FPL

L-2010-193
10 CFR 52.3

September 1, 2010

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 Request for Additional Information Letter No. 002 (eRAI 4806)
Standard Review Plan Section 02.04.02 - Floods

References:

1. NRC Letter to FPL dated August 2, 2010, Request for Additional Information Letter No. 002 Related to SRP Section 02.04.02 - Floods for the Turkey Point Nuclear Plant Units 6 and 7 Combined License Application (ML100331937)

Florida Power and Light Company (FPL) provides, as attachments to this letter, its responses to the Nuclear Regulatory Commission's requests for additional information Question No. 02.04.02-1 and Question No. 02.04.02-3 provided in the referenced letter. The attachments identify changes that will be made in a future revision of the Turkey Point Units 6 and 7 Combined License application (if applicable).

The response to the Question No. 02.04.02-2 in referenced letter is scheduled to be provided by September 20, 2010. FPL will keep the NRC Project Manager informed of the proposed schedule.

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 September 1, 2010

Sincerely,

William Maher
Senior Licensing Director – New Nuclear Projects

Attachments:
1. FPL Response to Question No. 02.04.02-1 (eRAI 4806)
2. FPL Response to Question No. 02.04.02-3 (eRAI 4806)

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

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NRC RAI Letter No. PTN-RAI-LTR-002

SRP Section: 02.04.02 – Floods

Question from Hydrologic Engineering Branch

Question Number: 02.04.02-1 (eRAI 4806)

With respect to the application's analysis of probable maximum precipitation (PMP), the applicant's evaluation of more recent data included information from only one rainfall station. Describe to what extent, if at all, additional rainfall data compiled at other locations throughout Florida in the years since Hydrometeorological Report (HMR) 51 and HMR 52 were published would influence the applicability of these methods.

FPL RESPONSE:

The evaluation of more recent rainfall data referenced in the RAI was performed and described in the response to Hydrology Information Need HA-03 provided in FPL Letter to NRC L-2010-087 Attachment 1, dated April 30, 2010. The response provided for HA-03 and the associated COL application revision indicated that additional rainfall records in the vicinity of the site were investigated and that the records do not reflect significant rainfall events that would possibly influence the information presented in HMRs 51 and 52. The additional rainfall data was obtained from three rainfall stations (Station 084091, Homestead Exp STN, FL, Station 087760, Royal Palm Ranger Station, FL, and Station 087020, Perrine 4W, FL) as indicated in Reference 215 of the COL application revision.

In response to this RAI, rainfall records from six additional Florida stations (Station 081716 Miami 12 SSW, FL 1931-1958, Station 085678 Miami 12 SSW, FL 1958-1988, Station 085663 Miami WSCMO Airport, FL, Station 085658 Miami Beach, FL, Station 083909 Hialeah, FL and Station 088780 Tamiami Trail 40 MI BEN, FL) have been reviewed. The review of these data does not alter the response and associated COL application revision provided to HA-03. The COL application revision provided in response to HA-03 is included in COL application Revision 1 and will not be revised. An additional reference will be included to account for the additional rainfall stations in a future COL application revision. The additional reference is included below.

References:

Southeast Regional Climate Center, Climate Data, Station 081716 Miami 12 SSW, FL 1931-1958, Station 085678 Miami 12 SSW, FL 1958-1988, Station 085663 Miami WSCMO Airport, FL, Station 085658 Miami Beach, FL, Station 083909 Hialeah, FL and Station 088780 Tamiami Trail 40 MI BEN, FL. Available at: http://www.sercc.com/climateinfo/historical/historical_fl.html, accessed July 2, 2010.

This response is PLANT SPECIFIC.

ASSOCIATED COLA REVISIONS:

The last sentence of the first paragraph of Subsection 2.4.2.3.1 will be revised in a future COL application revision to add Reference 216 as follows:

> Rainfall records near the site also indicate that no large rainfall events have occurred since the publication of HMR 51 and HMR 52 that would potentially influence the information presented in these publications (References 215 **and 216**).

Reference 216 will be added to Subsection 2.4.2.4 in a future COL application revision as follows:

216. Southeast Regional Climate Center, Climate Data, Station 081716 Miami 12 SSW, FL 1931-1958, Station 085678 Miami 12 SSW, FL 1958-1988, Station 085663 Miami WSCMO Airport, FL, Station 085658 Miami Beach, FL, Station 083909 Hialeah, FL and Station 088780 Tamiami Trail 40 MI BEN, FL. Available at: http://www.sercc.com/climateinfo/historical/historical_fl.html, accessed July 2, 2010.

ASSOCIATED ENCLOSURES:

None

NRC RAI Letter No. PTN-RAI-LTR-002 Dated August 2, 2010

SRP Section: 02.04.02 – Floods

Question from Hydrologic Engineering Branch

Question Number: 02.04.02-3 (eRAI 4806)

With respect to the application's analysis of combined flood events, describe the reasons for selecting the particular combination, including the decision not to include a hurricane event. The section "Combined Events Criteria" in SRP Section 2.4.2 states: "The staff reviews the worst flooding at a site that may result from a reasonable combination of individual flooding mechanisms. Some or all of these individual mechanisms could be less severe than their worst-case occurrence but the combination may exceed the most severe flooding effects from the worst-case occurrence of any single mechanism." Consistent with that guidance, describe why the combination of events considered represents a conservative assessment that bounds the range of credible combinations of flooding events for Turkey Point Units 6 & 7.

FPL RESPONSE

FPL Letter to NRC L-2010-087 Attachment 10, dated April 30, 2010 associated with Hydrology Information Need HA-16 indicated that the local probable maximum precipitation (PMP) flood analysis considers a coincident occurrence of a 500-year flood level in Biscayne Bay. The 500-year flood in Biscayne Bay would be the result of a hurricane event and thus, hurricane events have been considered for combined flood events.

The flood level associated with a probable maximum storm surge (PMSS) as a result of the probable maximum hurricane (PMH) was not considered coincident with the peak discharge and flood level from the local PMP because the probability of occurrence of a PMSS (including 10% exceedance high tides) at a particular site is on the order of 2.4×10^{-12} and the probability of the occurrence of a PMP on a specific watershed is on the order of 1.0×10^{-5} (Reference 1). The combined probability of a coincident event would be on the order of 2.4×10^{-17}. A probability of 1×10^{-7} is considered to be near zero (Reference 1). Consequently, the probability of the peak discharge from a local PMP occurring simultaneously with the peak PMSS water level in Biscayne Bay was determined to be not credible for design purposes.

However, even in the unlikely event that the water level associated with the PMSS could occur simultaneously with peak discharges from the local PMP, there would be no impact to the safety functions of the plant. As reported in FSAR Section 2.4.5, the peak PMSS water level in Biscayne Bay is at elevation 21.1 feet NAVD 88, which is below the eastern and western edges of the site perimeter retaining wall at elevation 21.5 ft NAVD 88, where local runoff flows are discharged over the wall. Thus, precipitation runoff

flowing over the wall and the resulting flood levels upstream in the power block area are not influenced by the PMSS elevation in Biscayne Bay for any storm event.

A COL application revision was included with the response to HA-16 and is included in COL application Revision 1. As a result of this RAI, the COL application will be further revised to include additional wording regarding the consideration of combined events including PMSS elevations in Biscayne Bay in a future COL application revision.

References:

1. American National Standards Institute /American Nuclear Society, *American National Standard for Determining Design Basis Flooding at Nuclear Reactor Sites*, Appendix B, ANSI/ANS-2.8-1992, 1992.

This response is PLANT SPECIFIC.

ASSOCIATED COLA REVISIONS

The fifth paragraph of FSAR Subsection 2.4.2.3.2 will be revised in a future COL application revision as follows:

> The local PMP analysis considered the combined event of a preceding large precipitation event such as a 40% local PMP with the assumption of saturated ground conditions and no available storage volume in the makeup water reservoir at the beginning of the local PMP event. Additionally, high water levels in the industrial wastewater facility as a result of flooding events in the Atlantic Ocean and Biscayne Bay were also considered. ~~However, a~~ **A**s indicated in Subsection 2.4.3, the 500-year flood level in ~~the~~ Biscayne Bay is elevation 10.8 feet NAVD 88, which is more than 10 feet below the eastern and western edges of the site perimeter retaining wall at elevation 21.5 feet NAVD 88, where local PMP flows are discharged over the retaining wall. ~~Thus, the flood elevations in the industrial waste water facility and Biscayne Bay do not influence the local PMP water levels in the power block area.~~
>
> **Even if the highly unlikely combined event of the probable maximum storm surge (PMSS) associated with the probable maximum hurricane (PMH) in the Atlantic Ocean and Biscayne Bay is considered coincident with the peak discharge from the local PMP, there would be no impact to the safety functions of the plant. As indicated in FSAR Section 2.4.5, the PMSS water level at the site is elevation 21.1 feet NAVD 88, which is below the top of the eastern and western edges of the perimeter retaining wall. Thus, precipitation runoff flowing over the retaining wall and the resulting flood elevations in the power block area are not influenced by the PMSS elevation in Biscayne Bay and the industrial wastewater facility.**

ASSOCIATED ENCLOSURES

None