CCNPP3COLA PEmails

From: Arora, Surinder
Sent: Tuesday, September 15, 2009 3:10 PM
To: Poche, Robert; Jennifer.McQueeney@unistarnuclear.com; michael.stevenson@unistarnuclear.com
Cc: CCNPP3COL Resource; Chakrabarti, Samir; Samaddar, Sujit; Miernicki, Michael; Colaccino, Joseph; Biggins, James; Vrahoretis, Susan; Hair, Christopher
Subject: CCNPP3 - DRAFT RAI 180 SEB2 3701
Attachments: Draft RAI 180 SEB2 3701.doc

Rob,

Attached is DRAFT RAI No. 180 (eRAI No. 3701). You have until September 29, 2009 to review it and decide whether you need a conference call to discuss it before the final issuance. After the call or after September 29, 2009, the RAI will be finalized and sent to you for response. You will then have 30 days to respond.

Thanks.

SURINDER ARORA, PE
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US Nuclear Regulatory Commission

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Hearing Identifier: CalvertCliffs_Unit3Cola_Public_EX
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Subject: CCNPP3 - DRAFT RAI 180 SEB2 3701
Sent Date: 9/15/2009 3:10:04 PM
Received Date: 9/15/2009 3:10:05 PM
From: Arora, Surinder

Created By: Surinder.Arora@nrc.gov

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Tracking Status: None
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Post Office: HQCLSTR01.nrc.gov

Files	**Size**	**Date & Time**
MESSAGE	555	9/15/2009 3:10:05 PM
Draft RAI 180 SEB2 3701.doc	30202	

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

Request for Additional Information No. 180 (eRAI 3701)
DRAFT
9/15/2009

Calvert Cliffs Unit 3
UniStar
Docket No. 52-016
SRP Section: 03.07.02 - Seismic System Analysis
Application Section: FSAR Section 3.7.2

QUESTIONS for Structural Engineering Branch 2 (ESBWR/ABWR Projects) (SEB2)

03.07.02-40

Follow-up Question to RAI No. 65, Question 03.07.02-15

Overall, the weighted average process described by the applicant in its response to RAI No. 65, Question 03.07.02-15 appears to provide a systematic method for taking the accelerations obtained from the dynamic analysis and applying them to the static model to obtain forces and moments for structural design. However, it is not clear when calculating the weighted average, if the actual sign at a particular mass point is considered in the summation. For example, it appears from the bubble plot for acceleration in the Y direction due to a Z direction earthquake that the structure is rocking about the X axis. Presumably this results in positive Y accelerations on one side of the slab and negative Y accelerations on the other side. Summing these could result in a small weighted average for the slab in the Y direction due to an earthquake in the Z direction. The applicant is requested to clarify if the absolute or signed acceleration values are used in the weighted average calculation. If the signed acceleration values are used, the applicant needs to address why this is acceptable as this could underestimate the actual slab bending forces due to the overturning effect of the earthquake. A similar situation can arise regarding accelerations in the X and Z directions when structure twists about the Y axis.

03.07.02-41

Follow-up Question to Partial Response to RAI No. 65, Question 03.07.02-18

The staff reviewed the partial response to RAI No. 65, Question 03.07.02 -18 submitted by the applicant in its letter UN#09-329 dated July 29, 2009. The staff's assessment only addresses the response regarding the seismic classification of the Fire Protection Building and Fire Protection Tanks. The other issues addressed in the original question have a future response date. In its response the applicant has provided a revision to the CCNPP FSAR which clarifies the change of seismic category for portions of the fire protection system that must remain functional from conventional seismic as stated in the U.S. EPR FSAR to Seismic Category II-SSE, and identified the fire protection systems under this category. In its response the applicant has also stated that certain portions of the fire protection system are only required to remain intact after a safe shutdown earthquake (SSE) without deleterious interaction with Seismic Category I or Seismic Category II-SSE components and classified them as Seismic Category II, but did not identify which systems fall under this category. The applicant is requested to identify and include in the FSAR the Seismic Category II portions of the fire protection structures, systems and components.