

---

---

**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION**

---

---

1/31/2013

**US-APWR Design Certification**

**Mitsubishi Heavy Industries**

**Docket No. 52-021**

**RAI NO.:** NO. 798-5876 REVISION 3  
**SRP SECTION:** 03.07.01 – Seismic Design Parameters  
**APPLICATION SECTION:** 3.7.1  
**DATE OF RAI ISSUE:** 08/05/11

---

**QUESTION NO. RAI 03.07.01-14:**

In Subsection 3.7.1.1 of DCD (R3), "Design Ground Motion", the first paragraph under the subtitle "FIRS" (page 3.7-4) states, "The material present above the control point elevation can be excluded from the site response analysis."

Per DC/COL-ISG-017, the effects of any soil above the control point need to be considered in calculating the properties of the soil below the control point. The applicant should confirm that the effects of any overlying soil have been properly accounted for, or provide the technical basis and justification for not conforming to DC/COL-ISG-017.

---

**ANSWER:**

This answer revises and replaces the previous MHI answer that was transmitted by letter UAP-HF-11296 (ML11252B126).

The process by which the COL Applicant will develop site-specific foundation input spectra from the site-specific ground motion response spectra accounts for the presence of any overlying soil. The description of this process has been changed and is now consistent with DC/COL-ISG-017 guidance that the effects of any soil above the control point need to be considered in calculating the properties of the soil below the control point.

The first paragraph under the subtitle "FIRS" in DCD Subsection 3.7.1.1 has been revised to state: "The site-specific FIRS define the horizontal and vertical response spectra of the outcrop ground motion at the bottom elevation of the seismic category I and II basemats. Free-field outcrop spectra of site-specific horizontal ground motion are developed consistent with the horizontal GMRS using site response analyses, which employ a suite of randomized soil profiles to account for uncertainties and variations in the site soil and rock properties. The profiles also include materials present above the input ground motion control point elevation in order to account for their effect on soil and rock properties."

**Impact on DCD**

There is no impact on the DCD.

**Impact on R-COLA**

There is no impact on the R-COLA.

**Impact on S-COLA**

There is no impact on the S-COLA.

**Impact on PRA**

There is no impact on the PRA.

**Impact on Technical/Topical Report**

There is no impact on a Technical/Topical Report.

---

This completes MHI's response to the NRC's question.