From:	DiFrancesco, Nicholas
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Subject:	R2.1 Seismic -- PVNGS Data Request and Draft Request for Additional Information
Date:	Wednesday, June 24, 2015 5:19:02 PM

Mr. Weber,

As a follow-on to the discussion yesterday on screening status. The staff is continuing its review of the reevaluated seismic hazard for Palo Verde Nuclear Generating Station.

Below is an data request for review in the ePortal.

Data Request

In support of a confirmatory review, please provide the PVNGS composite earthquake catalog prior to the declustering analysis, meaning the catalog with 1,941 events in it as mentioned in "Palo Verde Nuclear Generating Station Seismic Source Characterization" report on page 6-7 and 6-10. The staff requests the catalog be provided in the tabular form.

Separately, the NRC staff is planning to issue one set of request for additional information (RAI) prior to making a final screening decision. The staff has identified one RAI thus far. The RAI request should be finalized during the first full week of July. Below is a draft RAI question. Please let me know if you would like a clarification call on the below request.

Request for Additional Information

The southwestern United States (SWUS) Ground Motion Characterization (GMC) project used the partially non-ergodic sigma model, which implies the use of a single station sigma model. For the partially non-ergodic approach, the site term ($dS2S_S$) is assumed to be known and as such its standard deviation (f_{S2S}) is excluded from the single station sigma model. Use of the single station sigma approach assumes that the epistemic uncertainty for the site term is captured by the epistemic uncertainty in the Vs-kappa correction and the uncertainty in the site amplification factor. Section 2.3.6 of the Seismic Hazard and Screening Report for Palo Verde Nuclear Generating Station Units 1, 2, and 3, states that "the variability in the amplification factors results from variability in shear wave velocity, depth to hard rock, modulus reduction curves, hysteretic damping curves, and application of the nine Fourier adjustment functions to account for uncertainty in the kappa and the deep site Vs profile."

In order for the staff to better understand how the uncertainty in the site term is captured for the Palo Verde site; please provide a more detailed description, including all equations used for the total standard deviation of the site amplification factor. As part of the response, describe how the various epistemic and aleatory portions are combined to determine the total amplification factor uncertainty. In addition, provide a justification for including the epistemic uncertainty associated with the Vs-kappa correction as part of the uncertainty in the site amplification factor rather than as part of the logic tree for the median ground motion models and

whether this decision impacts the final control point hazard curves and GMRS.

Please let me know if you have any questions or concerns.

Thanks,

Nick

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