

Responses to NRC Staff Questions regarding Industry's Draft White Paper on Dynamic Soil Testing

1) Define a soil site quantitatively in terms of soil dynamic properties (e.g., shear wave velocity and/or shear wave velocity gradient) to make it clear what kind of soil/rock needs to have RC/TS testing. Furthermore, the paper needs to define hard rock, firm rock, competent rock and deep soil which were referred in the paper frequently with respect to the same criteria.

Response: The presentation given by industry on May 31 and the revised White Paper, no longer make a distinction between the number of tests required for soil sites or rock sites, consequently the definition of hard rock, firm rock, competent rock and deep soil is no longer germane to the question of how many dynamic soil tests are required to characterize a site.

2) What criteria will be used to determine the initial number of testing samples?

Response: The number of RCTS tests required to adequately characterize the dynamic properties of soils for a particular site is recognized to be site-specific. A presentation of the specific subsurface investigation and supporting laboratory analysis program will be made as a part of Chapter 2.5 of the COLA for each site.

3) Elaborate on what randomization processes will be used to demonstrate that limited initial sample testing will cover the variation when more sample testing results are available, or if a bounding analysis is used, the choices of the appropriate margin or bounding factor.

Response: The randomization and/or bounding techniques used to develop the number of tests required for a specific site will be presented as part of the narrative of subchapter 2.5.4.7 of the COLA for each site.

4) What measures will be taken to incorporate the final results? If the final testing results prove that initial testing results did not provide sufficient safety margins for site-specific soil dynamic properties, explain the potential impact on relevant calculations that are based on limited sample testing.

Response: An adequate number of dynamic testing of samples will be prioritized such that representative results are obtained for each stratum prior to the submission of the COLA. This prioritization process, which will be described in each COLA submittal, will be designed so as to minimize the probability that subsequent test results will dramatically change the results of dynamic modeling.

5) If possible, include a case study using limited soil sample testing to characterize the soil dynamic properties.

Response: Since the first COLA applications will be made in October, these applications will provide case studies upon which the results of subsequent filings can be judged.