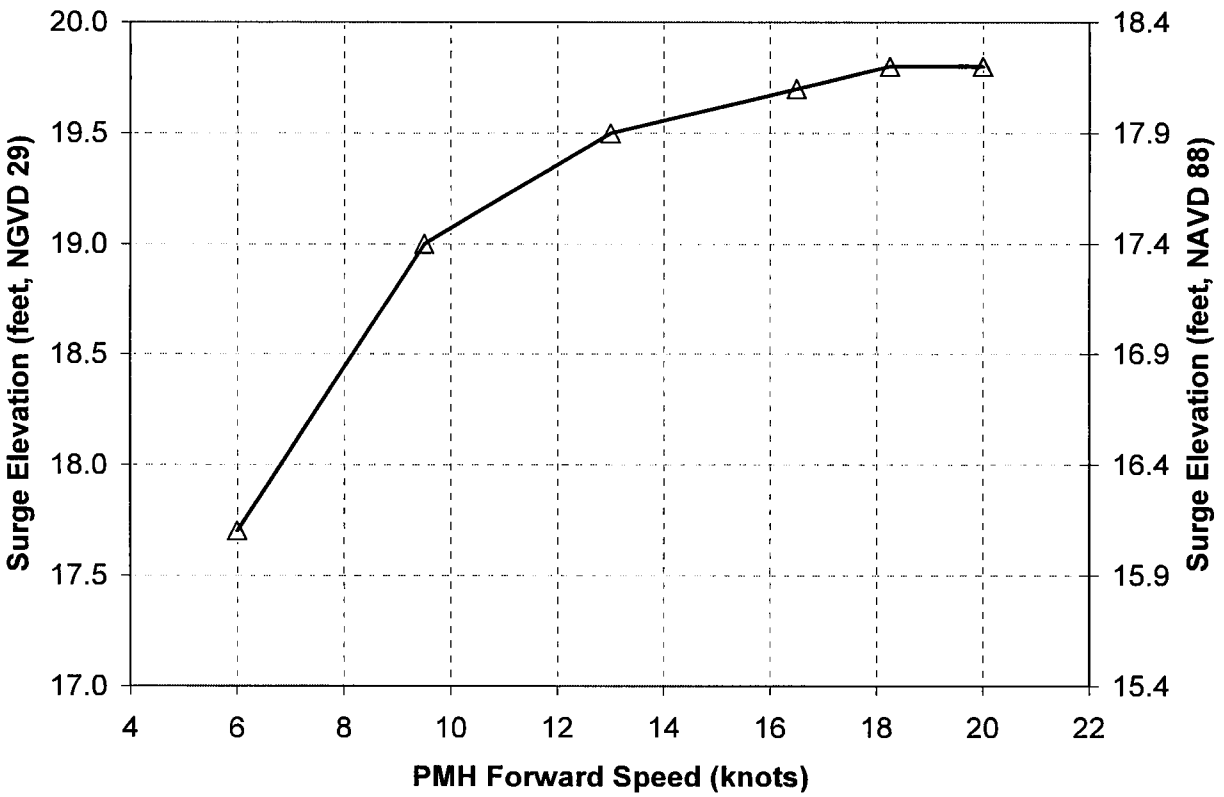
- Upper bound forward speed of 20 knots,
- Upper bound radius of maximum wind of 20 nautical miles,
- Direction of approach at 258.75 degrees from the north,
- Storm track at a distance of approximately 15 nautical miles south of the site.

In response to this RAI, additional storm surge simulations for the above bounding PMH condition were performed with different forward speeds: 6 knots, 9.5 knots, 13 knots, 16.5 knots and 18.25 knots. The results of the analyses are shown in Table 1 and Figure 1, which demonstrate that the surge elevation at the site increases with increasing forward speed within the range specified in NWS 23. Therefore, it is concluded that the PMH condition, which uses the NWS 23 upper bound forward speed of 20 knots to establish the PMSS as described in FSAR Subsection 2.4.5.2.2, remains bounding.

Table 1: Effects of PMH Forward Speed on Surge Elevation at the Turkey Point Units 6 & 7 Site

PMH Forward Speed knots	Surge Elevation feet, NGVD 29	Surge Elevation feet, NAVD 88
6	17.7	16.1
9.5	19.0	17.4
13	19.5	17.9
16.5	19.7	18.1
18.25	19.8	18.2
20	19.8	18.2

Figure 1: Effects of PMH Forward Speed on Surge Elevation at the Turkey Point Units 6 & 7 Site



This response is PLANT SPECIFIC.

References:

None

ASSOCIATED COLA REVISIONS:

None

ASSOCIATED ENCLOSURES:

None