MITSUBISHI HEAVY INDUSTRIES, LTD.
16-5, KONAN 2-CHOME, MINATO-KU
TOKYO, JAPAN

July 27, 2012

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-12211

Subject: **MHI's Response to US-APWR DCD RAI No. 813-5935 Revision 3 (SRP Section 03.02.01)**

Reference: 1) "REQUEST FOR ADDITIONAL INFORMATION 813-5935 REVISION 3" dated on August 23, 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. 813-5935 Revision 3".

In the enclosed document, MHI provides the response to Question 03.02.01-22 that is contained within Reference 1.

Please contact Mr. Joseph Tapia, General Manager of Licensing Department, Mitsubishi Nuclear Energy Systems, Inc. if the NRC has questions concerning any aspect of the submittals. His contact information is below.

Sincerely,

Y. Ogata

Yoshiki Ogata,
Director - APWR Promoting Department
Mitsubishi Heavy Industries, LTD.

Enclosure:

1. Response to Request for Additional Information No. 813-5935 Revision 3

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NRO

CC: J. A. Ciocco
J. Tapia

Contact Information
Joseph Tapia, General Manager of Licensing Department
Mitsubishi Nuclear Energy Systems, Inc.
1001 19th Street North, Suite 710
Arlington, VA 22209
E-mail: joseph_tapia@mnes-us.com
Telephone: (703) 908 – 8055

Enclosure 1

UAP-HF-12211
Docket No.52-021

Response to Request for Additional Information No. 813-5935
Revision 3

July 2012

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

7/27/2012

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 813-5935 REVISION 3**
SRP SECTION:	**03.02.01 – SEISMIC CLASSIFICATION**
APPLICATION SECTION:	**3.2.1**
DATE OF RAI ISSUE:	**8/23/2011**

QUESTION NO.: 03.02.01-22:

In RAI 2041 Question 03.02.01-14 and RAI 5382 Question 03.02.01-21, NRC staff identified examples of SSCs that did not appear to be seismically classified in Table 3.2-2. Although the RAI responses proposed a revision to include certain missing components, the responses have not addressed the request to review the entire scope of SSCs that are not site-specific and completeness in scope of Table 3.2-2. Two additional examples of SSCs that should be seismically classified are the vent stack and essential service water intake screens. Clarify if Table 3.2-2 has been reviewed for completeness of non-site-specific SSCs and include any additional SSCs and their classification. Also identify specific SSCs that are site-specific and are to be classified by the COL applicant.

ANSWER:

Based on the scope of Section 3.2.1 of the Standard Review Plan (SRP), which includes structures, dams, ponds, cooling towers, reactor internals, fluid systems important to safety that are identified in RG 1.29, safety-related instrument sensing lines that are identified in RG 1.151, ventilation systems, standby diesel generator auxiliary systems, fuel handling systems, and cranes, Table 3.2-2 as revised by the response to RAI 667-5235, Question 3.2.2-17 is complete in describing the seismic classification of non-site specific systems and components within the scope of SRP 3.2.1.

In the response to RAI 287-2041, Question 03.02.01-14, reactor internals, the reactor coolant system (RCS) insulation and other SSCs related to the RCS were added to Table 3.2-2. Per the response to RAI 723-5382, Question 03.02.01-21, the permanent cavity seal and other SSCs that have a function to maintain minimum water levels for radiation shielding were added to Table 3.2-2.

DCD Tier 2 Table 3.2-4 is revised to include the plant vent stack as a seismic category II structure, because it is a non-site specific structure within the scope of SRP 3.2.1. DCD Tier 1 Table 2.2-1 is also revised accordingly.

The essential service water system (ESWS) is safety-related, and the components of the ESWS, including the intake screens, are classified as seismic category I to ensure their functional capability. However, there are portions of the ESWS that are site-specific and dependent on the site-specific design of the ultimate heat sink (UHS), including the ESWS intake screens. Therefore, these components are not added to the DCD. COL Applicant

requirements exist to classify site-specific SSCs as seismic category I or II, or as non-seismic.

The site-specific SSCs that interface with the standard plant design include, but are not limited to, the following:

a) UHS;

b) UHS ESW pump house ventilation system;

c) ESWS piping and valves related to UHS;

d) startup steam generator blowdown system;

e) portions of the circulating water system, such as the cooling towers (if applicable), cooling tower makeup water pumps and mechanical draft fans;

f) fire water supply system; and

g) potable and sanitary water system (see DCD Subsection 9.2.4).

These SSCs are to be identified and classified by the COL Applicant.

Impact on DCD

See Attachment 1 for the markup of DCD Tier 2, Table 3.2-4, and DCD Tier 1 Table 2.2-1, for the changes to be included to add the plant vent stack as a seismic category II structure.

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 Topical Report / Technical Report

There is no impact on the Topical Report / Technical Report.

Attachment 1 to RAI 813-5935

Table 2.2-1 Seismic Classification of Structures (Note 1)

Structure	Seismic Category (Note 1)
Reactor Building (R/B)	I
Prestressed Concrete Containment Vessel (PCCV)	I
Containment Internal Structure	I
Power Source Building (PS/B)	I
Power Source Fuel Storage Vault (PSFSV)	I (Note 2)
Essential Service Water Pipe Tunnel (from/to UHS) (ESWPT)	I (Note 2)
Auxiliary Building (A/B)	II
Turbine Building (T/B)	II
Plant Vent Stack	II
Access Building (AC/B)	NS

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NOTES:

1. Seismic Category I (I)
   Seismic Category II (II)
   Non-seismic (NS)

2. Designed to Seismic Category I codes and standards, but final structural design is based on site-specific requirements.

Table 3.2-4 Seismic Classification of Buildings and Structures[1]

Structure	Acronym	Seismic Category[2]
Reactor Building[3]	R/B	I
Prestressed Concrete Containment Vessel[3]	PCCV	I
Containment Internal Structure[3]		I
Power Source Building (East and West)[3]	PS/B	I
Power Source Fuel Storage Vault	PSFSV	I
Essential Service Water Pipe Tunnel (ESWPT) (from/to UHS)[5]	ESWPT	I
UHS Related Structures[4]	UHSRS	I
A/B[3]	A/B	II
Turbine Building	T/B	II
Plant Vent Stack		II
AC/B[3]	AC/B	NS
Outside Building (e.g., maintenance facility, operations office)	O/B	NS
Turbine generator pedestal	T/G Pedestal	NS

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Notes:

1. Other non-standard plant building structures, such as minor NS buildings and structures in the plant yard, are not listed in the above table and are not considered part of the US-APWR Nuclear Island.

2. Seismic category I (I)
Seismic category II (II)
Non-Seismic (NS)

3. US-APWR Nuclear Island

4. UHSRS include but are not limited to (1) dams, (2) ponds, or (3) cooling towers (including cooling tower enclosure, and pump house). The specific features of the UHSRS are site dependent and not part of the US-APWR standard plant. The UHSRS are seismic category I structures selected based on site-specific conditions and site-specific meteorological data.

5. The ESWPT is a site-specific structure, but the existence and functions are required by the plant standard design. The specific features of the ESWPT are site dependent and will depend on the type of UHS.