ClinchRiverESPSafRAIPEm Resource

From: Fetter, Allen
Sent: Wednesday, August 02, 2017 11:54 AM
To: ClinchRiverESPSafRAIPEm Resource
Subject: FW: Issuance of RAI pertaining to Section 2.5.2, Vibratory Ground Motion, RAI Number 3, eRAI-8893
Attachments: CRNS ESP RAI VGM03 8893.pdf

From: Fetter, Allen
Sent: Tuesday, July 25, 2017 4:17 PM
To: ClinchRiverESPEnvRAIPEm Resource <ClinchRiverESPEnvRAIPEm.Resource@nrc.gov>
Subject: FW: Issuance of RAI pertaining to Section 2.5.2, Vibratory Ground Motion, RAI Number 3, eRAI-8893

From: Fetter, Allen
Sent: Wednesday, June 21, 2017 3:48 PM
To: 'Schiele, Raymond Joseph' <rjschiele@tva.gov>
Cc: Sutton, Mallecia <Mallecia.Sutton@nrc.gov>; pshastings (pshastings@tva.gov) <pshastings@tva.gov>; ClinchRiverESPSafRAINPEm Resource <ClinchRiverESPSafRAINPEm.Resource@nrc.gov>; Colaccino, Joseph <Joseph.Colaccino@nrc.gov>; Heeszel, David <David.Heeszel@nrc.gov>
Subject: Issuance of RAI pertaining to Section 2.5.2, Vibratory Ground Motion, RAI Number 3, eRAI-8893

Good Afternoon,

This email is a formal issuance of an RAI pertaining to Section 2.5.2, Vibratory Ground Motion, for the Clinch River Nuclear Site ESP application review. Question 2 in the document relates to information need VGM-02 from NRC's Seismic and Geotechnical audit that took place from May 8-9, 2017. The draft version of the RAI was provided to TVA on 6/16/2017, and a clarification call on the draft RAI was requested by TVA. The clarification call took place on 6/19/2017, and TVA gained a better understanding of the level of detail needed by NRC staff in order to help ensure that an effective RAI response is provided.

This is the third safety RAI prepared (Number 3) for the Clinch River Nuclear Site ESP application review, and it has a unique e-RAI identifying number of eRAI-8893.

The schedule we have established for the review of the application assumes technically correct and complete responses within 30 calendar days of receipt of RAIs. For any RAIs that cannot be responded to within 30 calendar 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 might impact the published schedule.

Please contact me if you have any questions.

Thanks,

Allen H. Fetter, Senior Project Manager
U.S. Nuclear Regulatory Commission
Office of New Reactors
Division of New Reactor Licensing
Licensing Branch 3
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Hearing Identifier: ClinchRiver_ESP_SafRAI_Public
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Subject: FW: Issuance of RAI pertaining to Section 2.5.2, Vibratory Ground Motion, RAI Number 3, eRAI-8893
Sent Date: 8/2/2017 11:53:49 AM
Received Date: 8/2/2017 11:53:49 AM
From: Fetter, Allen

Created By: Allen.Fetter@nrc.gov

Recipients:
"ClinchRiverESPSafRAIPEm Resource" <ClinchRiverESPSafRAIPEm.Resource@nrc.gov>
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MESSAGE	2587	8/2/2017 11:53:49 AM
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Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
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Request for Additional Information, Number 3, eRAI-8893
Issue Date: 06/21/2017
Application Title: Clinch River Nuclear Site, ESP
Operating Company: Tennessee Valley Authority
Docket No. 52-047
Review Section: 02.05.02 - Vibratory Ground Motion
Application Section: 2.5.2

QUESTIONS

02.05.02-01

Section 2.5.2.6 of the SSAR provides the results of a sensitivity study evaluating the potential impact of 2-D site effects on site response. This sensitivity study includes a comparison of the 2-D site response and a 1-D site response using a similar approach used for the 2-D results. However, the 1-D site response used in this comparison is not used for establishing the permit basis of the Clinch River site. The comparison presented in the SSAR does not currently show that the 1-D site response used for licensing adequately captures the 2-D site effects explored by the sensitivity study.

In order to satisfy requirements in 10 CFR 100.23(d)(1) as it relates to seismic hazard and for the staff to make a determination about the adequacy of the 2-D sensitivity study, please provide a comparison of the 2-D site response to the 1-D site response results used to establish the Clinch River site GMRS.

02.05.02-02

Updated SSAR Section 2.5.2.5.1.1 discusses the approach used to model epistemic uncertainty at the CRN site. A site profile is developed by grouping all available site data (as well as information from TVA dam sites) and calculating a log-mean and standard deviation. This is then used to calculate upper and lower site profiles. This approach is expected to account for dip across the site through the use of the three profiles. However, there is no justification made for this assertion in the text of the SSAR. Specifically, the SSAR does not explain how this approach accounts for the dipping structure across the site. Because the site is underlain by multiple rock layers with a dip of 33 degrees, it is necessary to explain how the 1-D site response approach is expected to accommodate the 2-D nature of the site.

In order to satisfy requirements in 10 CFR 100.23(d)(1) as it relates to seismic hazard and for the staff to make a determination about the adequacy of the site response inputs, please explain how the use of a log-mean profile, combined with upper and lower profiles based on the statistical analysis, accounts for the dipping stratigraphy of the site.