

## CCNPP3COLA PEmails

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**From:** John Rycyna  
**Sent:** Thursday, April 30, 2009 10:24 AM  
**To:** Poche, Robert; McQueeney, Jennifer; katie.thurstin@unistarnuclear.com  
**Cc:** CCNPP3COL Resource; Samir Chakrabarti; Jim Xu; Michael Miernicki; Joseph Colaccino; James Biggins; Adam Gendelman  
**Subject:** RAI No 112 SEB 2574.doc (PUBLIC)  
**Attachments:** RAI No 112 SEB 2574.doc

Rob,

Attached please find the subject request for additional information (RAI). A draft of the RAI was provided to you on April 16, 2009. No conference call was requested to discuss this RAI. The schedule we have established for review of your application assumes technically correct and complete responses within 30 days of receipt of RAIs. For any RAIs that cannot be answered within 30 days, it is expected that a date for receipt of this information will be provided to the staff within the 30 day period so that the staff can assess how this information will impact the published schedule.

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Office of New Reactors  
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301-415-4122

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**Subject:** RAI No 112 SEB 2574.doc (PUBLIC)  
**Sent Date:** 4/30/2009 10:23:53 AM  
**Received Date:** 4/30/2009 10:23:56 AM  
**From:** John Rycyna

**Created By:** John.Rycyna@nrc.gov

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**Post Office:** HQCLSTR02.nrc.gov

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MESSAGE	767	4/30/2009 10:23:56 AM
RAI No 112 SEB 2574.doc		27246

**Options**

**Priority:** Standard  
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**Recipients Received:**

Request for Additional Information No. 112  
4/30/2009

Calvert Cliffs Unit 3  
UniStar  
Docket No. 52-016  
SRP Section: 03.07.01 - Seismic Design Parameters  
Application Section: 3.7.1

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

03.07.01-11

**RAI 3.7.1-11**

In FSAR Section 3.7.1, the Ground Motion Response Spectra (GMRS) is defined at the foundation level of the nuclear island (NI) common basemat structure as having a horizontal and vertical peak ground acceleration of .067g. The FSAR further states that to meet Appendix S of 10CFR Part 50, a horizontal safe shutdown earthquake (SSE) ground motion is defined as the envelope of the GMRS and the set of certified seismic design response spectra (CSDRS) curves anchored at .10 g peak ground acceleration. However, the subsequent confirmatory analysis of the NI common basemat structures uses the European Utility Requirements (EUR) soft soil with a peak ground acceleration (PGA) of .10 g. The foundation input response spectra (FIRS) for the Emergency Power Generating Building (EPGB) and Emergency Service Water Building (ESWB) have not been defined and no confirmatory analysis has been performed. The assumed input motion of the Ultimate Heat Sink (UHS) Make-up Water Intake Structure (MWIS) is the EUR soft soil spectrum with a PGA of .15 g. The assumed input motion for the UHS Electrical Building (EB) is an envelope of EUR soft soil spectrum with a zero period acceleration (ZPA) of .15 g, and in-structure response spectra (ISRS) determined at the operating deck of the UHS MWIS. The subject was discussed in great detail during the audit held during March 17 through March 19, 2009, and it was noted that there has been a different approach to the seismic qualification of seismic Category I structures at the Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3 site that did not correspond to a clear definition of the SSE for the site. Therefore, the staff is requesting the applicant to provide the following information:

- a) Provide a definition of the site SSE. Describe how it meets regulation requirements;
- b) Consistent with the site SSE, provide the FIRS in the free field at the foundation level of each structure meeting the requirements of Appendix S, and describe how each is determined;
- c) For the U.S. EPR Certified Design structures, provide a comparison of the results of the site seismic analyses using the FIRS input motion defined at the foundation level of each structure, with the analyses results documented in the U.S EPR FSAR.
- d) For the EPGB and ESWB, describe how the effect of structure-soil-structure interaction has been accounted for in the analysis of these buildings.