

PMLevyCOLPEm Resource

From: Anderson, Brian
Sent: Thursday, January 28, 2010 8:54 AM
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Cc: PMLevyCOLPEm Resource
Subject: DRAFT RAI - SRP section 2.5.2 - Levy County Units 1 and 2 Combined License Application
Attachments: LNP Draft RAI 4283 - 2.5.2.doc

Importance: High

Attached is a draft RAI related to SRP section 2.5.2 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

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Options

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Request for Additional Information No. 4283
Levy County, Units 1 and 2
Progress Energy Florida, Inc.
Docket No. 52-029 and 52-030
SRP Section: 02.05.02 - Vibratory Ground Motion
Application Section: 2.5.2

QUESTIONS for Geosciences and Geotechnical Engineering Branch 2 (RGS2)

02.05.02-***

FSAR Subsections 2.5.2.2.2.5 and 2.5.2.4.1 state that you used the South Texas Project (STP) approach in updating the EPRI-SOG seismic source parameters for the Gulf Coast seismic zones. The STP 3 & 4 FSAR incorporated contributions from seismic sources in the Gulf of Mexico through an update of the seismicity catalog and the maximum magnitude probability distributions of Gulf of Mexico source zones for five of the six EPRI-SOG Earth Science Teams (ESTs) based on the occurrence of two moderate 2006 earthquakes (mb 5.5 and 6.1) in the Gulf of Mexico. The original probabilities and updates are shown in Levy FSAR Table 2.5.2-209.

In response to STP RAI 2.5.2-21 (ADAMS Accession No. ML092170354), the staff received details of the process that resulted in the updates to Mmax. That RAI response (ML092710096) describes the STP approach and states that the SSHAC TI team's original recommendation was for a Mmax distribution that ranged from magnitude (mb) 6.1 to 7.2 (6.1 [0.1], 6.6 [0.4], 6.9 [0.4], 7.2 [0.1]). The weighted average of this Mmax distribution is mb 6.73. However, the SSHAC peer review panel did not approve of this Mmax distribution on the bases that "the Mmax value used by the USGS was not developed through a formal SSHAC process, was not intended to capture the 'legitimate range of technically supportable interpretations among the entire informed technical community' (NUREG/CR-6372, page 6), and was primarily developed to reflect hazard associated with the short return periods of building codes." Instead the SSHAC peer review panel recommended that the individual Mmax distributions for five of the six ESTs Gulf source zones be updated. The weighted average of the updated Mmax values for the five ESTs is mb 6.14.

Concerning the adopted Mmax distributions for the Gulf of Mexico source zones, the staff requests the following:

1. Please provide details and the basis for updating Mmax for the EPRI ESTs Mmax distributions, as shown in FSAR Table 2.5.2-209. Include a description of the updated information that will be incorporated into the FSAR.
2. Provide justification for rejecting the USGS Mmax value (mb 7.2) as representing a legitimate end member of the informed technical community.
3. Provide justification for not adopting the original TI team's Mmax distribution. The TI team's original recommendation was for a Mmax distribution that ranged from magnitude (mb) 6.1 to 7.2, not solely a single value mb 7.2, on which the USGS 2002 National Hazard Map places a weight of 1.0. There is a significant difference between the two weights (0.1 for TI team versus 1.0 for USGS) for the Mmax value of mb 7.2.
4. The weighted average of the adopted Mmax distributions for the five ESTs that had updated values is just mb 6.14. This is about the same magnitude (mb 6.1) as the September 10, 2006 Gulf earthquake. Considering this result, provide justification for the modest updates to the Mmax values for five of the six ESTs Gulf Coast models.
5. In view of the two 2006 Gulf Coast earthquakes, describe how the limited Woodward Clyde Consultant's source model adequately characterizes the hazard for the Gulf.