PMLevyCOLPEm Resource

From: Anderson, Brian
Sent: Wednesday, January 27, 2010 3:42 PM
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Subject: DRAFT RAI - SRP section 2.4.6 - Levy County Units 1 and 2 Combined License Application
Attachments: LNP Draft RAI 4217 - 2.4.6.doc

Importance: High

Attached is a draft RAI related to SRP section 2.4.6 for the Levy County Units 1 and 2 Combined License Application. Please let me know if you would like to schedule a conference call to discuss this RAI.

Thank you,
Brian

Brian Anderson
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Request for Additional Information No. 4217
Levy County, Units 1 and 2
Progress Energy Florida, Inc.
Docket No. 52-029 and 52-030
SRP Section: 02.04.06 - Probable Maximum Tsunami Flooding
Application Section: FSAR Section 2.4

QUESTIONS for Hydrologic Engineering Branch (RHEB)

02.04.06-***

To meet the requirements of GDC 2, 10 CFR 52.17, and 10 CFR Part 100, the applicant must provide an assessment of the Probable Maximum Tsunami (PMT) for the proposed site. Section C.I.2.4.6.1 of Regulatory Guide 1.206 (RG 1.206) provides specific guidance with respect to determination of the PMT. This includes a discussion of the most reasonably severe geo-seismic activity possible and corresponding tsunami analysis. The PMT runup indicated in the response to RAI 2.4.6-01 does not agree with either the uncorrected or corrected PMT runup values indicated in the applicant's responses to RAI 2.4.6-06 (Tables 1 and 2), RAI 2.4.6-08 (Table 3), and RAI 2.4.6-10 (Table 1). Clarify the PMT runup value in Section 2.4.6.1 of the FSAR or justify why this clarification is not needed.

02.04.06-***

To meet the requirements of GDC 2, 10 CFR 52.17, and 10 CFR Part 100, the applicant must provide an assessment of the Probable Maximum Tsunami (PMT) for the proposed Levy County site. Section C.I.2.4.6.2 of Regulatory Guide 1.206 (RG 1.206) provides specific guidance with respect to the historical tsunami record, including paleo-tsunami evidence. The applicant indicates that site-specific borings lead them to conclude that there is no geologic evidence of paleo-tsunami or tsunami-like deposits in the vicinity of the Levy County site. Provide additional details of the sedimentological analysis used to arrive at this conclusion, including the thickness of sand layers that the methods used were capable of detecting, and cross reference to applicable parts of FSAR Section 2.5.

02.04.06-***

To meet the requirements of GDC 2, 10 CFR 52.17, and 10 CFR Part 100, the applicant must provide an assessment of the Probable Maximum Tsunami (PMT) for the proposed site. Section C.I.2.4.6.3 of Regulatory Guide 1.206 (RG 1.206) provides specific guidance with respect to the source characteristics needed to determine the PMT. These characteristics include detailed geo-seismic descriptions of the controlling local tsunami generators, including location, source dimensions, and maximum displacement.

1. The applicant is inconsistent in their characterization of the Mississippi Canyon and Florida Escarpment tsunami sources. On page 9-10, the applicant appears to discount the tsunami potential based on the date of the last landslides in those regions. In the rest of their response, they indicate that these sources are used for PMT determination (and, in fact, the Mississippi Canyon is the applicant's controlling PMT source). Clarify that the Mississippi Canyon and Florida Escarpment are considered to be significant potential sources for PMT determination.

2. The applicant indicates identical source parameters for “Florida Escarpment” and “Slope above the Florida Escarpment” in Table 1 of their response to RAI 2.4.6-06. However, the water depth in these two regions is different. Explain this apparent discrepancy, or justify why the entries in Table 1 are correct.

02.04.06-***

To meet the requirements of GDC 2, 10 CFR 52.17, and 10 CFR Part 100, the applicant must provide an assessment of the Probable Maximum Tsunami (PMT) for the proposed Levy County site. Section C.I.2.4.6.3 of Regulatory Guide 1.206 (RG 1.206) provides specific guidance with respect to the source characteristics needed to determine the PMT. These characteristics include detailed geo-seismic descriptions of the controlling distant tsunami generators, including location, source dimensions, fault orientation, and maximum displacement. Clarify the location of “15-20 earthquakes of magnitude 7 or greater…near Veracruz” indicated in the applicant’s response to RAI 2.4.6-07, in terms of tsunami potential for the Gulf of Mexico versus the Pacific Ocean. Provide the information source for this statement.

02.04.06-***

To meet the requirements of GDC 2, 10 CFR 52.17, and 10 CFR Part 100, the applicant must provide an assessment of the Probable Maximum Tsunami (PMT) for the proposed Levy County site. Section C.I.2.4.6.4 of Regulatory Guide 1.206 (RG 1.206) provides specific guidance with respect to tsunami analysis. This includes providing a complete description of the analysis procedure used to calculate tsunami wave height and period at the site, including the theoretical bases of the models, their verification and the conservatism of all input parameters. Provide additional details regarding new methodology for tsunami analysis described in response to RAI 2.4.6-08. This discussion should specifically include (1) the basis for source amplitude formulae (they are not contain in Silver et al., 2009); (2) clarify what is meant by "wave amplitude onshore cannot exceed its estimated runup height at shore” (statement is incorrect using standard tsunami terminology); (3) definition of variable Co in equations 17 and 18.