

## CCNPP3eRAIPEm Resource

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**From:** Arora, Surinder  
**Sent:** Wednesday, May 23, 2012 8:45 AM  
**To:** Infanger, Paul; UNECC3Project@unistarnuclear.com  
**Cc:** CCNPP3eRAIPEm Resource; Segala, John; Xu, Jim; Wilson, Anthony; Vrahoretis, Susan; Thomas, Brian; Ford, Tanya; McLellan, Judith  
**Subject:** FW: CCNPP3 - Draft RAI 353 SEB2 6477  
**Attachments:** Draft RAI 353 SEB2 6477.doc

**RESENT with the Corrected SUBJECT LINE. No other change.**

**SURINDER ARORA, PE**  
**PROJECT MANAGER,**  
**Office of New Reactors**  
**US Nuclear Regulatory Commission**

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**From:** Arora, Surinder  
**Sent:** Wednesday, May 23, 2012 8:40 AM  
**To:** 'Infanger, Paul'; 'UNECC3Project@unistarnuclear.com'  
**Cc:** CCNPP3eRAIPEm Resource; Segala, John; Xu, Jim; Wilson, Anthony; Vrahoretis, Susan; Thomas, Brian; Ford, Tanya; McLellan, Judith  
**Subject:** CCNPP3 - Draft RAI 353 SEB2 6477

Paul,

Attached is DRAFT RAI No. 353 (eRAI No. 6477) pertinent to section 19.1 of the Calvert Cliffs Unit 3 FSAR. You have until June 7, 2012 to review it and decide whether you need a conference call to discuss the RAI before the final issuance. After the phone call or after June 7, 2012, the RAI will be finalized and sent to you for your response. You will then have 30 days to provide a technically complete response or an expected response date for the RAI.

**NOTE: THIS IS A PHASE 4 RAI AND IS A FOLLOW UP TO RAI 313, Question 19-26.**

Thanks

**SURINDER ARORA, PE**  
**PROJECT MANAGER,**  
**Office of New Reactors**  
**US Nuclear Regulatory Commission**

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**Email Number:** 209

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**From:** Arora, Surinder

**Created By:** Surinder.Arora@nrc.gov

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Request for Additional Information No. 353 (eRAI 6477)  
DRAFT  
5/23/2012

Calvert Cliffs Unit 3  
UniStar

Docket No. 52-016

SRP Section: 19.01 - Determining the Technical Adequacy of Probabilistic Risk Assessment Results for  
Risk-Informed

Application Section: srp 19

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

19.01-1

**This RAI Question is supplementary to previous RAI 313, Question 19-26.**

The staff has reviewed the response to RAI 313, Question 19-26 and finds it inadequate with respect to the following:

1. The response stated that the GMRS is anchored to a PGA of 0.076g which is inconsistent with a previous response to RAI 160, Question 19-19 which stated that the CCNPP Unit 3 ground motion response spectra (GMRS) peak ground acceleration is 0.084 g.
2. The PRA-based SMA performed for the EPR design certification (DC) application includes a seismic model with accident sequences which addressed the DC portion of EPR plant. In accordance with ISG-20 (ML1004912330), the scope of COL application is to update the DC system model to incorporate the COL portion of the EPR plant and to reflect the site-specific and plant specific features. The response only made a statement "Possible effects of site soil failures on the U.S. EPR FSAR accident sequences need not be assessed." But it did not address other aspects of system model update such as plant specific design features within the scope of COL application. In addition, the COL updating cannot be completed until the DC PRA-based analysis is completed.
3. The DC fragility analysis is based on the assumed site parameters and typically does not consider soil related failure modes. Therefore, the HCLPF (high confidence low probability of failure) capacity for the EPR DC portion of Structures, Systems and Components (SSCs) was established at 0.5g PGA (Based on CSDRS shapes). It is not clear in the response whether the applicant is confirming the plant level seismic capacity at 1.67 times CSDRS HCLPF capacity or at the site-specific 1.67 times GMRS HCLPF capacity for the Calvert Cliff site.
4. The DC fragility analysis establishes the HCLPF capacity for the SSCs in system model at 1.67 times CSDRS using a generic site which does not address site-specific soil failures. Therefore, for soil site, the applicant needs to confirm whether the DC HCLPF calculations remain valid for the site or update them using the site-

specific GMRS to confirm the plant level HCLPF at 1.67 times GMRS. It is not clear from the response that the applicant has done it. In addition, AREVA has not yet completed the DC fragility analysis for the SSCs. Therefore, it may not be possible for the applicant to perform the fragility update until the DC's analysis is complete.

The staff requests that the applicant provide additional information to address the issues raised above and provide auditable references to analyses/calculations in support of the updating process. The staff requests that the applicant provide a proposed markup of FSAR changes for the staff review.