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

October 11, 2011

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

Attention: Mr. Jeffery A. Ciocco

Docket No. 52-021
MHI Ref: UAP-HF-11351

Subject: MHI's Response to US-APWR DCD RAI No. 819-6004 Revision 3 (SRP 2.0)

Reference: 1) "Request for Additional Information No. 819-6004 Revision 3, SRP Section: 2.0 – Site Characteristics," dated 8/30/2011.

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. 819-6004, Revision 3."

Enclosed is the response to the RAI contained within Reference 1. This transmittal completes the response to this RAI.

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

Sincerely,

Y. Ogata

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

Enclosure:

1. Response to Request for Additional Information No. 819-6004, Revision 3

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

Contact Information
C. Keith Paulson, Senior Technical Manager
Mitsubishi Nuclear Energy Systems, Inc.
300 Oxford Drive, Suite 301
Monroeville, PA 15146
E-mail: ck_paulson@mnes-us.com
Telephone: (412) 373-6466

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Docket No. 52-021
MHI Ref: UAP-HF-11351

Enclosure 1

UAP-HF-11351
Docket No. 52-021

Response to Request for Additional Information No. 819-6004,
Revision 3

October 2011

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

10/11/2011

US-APWR Design Certification
Mitsubishi Heavy Industries
Docket No. 52-021

RAI NO.:	**NO. 819-6004 REVISION 3**
SRP SECTION:	**2.0 – SITE CHARACTERISTICS AND SITE PARAMETERS**
APPLICATION SECTION:	**2.0**
DATE OF RAI ISSUE:	**8/30/2011**

QUESTION NO. RAI 02-2:

This is a follow-up question to RAI 518-3967, question 02-1.

RAI 518-3967, question 02-1 provided the following definitions from 10 CFR 52.1 (a) and requested the applicant to clarify the use of the terms "characteristics" and "parameters" within the Design Control Document (DCD) Tier 2, Chapter 2, "Site Characteristics."

> *Site characteristics* are the actual physical, environmental and demographic features of a site. Site characteristics are specified in an early site permit or in a final safety analysis report for a combined license.
>
> *Site parameters* are the postulated physical, environmental and demographic features of an assumed site. Site parameters are specified in a standard design approval, standard design certification, or manufacturing license.

It its reply, the applicant identified four specific locations where the word "parameters" was replaced with the word "characteristics." Those changes were completed in revision 3 of the DCD. However, this does not resolve the incorrect use in the title of Chapter 2, "Site Characteristics."

Other design certification applicants have encountered a similar situation and resolved it by adding words at the start of Chapter 2 to explain the use of the two phrases as defined in 10 CFR 52 and used in the respective Chapter 2. This avoids renaming the chapter with the cascade of changes which would necessarily follow elsewhere in the DCD and in other reports. Specifically, staff recommends that the applicant review the beginning of chapter two in the following documents for suggestions and add words to the US-APWR DCD Tier 2, Chapter 2 to explain the use of the defined phrases and explain the mismatch with the definitions.

- ML11171A420, Westinghouse AP1000, Revision 19, Chapter 2, page 2-1, first two paragraphs

- ML102570992, Areva EPR, Revision 2, Chapter 2, page 2.1-1, section 2.0

Reference: MHI's Responses to US-APWR DCD RAI No. 518-3967; MHI Ref: UAP-HF-10044; dated February 15, 2010; ML100480253.

ANSWER:

DCD Section 2.0 will be revised to clarify that site characteristics are actual physical, environmental and demographic features of a site, while site parameters are postulated physical, environmental and demographic features of an assumed site. The US-APWR standard plant design is based on the key site parameters listed in Table 2.0-1, which are intended to conservatively envelope site characteristics for any site-specific location. A site is considered acceptable if the site characteristics are bounded by the key site parameters listed in Table 2.0-1.

Impact on DCD

See Attachment 1 for the mark-up of DCD Tier 2, Section 2.0, changes to be incorporated.

- Revise the first paragraph in Section 2.0 to read as follows:

  "This Chapter defines the application of site-related characteristics and key site parameters for the design of the US-APWR. Site characteristics are actual physical, environmental and demographic features of a site. Site parameters are postulated physical, environmental and demographic features of an assumed site. Key site parameters are used in the standard plant design, and are intended to conservatively envelope site characteristics for any potential site. A site is considered acceptable if the site characteristics are bounded by the key site parameters listed in Table 2.0-1. A site characteristic that is not enveloped by the key site parameter will be evaluated to confirm the design adequacy of the certified design using approved methods and acceptance criteria."

- Revise the last sentence of the last paragraph in Section 2.0 to read as follows:

  "Table 2.0-1 is a summary table identifying key site parameters for the US-APWR."

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.

2.0 SITE CHARACTERISTICS

This Chapter defines the application of site-related characteristics and key site parameters for the design of the US-APWR. Site characteristics are actual physical, environmental and demographic features of a site. Site parameters are postulated physical, environmental and demographic features of an assumed site. Key site parameters are used in the standard plant design, and are intended to conservatively envelope site characteristics for any potential site. A site is considered acceptable if the site characteristics are bounded by the key site parameters listed in Table 2.0-1. A site characteristic that is not enveloped by the key site parameter will be evaluated to confirm the design adequacy of the certified design using approved methods and acceptable criteria. ~~This chapter contains site-related parameters for the US-APWR. These parameters bound an estimated 75% to 80% of the United States (US) landmass, including all sites under current consideration.~~ DCD_02-2 DCD_3.7.1-17

For the purposes of the US-APWR, the site is the contiguous real estate on which nuclear facilities are located and for which one or more licensees has the legal right to control access by individuals and to restrict land use for purposes of limiting potential doses from radiation or radioactive material during normal operation of the facilities.

Chapter 2 of the Combined License Application (COLA) and Final Safety Analysis Report (FSAR) provide information concerning the geological, seismological, hydrological, environmental, and meteorological characteristics of the site and vicinity, in conjunction with present and projected population distribution including land use relative to site activities and controls. Table 2.0-1 is a summary table identifying specific key site parameters for the US-APWR. DCD_02-2