

PMSTPCOL PEmails

From: Govan, Tekia
Sent: Wednesday, May 13, 2009 12:42 PM
To: 'Bense, Richard'
Cc: STPCOL
Subject: DRAFT RAIs
Attachments: RAI 2623.doc; RAI 2572.doc

Dick,

Please review the attached RAIs. If you feel we need a conference call to clarify the requested information, please contact me. If a conference call is not needed (please send an email) I will continue the formal process of issuing the RAIs to STPNOC.

These RAIs relates to section 2.5.

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From: Govan, Tekia

Created By: Tekia.Govan@nrc.gov

Recipients:
"STPCOL" <STP.COL@nrc.gov>
Tracking Status: None
"Bense, Richard" <rhbense@STPEGS.COM>
Tracking Status: None

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MESSAGE	547	5/13/2009 12:41:35 PM
RAI 2623.doc	32250	
RAI 2572.doc	30714	

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Request for Additional Information No. 2623 Revision 0

South Texas Project Units 3 and 4
South Texas Project Nuclear Operating Co
Docket No. 52-012 and 52-013
SRP Section: 02.05.04 - Stability of Subsurface Materials and Foundations
Application Section: 2.5.4

QUESTIONS for Geosciences and Geotechnical Engineering Branch 1 (RGS1)

02.05.04-***

There is very little information in the FSAR regarding the presence of fissures and slickensides in the Beaumont clay, whereas FSAR reference 2.5S.4-14A by Mahar and O'Neil address the difficulties of measuring soil properties of stiff fissured clays both in the lab and insitu. Since the referenced work is based on Beaumont clay, and is the basis for some of your assumptions regarding engineering properties of the site soils, the staff believes it would be helpful that you address more fully the nature and distribution of fissures and slickensides with respect to that presented in reference 2.5S.4-14A.

Please provide a thorough discussion regarding the dessication features you encountered in the Beaumont clay. Please discuss how the dessication features compare to that presented in the reference 2.5S.4-14A. Please indicate how the various laboratory and insitu test results are conservative in the evaluation of the engineering properties used for bearing capacity, slope stability and settlement analyses.

02.05.04-***

The FSAR supplemental exploration data contains CPT soundings that show high pore water pressure response in a zone of silt (based on soil behavior type) in the depth range of 48 feet to 60 feet and 80 feet to 100 feet (reference CPT soundings C-304 and C-305s, for example). Similar high pore water pressure response is observed in other soundings across the site occurring at various depths, but typically below 48 feet. This appears to correspond to layers D and F in FSAR Section 2.5.4.2. The staff understand that high pore water pressure response is normally associated with contractive behavior, and more near normally consolidated soils. OCR average values determined from site-wide CPT soundings for the depths under consideration are shown to range from 4.2 to 1.7, as shown on FSAR Figure 2.5S.4-33. The range of individual OCR predictions from CPT measurement are very widely spread between approximate depths of 40 and 65 feet in this figure.

Please discuss how you interpret the high pore water pressure response measured in the over-consolidated clay soils. Since your strength determinations for layers D and F use OCR relationships to evaluate insitu shear strength, is there concern that the high pore water pressure response observed in the CPT data may indicate lower OCR values and consequently lower undrained shear strength? Please justify your strength parameters for layers D and F in light of the CPT pore water pressure response.

Request for Additional Information No. 2572 Revision 0

South Texas Project Units 3 and 4
South Texas Project Nuclear Operating Co
Docket No. 52-012 and 52-013
SRP Section: 02.05.02 - Vibratory Ground Motion
Application Section: SRP 2.5.2

QUESTIONS for Geosciences and Geotechnical Engineering Branch 2 (RGS2)

02.05.02-***

In your FSAR Com 2.5S-1, you summarized the process to incorporate 16 RC/TS testing results for soil dynamic properties and presented two sample plots to illustrate the sample testing results and the comparison between these samples and EPRI generic curves or Vucetic and Dobry curves. You also described that you modified the onsite generic deep shear wave velocity profile using three oil well geophysical data. Because Sections 2.5S.4.7.3, "Static and Dynamic Laboratory Testing" and 2.5S.2.5, "Seismic Wave Transmission Characteristic of the Site" were significantly affected by these updates, please provide complete contents for those sections, including all supporting figures, for example, sample's modulus reduction and damping curves for foundation supporting soil layers and maximum strain curves. In addition, please include P and S wave profiles from those oil wells and the final shear wave velocity profile used in site response analysis.

02.05.02-***

You summarized Mid America Trench sensitivity analysis in FSAR Com 2.5S-1. Please provide detailed contents on this sensitivity analysis, including detailed source characterization, attenuation relationships and other related information.