PMTurkeyCOLPEm Resource

From: Comar, Manny
Sent: Friday, November 12, 2010 2:09 PM
To: Antonio Fernandez; orthen, Richard; TurkeyCOL Resource; William Maher
Cc: Comar, Manny
Subject: Draft RAI 5233 related to SRP Section 02.04.05 - Probable Maximum Surge and Seiche Flooding for the Turkey Point Units 6 and 7 combined license application.
Attachments: draft RAI 5233_TPN.doc

To All,

Attached is the draft of RAI No:5233, regarding section 02.04.05 Probable Maximum Surge and Seiche Flooding for the Turkey Point Units 6 and 7 combined license application.

If you need a conference call to discuss the question(s) of the draft RAIs please contact me at 301-415-3863. Unless you request additional clarification we will normally issue the RAI as final within 3 to 5 days, from today.

Thanks

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Hearing Identifier: TurkeyPoint_COL_Public
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Subject: Draft RAI 5233 related to SRP Section 02.04.05 - Probable Maximum Surge and Seiche Flooding for the Turkey Point Units 6 and 7 combined license application.
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Request for Additional Information No. 5233

Turkey Point Units 6 and 7
Florida P and L
Docket No. 52-040 and 52-041
SRP Section: 02.04.05 - Probable Maximum Surge and Seiche Flooding
Application Section: FSAR 2.4.5

QUESTIONS from Hydrologic Engineering Branch (RHEB)

02.04.05-***

The NRC staff reviewed the applicant's reasoning regarding the potential for natural oscillations within the Biscayne Bay to produce a resonance. The application discusses seismic forcing and acknowledges the possibility of atmospheric forcing as a contributor to seiche oscillation; please discuss the possible role of ocean currents (such as the Florida Current) in contributing to oscillations (see Soloviev et al. 2003 and Davis et al. 2008).

Provide sufficient reasoning and analysis to demonstrate that natural oscillations in the Biscayne Bay would not coincide with other phenomena to produce flooding that could adversely affect the safety-related facilities of Units 6 and 7. Demonstrate that all potential natural causes of oscillation are accounted for, and provide details for any quantitative analyses, calculations, and comparisons.

References

Davis, K. A., J. J. Leichter, J. L. Hench, and S. G. Monismith (2008), Effects of western boundary current dynamics on the internal wave field of the Southeast Florida shelf, *J. Geophys. Res.*, 113, C09010, doi:10.1029/2007JC004699.

Soloviev, Alexander V., Mark E. Luther and Robert H. Weisberg. 2003. Energetic baroclinic super-tidal oscillations on the southeast Florida shelf. *Geophysical Research Letters*, v. 30, no. 9, 1463, doi:10.1029/2002GL016603

02.04.05-***

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.

02.04.05-***

The Applicant's analysis of long-term sea-level rise is based on a linear extrapolation of historical sea-level changes measured at Miami Beach, Florida. Please explain whether a linear extrapolation of sea-level records is conservative compared to a nonlinear model extrapolation approach (e.g., Walton, 2007, etc.). Provide analysis of the effect of a nonlinear model of the future rate of sea-level rise on PMF water levels at Units 6 and 7 resulting from PMH-related storm surge.

References

Walton, Todd L, Jr. 2007. Projected sea level rise in Florida. *Ocean Engineering* 34: 1832-1840. doi:10.1016/j.oceaneng.2007.02.003.