

Request for Additional Information No. 35, Revision 0

8/01/2008

U. S. EPR Standard Design Certification

AREVA NP Inc.

Docket No. 52-020

SRP Section: 02.05.02 - Vibratory Ground Motion

SRP Section: 02.05.04 - Stability of Subsurface Materials and Foundations

Application Section: FSAR Ch. 2

RGS1 Branch

QUESTIONS

02.05.02-1

In FSAR Tier 2 Section 2.5.2 “Vibratory Ground Motion,” you state that “...the certified seismic design response spectra (CSDRS) for the U.S. EPR are shown in Figure 3.7.1- 1— Design Response Spectra for EUR Control Motions (Hard, Medium, and Soft Soils).” It also states that “...for soil-structure interaction (SSI) analysis for the U.S. EPR design certification, the assumed generic shear wave velocities in each profile are taken to be strain-compatible values during seismic events.” Please clarify whether the soil degradation properties were considered in the site response analyses.

02.05.02-2

In FSAR Tier 2 Section 2.5.2.6 “Ground Motion Response Spectrum,” you state that “...a COL applicant that references the U.S. EPR design certification will verify that the site-specific seismic parameters are enveloped by the CSDRS (anchored at 0.3 g PGA) and the 10 generic soil profiles discussed in Section 2.5.2 and Section 3.7.1 ...” You further state in guideline step 3 that “...the applicant will demonstrate that the FIRS are enveloped by the CSDRS for the U.S. EPR using the guidance provided in Section 3.7.1.1.1.” Because CSDRS for the three site groups (soft, medium and hard sites) are provided in the FSAR, please clarify: (1) the criteria for the applicant to determine which site group their specific site belongs to, and (2) whether the site- specific response spectrum must be enveloped by the CSDRS corresponding to that site group.

02.05.02-3

In FSAR Tier 2 Section 2.5.2.6 “Ground Motion Response Spectrum,” you state, in guideline step 8, that comparison of structural seismic responses of the CSDRS with detailed site-specific SSI analyses will be made at some key locations as defined in Section 3.7.2. Please verify the control point elevation for the fuel building (FB) as defined in Section 2.5.2.6 compared with that described in Section 3.7.2.

02.05.02-4

FSAR Tier 1, Table 5.0-1 "Site Parameters for the U.S. EPR Design," lists the parameter for seismology as "Seismology (SSE response spectra using figures)," but in "Value(s)" it does not mention any corresponding figures. Please specify.

02.05.04-1

Please clarify the restrictions with regard to soil liquefaction specified in DCD Tier 2, Table 2.1.1, which states only "none."

02.05.04-2

FSAR Tier 2 Section 2.5.4.10.1, states that "...the maximum bearing pressure under static loading conditions for the foundation basemat beneath the NI Common Basemat Structures is 22,000 lb/ft²," and "...the maximum bearing pressure under safe shutdown earthquake loads combined with other loads, as described in Section 3.8.5, is 25,000lb/ft²." Please explain how the maximum dynamic/seismic bearing pressure was determined and justify this value with comparing maximum static bearing pressure. Please also explain why there is no maximum dynamic/seismic bearing pressure related parameter in the Tier I document.

02.05.04-3

Ten COL Information Items are listed in Table 1.8.2 "U.S. EPR Combined License Information Items" corresponding to FSAR Section 2.5. There is no mention of this table in Section 2.5. Please add a sentence to Section 2.5 to mention that the COL Information Items that need to be addressed by COL applicants corresponding to this section are listed in Table 1.8.2.