Jeff Ciocco

From: Jeff Ciocco
Sent: Monday, June 23, 2008 6:12 PM
To: us-apwr-rai@mhi.co.jp
Cc: Nebiyu Tiruneh; Mark Thaggard; Michael Takacs; Larry Burkhart; Harrison Botwin
Subject: US-APWR Design Certification Application RAI Nos. 13, 14, 15, 16, 17, 18, 19, 20, and 24
Attachments: US-APWR DC RAI 24 RHEB 519.pdf; US-APWR DC RAI 13 RHEB 511.pdf; US-APWR DC RAI 14 RHEB 520.pdf; US-APWR DC RAI 15 RHEB 512.pdf; US-APWR DC RAI 16 RHEB 513.pdf; US-APWR DC RAI 18 RHEB 515.pdf; US-APWR DC RAI 17 RHEB 514.pdf; US-APWR DC RAI 19 RHEB 516.pdf; US-APWR DC RAI 20 RHEB 517.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.

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REQUEST FOR ADDITIONAL INFORMATION NO. 13 REVISION 0

6/23/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 02.04 - Hydrology

Application Section: 2.4

RHEB Branch

QUESTIONS

02.04-1

Table 2.0-1 (Tier 2) states the maximum rainfall rate (hourly) is 19.4 in./hr. and the maximum rainfall rate (short-term) is 6.3 in./5min. with an importance factor of 1.2 for category I/II structures. Do the values stated include the importance factor?. For example, are category I/II structures designed with a maximum rainfall rate (hourly) of 23.28 in./hr. (1.2*19.4 in./ hr.) and 7.56 in./5 min. (1.2*6.3 in./5 min.)?

02.04-2

Section 2.4, "Hydrologic Engineering" provides a design parameter of 19.4 in./hr. for the maximum local intense precipitation. Define local intense precipitation in the context of this design certification document.

REQUEST FOR ADDITIONAL INFORMATION NO. 14 REVISION 0

6/23/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 02.04.01 - Hydrologic Description

Application Section: 2.4.15

RHEB Branch

QUESTIONS

02.04.01-1

Section 2.4.15 references SRP 2.4.1 through 2.4.6. Explain why it does not reference all subsections of 2.4 of the SRP; i.e., subsections 2.4.1 through 2.4.14?

02.04.01-2

The statement in Section 2.4.15 reads as follows:
"The COL Applicant is to provide sufficient information as outlined in SRPs 2.4.1 through 2.4.6 (References 2.4-1 through 2.4-6) and as outlined below to verify that hydrologic related events will not affect the safety-basis for the US-APWR."

The reader gets the impression that there is an outline that will follow the statement. However, the statement is followed by 2.4.16 which is a list of references. Explain the inconsistency.

REQUEST FOR ADDITIONAL INFORMATION NO. 15 REVISION 0

6/23/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 02.04.04 - Potential Dam Failures

Application Section: 2.4.4

RHEB Branch

QUESTIONS

02.04.04-1

The applicant described the basis for potential dam failure as follows;
"An evaluation is to be provided on hydrological site characteristics that generate any potential hazard to the plant's safety-related facilities as a result of the seismically induced failure of upstream and downstream water control structures."
Explain the basis for not including other plausible reasons for a dam failure as described in the SRP Section 2.4.4.

02.04.04-2

Explain why conditions such as sediment deposition and erosion that could cause blockage or loss of function of SSC important to safety are not included as described in SRP 2.4.4.

REQUEST FOR ADDITIONAL INFORMATION NO. 16 REVISION 0

6/23/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 02.04.05 - Probable Maximum Surge and Seiche Flooding

Application Section: 2.4.5

RHEB Branch

QUESTIONS

02.04.05-1

10 CFR Part 100 describes site-related proximity, seismic, and non-seismic evaluation criteria for power reactor applications. The staff's review should include evaluation of pertinent information to determine if these criteria are appropriately used in the postulation of worst-case storm surge and seiching scenarios. This requirement is described in SRP 2.4.5 as Consideration of Other Site-Related Evaluation Criteria. Explain why consideration of other site related evaluation criteria is not included in the FSAR. These conditions include site related proximity, seismic, and non-seismic information that is related to flooding and loss of safety-related water supply as described in SRP 2.4.5.

REQUEST FOR ADDITIONAL INFORMATION NO. 17 REVISION 0

6/23/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 02.04.06 - Probable Maximum Tsunami Flooding

Application Section: 2.4.6

RHEB Branch

QUESTIONS

02.04.06-1

Please verify whether the term "controlling tsunami" referred in section 2.4.6.7 of the FSAR is the same as probable maximum tsunami (PMT).

02.04.06-2

Explain why hydrostatic and hydrodynamic forces, water borne projectiles, and effects of sediment deposition and erosion are not included as they relate to safety-related SSC as described in SRP 2.4.6.

REQUEST FOR ADDITIONAL INFORMATION NO. 18 REVISION 0

6/23/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 02.04.11 - Low Water Considerations

Application Section: 2.4.11

RHEB Branch

QUESTIONS

02.04.11-1

Explain the term average used to refer to the UHS cooling water volume. Does this mean there will be times that the water volume could be below average or is this a firm capacity that has to be available at any given time?

REQUEST FOR ADDITIONAL INFORMATION NO. 19 REVISION 0

6/23/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 02.04.12 - Groundwater

Application Section: 2.4.12

RHEB Branch

QUESTIONS

02.04.12-1

Describe the monitoring and safeguards requirements that need to be implemented as presented in section 2.4.12.4 of the FSAR in relation to the design and operational requirements of 10 CFR 20.1406 and discussed in RG 4.21.

REQUEST FOR ADDITIONAL INFORMATION NO. 20 REVISION 0

6/23/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 02.04.13 - Accidental Releases of Radioactive Liquid Effluents in Ground and Surface Waters

Application Section: 2.4.13

RHEB Branch

QUESTIONS

02.04.13-1

Explain why the seismic and non-seismic failure scenarios are not included as part of the consideration of other site-related evaluation criteria as stated in SRP 2.4.13.

REQUEST FOR ADDITIONAL INFORMATION NO. 24 REVISION 0

6/23/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 02.04.14 - Technical Specifications and Emergency Operation Requirements

Application Section: 2.4.14

RHEB Branch

QUESTIONS

02.04.14-1

Section 2.4.14 of the FSAR states "A description is to be provided for any emergency protective measures designed to minimize the impact of adverse hydrology-related events on safety-related facilities."
Explain why the impact of seismic and non-seismic information is not clearly stated as the condition for postulated technical specifications as stated in SRP 2.4.14.