Jeff Ciocco

From: Jeff Ciocco
Sent: Monday, June 23, 2008 6:15 PM
To: us-apwr-rai@mhi.co.jp
Cc: Joseph Hoch; Charles Cox; Larry Burkhart; Michael Takacs; Harrison Botwin
Subject: US-APWR Design Certification Application RAI Nos. 21, 22, and 23
Attachments: US-APWR DC RAI 23 RSAC 526.pdf; US-APWR DC RAI 21 RSAC 529.pdf; US-APWR DC RAI 22 RSAC 528.pdf

MHI,

Attached please find the subject multiple request for additional information (RAI). These RAIs were not sent to you in draft form. The schedule we are establishing for review of your application assumes technically correct and complete responses within 30 days of receipt of RAIs. For any RAIs that cannot be answered within 30 days, it is expected that a date for receipt of this information will be provided to the staff within the 30 day period so that the staff can assess how this information will impact the published schedule. Please submit your RAI response to the NRC Document Control Desk.

Thanks,

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REQUEST FOR ADDITIONAL INFORMATION NO. 21 REVISION 0

6/23/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 02.03.03 - Onsite Meteorological Measurements Programs
Application Section: 2.3.3

RSAC Branch

QUESTIONS

02.03.03-1

DCD Section 2.3.3 lists the information needed to sufficiently describe the pre-operational and operational programs for meteorological measurements at a proposed site for the U.S. APWR design. The information is consistent with NUREG-0800, Section 2.3.3; however, the staff requests this information be removed and incorporated by reference to prevent changes in NUREG-0800 from affecting the accuracy of the DCD.

02.03.03-2

DCD Section 2.3.6 lists the COL applicant action items. Please include an action item that requires a COL applicant to provide a description of the pre-operational and operational programs for meteorological measurements consistent with DCD Section 2.3.3.

REQUEST FOR ADDITIONAL INFORMATION NO. 22 REVISION 0

6/23/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 02.03.02 - Local Meteorology

Application Section: 2.3.2

RSAC Branch

QUESTIONS

02.03.02-1

DCD Section 2.3.2 lists the information needed to sufficiently describe the local meteorology of a proposed site for the U.S. APWR design. The information is consistent with NUREG-0800, Section 2.3.2; however, the staff requests this information be removed and incorporated by reference to prevent changes in NUREG-0800 from affecting the accuracy of the DCD.

02.03.02-2

DCD Section 2.3.6 lists the COL applicant action items. Please include an action item that requires a COL applicant to provide local meteorology information consistent with DCD Section 2.3.2.

REQUEST FOR ADDITIONAL INFORMATION NO. 23 REVISION 0

6/23/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 02.03.01 - Regional Climatology

Application Section: 2.3.1

RSAC Branch

QUESTIONS

02.03.01-1

Please correct the typo (i.e., snowpak) in DCD Table 2.0-1.

02.03.01-2

Please revise the description of the extreme wind speed in DCD Table 2.0-1 to state that the 3-second gust is based on a 100-year return period and include the recommended importance factor of 1.15.

02.03.01-3

Please include a reference to DCD Section 3.3 in DCD Section 2.3.1 for the 100-year, 3-second gust wind speed because this section provides the technical basis for the site parameter value.

02.03.01-4

Regulatory Guide 1.76 presents the tornado site parameters that should be considered for a nuclear power plant design. Please explain why the following tornado site parameters were not included in DCD Table 2.0-1.

a. Maximum Rotational Speed
b. Maximum Translational Speed
c. Radius of Maximum Rotational Speed
d. Rate of Pressure Drop

02.03.01-5

Please include a reference to DCD Section 3.3.2.1 in DCD Section 2.3.1 for the tornado design parameters because this section provides the technical basis for the site parameter values.

02.03.01-6

NUREG-0800, Section 2.3.1, states that the following should be included as site parameters for use in establishing heat loads for the design of normal plant heat sink systems, post-accident containment heat removal systems, and plant heating, ventilating, and air conditioning systems.

a. 2% Annual Exceedance Maximum Dry Bulb and Coincident Wet Bulb, Non-Coincident Wet Bulb, and Minimum Dry Bulb.

b. 1% Annual Exceedance Maximum Dry Bulb and Coincident Wet Bulb, Non-Coincident Wet Bulb, and Minimum Dry Bulb.

c. 100-Year Exceedance Maximum Dry Bulb and Coincident Wet Bulb, Non-Coincident Wet Bulb, and Minimum Dry Bulb.

Please explain or justify why these suggested site parameters were not included in DCD Table 2.0-1.

02.03.01-7

Please explain why no site parameters for the meteorological conditions resulting in the maximum evaporative and drift loss of water from the ultimate heat sink, the meteorological conditions resulting in minimum water cooling, and the potential for water freezing in the ultimate heat sink water storage facility were included in DCD Table 2.0-1. Any temperatures provided should include a technical basis and shown to be representative of a number of potential COL sites.

02.03.01-8

DCD Section 2.3.1 lists the information needed to sufficiently describe the regional meteorology of a proposed site for the U.S. APWR design. The information is consistent with NUREG-0800, Section 2.3.1; however, the staff requests this information be removed and incorporated by reference to prevent changes in NUREG-0800 from affecting the accuracy of the DCD.

02.03.01-9

DCD Section 2.3.6 lists the COL applicant action items. Please include an action item that requires a COL applicant to provide regional meteorology information consistent with DCD Section 2.3.1.

02.03.01-10

Please provide a technical basis for the snow load site parameters listed in DCD Table 2.0-1 and justify that the values are representative of a reasonable number of potential sites in DCD Section 2.3.1.

02.03.01-11

Taking into consideration the potentially large probable maximum winter precipitation (PMWP) estimates from the currently available National Oceanic and Atmospheric Administration (NOAA) Hydrometeorological reports, especially in the Southeast U.S., please describe any aspects of the roof and/or drainage design that would prevent the accumulation of the PMWP on top of any safety related structures. The response should address the possibility that all primary roof drains could be clogged due to a previous snowfall. The PMWP may fall as all liquid or a portion as frozen precipitation; please consider both scenarios.

02.03.01-12

Please provide a technical basis for the ambient design temperature site parameters listed in DCD Table 2.0-1 and justify that the values are representative of a reasonable number of potential sites in DCD Section 2.3.1.

02.03.01-13

For each of the U.S. APWR regional climatology site parameters, as presented in DCD Table 2.0-1, please list the structures, systems, and components (SSCs) that make use of this information and the corresponding DCD sections where the SSCs are discussed.

02.03.01-14

Please specify if the site parameters, as presented in DCD Table 2.0-1, are Tier 1 or Tier 2 information.