PMLevyCOLPEm Resource

From:	Spicher, Terri
Sent:	Monday, February 22, 2010 11:00 AM
To:	Spicher, Terri; 'robert.kitchen@pgnmail.com'; 'david.waters@pgnmail.com'; 'tillie.wilkins@pgnmail.com'
Cc:	Anderson, Brian; Thomas, Brian; Park, Sunwoo; Thomas, Vaughn; Patel, Pravin; LevyCOL Resource
Subject:	DRAFT RAIs - SRP sections 3.7.2 - Levy County Units 1 and 2 Combined License Application
Attachments:	Draft RAI 4384 LC 3.7.2 Feb 2010.doc; Draft RAI 4370 LC 3.7.2 Feb 2010.doc

Attached are draft RAIs related to SRP sections 3.7.2 for Levy County Units 1 and 2 Combined License Application. This concludes all the additional RAIs for 3.7 and 3.8.

Please let me know if you would like to schedule a conference call to discuss these RAIs.

Thank you,
Terri

Terri Spicher
301-415-1670
Project Manager, AP1000 Projects Branch 1
Office of New Reactors
U.S. Nuclear Regulatory Commission

Hearing Identifier: Levy_County_COL_Public
Email Number: 605

Mail Envelope Properties (AF843158D8D87443918BD3AA953ABF780A5849DB01)

Subject: DRAFT RAIs - SRP sections 3.7.2 - Levy County Units 1 and 2 Combined License Application
Sent Date: 2/22/2010 11:00:29 AM
Received Date: 2/22/2010 11:00:29 AM
From: Spicher, Terri

Created By: Terri.Spicher@nrc.gov

Recipients:
"Anderson, Brian" <Brian.Anderson@nrc.gov>
Tracking Status: None
"Thomas, Brian" <Brian.Thomas@nrc.gov>
Tracking Status: None
"Park, Sunwoo" <Sunwoo.Park@nrc.gov>
Tracking Status: None
"Thomas, Vaughn" <Vaughn.Thomas@nrc.gov>
Tracking Status: None
"Patel, Pravin" <Pravin.Patel@nrc.gov>
Tracking Status: None
"LevyCOL Resource" <LevyCOL.Resource@nrc.gov>
Tracking Status: None
"Spicher, Terri" <Terri.Spicher@nrc.gov>
Tracking Status: None
"'robert.kitchen@pgnmail.com'" <robert.kitchen@pgnmail.com>
Tracking Status: None
"'david.waters@pgnmail.com'" <david.waters@pgnmail.com>
Tracking Status: None
"'tillie.wilkins@pgnmail.com'" <tillie.wilkins@pgnmail.com>
Tracking Status: None

Post Office: HQCLSTR02.nrc.gov

Files	**Size**	**Date & Time**
MESSAGE	450	2/22/2010 11:00:29 AM
Draft RAI 4384 LC 3.7.2 Feb 2010.doc	29690	
Draft RAI 4370 LC 3.7.2 Feb 2010.doc	29178	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

Request for Additional Information No. 4384 Revision 0

Levy County, Units 1 and 2
Progress Energy Florida, Inc.
Docket No. 52-029 and 52-030
SRP Section: 03.07.02 - Seismic System Analysis
Application Section: 3.7.2

QUESTIONS for Structural Engineering Branch 1 (AP1000/EPR Projects) (SEB1)

03.07.02-***

AP1000 DCD (Revision 17) Section 2.5.2.3 addresses site-specific seismic evaluation that should be performed by the Combined License applicant if site-specific design response spectra exceeds the CSDRS or if site soil conditions are outside the range evaluated for AP1000 design certification.

According to the applicant's response to RAI Question 03.07.01-1 (RAI # 2318; NRC Letter # 046), the site-specific surface design response spectra exceeds the CSDRS in vertical motion at the LNP site. Although the applicant views that CSDRS-based in-structure response spectra would envelop the corresponding site-specific FIRS-based in-structure response spectra, no quantitative evaluation has been provided to justify the view. As for site soil conditions, no subsurface profile considered in the AP1000 DCD is similar to that of the LNP site which is characterized by stiff material immediately under the NI basemat with soft material to the sides. In addition, the design and analysis of AP1000 is based on subsurface conditions with uniform properties within horizontal layers, and the RAI response (cited above) does not fully justify this assumption of lateral uniformity of subsurface conditions.

The applicant is requested to provide detailed site-specific seismic evaluation of NI structures and those surrounding structures that may impact the safety function of NI structures. The evaluation should fully incorporate the effects of soil-structure interaction and meet the Acceptance Criteria 4 of SRP Section 3.7.2. If such site-specific seismic evaluation will not be done, the applicant should provide technical justification for not doing so.

Request for Additional Information No. 4370 Revision 1

Levy County, Units 1 and 2
Progress Energy Florida, Inc.
Docket No. 52-029 and 52-030
SRP Section: 03.07.02 - Seismic System Analysis
Application Section: 3.7.2

QUESTIONS for Structural Engineering Branch 1 (AP1000/EPR Projects) (SEB1)

03.07.02-***

LNP FSAR Figure 2.5.4.5-201B indicates that a cementitious fill will be placed adjacent to the NI structures and fill the region between the NI structures and the diaphragm wall. FSAR Section 3.7.2.8 indicates that structure to structure interaction will not occur since the gap between the NI and adjacent structures is larger than the expected movement based on the maximum displacement seen in the GMRS. The construction details provided in Figure 2.5.4.5-201B indicate that the adjacent buildings rest on the diaphragm wall. Since there is no gap between the diaphragm wall and NI, it appears that the construction detail does not provide a gap as required by the AP1000 DCD.

The GMRS is a ground motion which has been developed based on a UHRS motion modified by a scale factor to account for the fragility inherent in the structural system. However, the level of relative displacement that is expected to occur at the ground surface is the displacement that is associated with the UHRS at the performance goal level without the scale factor included.

1. Please provide the basis, including details of construction (diaphragm wall, cementitous fill, location of adjacent structures, etc.), for neglecting potential coupling between the NI and the adjacent structures. If a gap is to be provided, please provide the construction detail of this joint that demonstrates that a gap is in fact assured over the life span of the facility.

2. Please provide the basis for the use of the GMRS associated displacement in lieu of that associated with the performance goal level UHRS.