BellBendCOLPEm Resource

From: Canova, Michael
Sent: Monday, March 01, 2010 9:15 AM
To: 'Sgarro, Rocco R'; 'BBNPP@pplweb.com'; 'Freels, James'; 'melanie.Frailer@unistarnuclear.com'
Cc: BellBendCOL Resource; Colaccino, Joseph
Subject: Bell Bend COLA - Draft Request for Information No. 75 (RAI No. 75)- SEB1 - 2505
Attachments: Draft RAi Letter 75 - SEB1 2505.doc

Attached is DRAFT RAI No. 75 for the Bell Bend COL Application. You have ten working days to review this request and to decide whether you need an additional conference call to discuss it. Please notify me of your decision in this regard.

After the call, or after ten days, the RAI will be finalized and sent to you. The schedule for submittal will be established prior to formalizing this RAI .

If you have any questions, please contact me.
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Michael A. Canova
Project Manager - Bell Bend COL Application
Docket 52-039
EPR Project Branch
Division of New Reactor Licensing
Office of New Reactors
301-415-0737

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Request for Additional Information No. 75
Application Revision 0

DRAFT

3/1/2010

Bell Bend
PPL Bell Bend LLC.
Docket No. 52-039
SRP Section: 03.08.03 - Concrete and Steel Internal Structures of Steel or Concrete Containments
Application Section: 3.8.3.3

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

03.08.03-1

For COL information item COL 3.8(2) in the BBNPP COL FSAR, Subsection 3.8.3.3, ”Loads and Load Combinations” (SRP Section 3.8.3), the applicant states in the third paragraph (Page 3-177) that “Site specific RCB [Reactor Containment Building] internal structures design loads have been confirmed to lie within the standard U.S. EPR design certification envelope with the exception of design loads resulting from the BBNPP site specific seismic response spectra and soil profiles described in Section 3.7.1. Additional confirmatory evaluations for the site specific seismic response spectra have been performed as noted below and confirm that the RCB internal structures are acceptable for the BBNPP site:

• BBNPP site specific NI Common Base Mat Structure foundation soil spring values are enveloped by the standard U.S. EPR design certification soil spring values.

• BBNPP site specific NSSS support loads are enveloped by the standard U.S. EPR design certification NSSS support loads.

• The BBNPP site specific ZPA values for the RCB internal structures are enveloped by the standard U.S. EPR design certification ZPA values for the RCB internal structures.”

Also, in BBNPP COL FSAR, Subsection 3.7.1.1.1, “Design Ground Motion Response Spectra”, the first paragraph (Page 3-33) states “A comparison of the BBNPP GMRS versus the CSDRS for five percent damping anchored at 0.30g is shown in Figure 3.7-1 and Figure 3.7-2. As shown, the CSDRS [Certified Seismic Design Response Spectra] are exceeded by the BBNPP GMRS in both the horizontal and vertical directions.”

The applicant is requested to provide the following information:

1. Provide the technical basis that supports the conclusion that the three additional evaluations listed in the first paragraph quoted above (the three bullets) demonstrate that the response of the RCB internal structures for BBNPP is enveloped by that of U.S. EPR.

2. The elevation of the water table is about 30 ft. above the elevation of the bottom of the NI foundation basemat. The SSI analysis performed in US-EPR does not appear to have considered the effect of this high water table.

   Provide the technical basis that supports the conclusion that the effect of high water table is negligible, and that the results of US-EPR are applicable to BBNPP RCB internal structures.
3. Are there equipment items that are sensitive to high frequency excitations? If so, describe these and describe how they are designed to accommodate the seismic loads.
4. In BBNPP COL FSAR, Subsection 3.7.1.1 under the title of "Reactor Coolant System" (first paragraph in Page 3-31), the applicant states that "BBNPP site-specific time history analyses are performed to approximately 40 seconds using input at 0.005 second intervals. Sensitivity evaluation confirms the integration time step used, 0.0005 seconds, is adequate."

   Explain how the time histories used in these analyses were generated? Provide damping values assumed for the structures in these analyses.
5. In BBNPP COL FSAR, Subsection 3.7.1.1 under the title of "RPV Internals" (Page 3-31), the applicant states that "Site-specific time histories are developed from the site specific GMRS/FIRS and the site-specific best estimate, lower bound, and upper bound soil profiles."

Provide information for these site-specific time histories, their duration, time steps, and the target response spectra to which they are matched.