

  
**MITSUBISHI HEAVY INDUSTRIES, LTD.**  
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TOKYO, JAPAN

April 21, 2011

Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Attention: Mr. Jeffrey A. Ciocco

Docket No. 52-021  
MHI Ref: UAP-HF-11116

**Subject: MHI's Response to US-APWR DCD RAI No. 723-5382 Revision 2 (SRP 03.02.01)**

**Reference:** 1) "Request for Additional Information No. 723-5382 Revision 2, SRP Section 03.02.01 – Seismic Classification - Application Section: 3.2.1" dated March 21, 2011.

With this letter, Mitsubishi Heavy Industries, Ltd. ("MHI") transmits to the U.S. Nuclear Regulatory Commission ("NRC") a document entitled "Response to Request for Additional Information No. 723-5382 Revision 2."

Enclosed is the response to a question contained within Reference 1.

Please contact Dr. C. Keith Paulson, Senior Technical Manager, Mitsubishi Nuclear Energy Systems, Inc. if the NRC has questions concerning any aspect of the submittals. His contact information is below.

Sincerely,



Yoshiaki Ogata,  
General Manager- APWR Promoting Department  
Mitsubishi Heavy Industries, LTD.

Enclosure:

1. Response to Request for Additional Information No. 723-5382 Revision 2

CC: J. A. Ciocco  
C. K. Paulson

Contact Information

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DOB 1  
NRC

Docket No. 52-021  
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Enclosure 1

UAP-HF-11116  
Docket No. 52-021

Response to Request for Additional Information No. 723-5382  
Revision 2

April 2011

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**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION**

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04/21/2011

**US-APWR Design Certification**

**Mitsubishi Heavy Industries**

**Docket No. 52-021**

**RAI NO.:** NO. 723-5382 REVISION 2  
**SRP SECTION:** 03.02.01 – SEISMIC CLASSIFICATION  
**APPLICATION SECTION:** 03.02.01  
**DATE OF RAI ISSUE:** 03/21/2011

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**QUESTION NO.: 03.02.01- 21**

The response to RAI 287-2041, Question 03.02.01-14 stated that reactor vessel internals were inadvertently omitted from Table 3.2-2 in Revision 1 of DCD Tier 2 and MHI will revise Table 3.2-2 to include reactor internals, the reactor coolant system insulation, and other SSCs not specifically mentioned in Table 3.2-2 of Revision 1. DCD Revision 2 includes missing SSCs identified by MHI. However, staff is concerned that other SSCs, such as the RPV refueling cavity seal, is not specifically seismically classified in DCD Table 3.2-2 and, therefore, the scope of SSCs included in DCD Table 3.2-2 still may not be complete. The seismic classification and other design issues associated with the refueling cavity seal is addressed in RAI 633-4857 and is unresolved. RG 1.29 identifies that systems, other than radioactive waste management systems, that contain or may contain radioactive material are designated as Seismic Category I if their failure could result in doses exceeding 0.5 rem (0.005 Sievert). Further, RG 1.13 specifically identifies that the spent storage facility, including all structures and equipment necessary to maintain minimum water levels necessary for radiation shielding should be designed to Seismic Category I requirements. DCD Table 1.9.1-1 identifies conformance with no exceptions to RG 1.29 and 1.13. DCD Section 9.1.3 also identifies that the SFPCS cooling portions are safety-related, seismic category I and the SFPCS conforms to the guidelines of RG 1.13. The applicant is requested to further review the entire scope of SSCs that are not site-specific and include any missing items in Table 3.2-2 such as the refueling seal or otherwise explain where the refueling seal is seismically classified.

**References:**

MHI's Response to US-APWR DCD RAI No. 287-2041 (60-day response); MHI Ref: UAP-HF-09244; dated May 21, 2009; ML091480481.  
MHI's Response to US-APWR DCD RAI No. 633-4857; MHI Ref: UAP-HF-10286; dated October 21, 2010; ML102990196.

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**ANSWER:**

In the response to RAI 507-3993, Revision 2, Question 09.01.04-16, MHI revised the DCD so that Table 3.2-2 includes the permanent cavity seal (PCS), also known as the reactor pressure vessel

(RPV) refueling cavity seal. In response to RAI 724-5524, Revision 2, Question 03.02.02-20, MHI reviewed the seismic categorization and classification (assignment of Quality Group) of the seal. It was determined that the seal is a seismic category I (SC I), safety-related mechanical component that is assigned as Quality Group C. Table 3.2-2 of the DCD will be revised accordingly per the response to RAI 724-5524 Revision 2, Question 03.02.02-20. All other SSCs that have a function to maintain minimum water levels for radiation shielding, specifically the fuel transfer tube, cask pit, fuel inspection pit, and refueling cavity drain piping are included in Table 3.2-2 as SC I.

**Impact on DCD**

Refer to the response to RAI 724-5524 Revision 2, Question 03.02.02-20 for the revision of Table 3.2-2.

**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.

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