


MITSUBISHI HEAVY INDUSTRIES, LTD.
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TOKYO, JAPAN

August 12, 2008

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-08148

Subject: MHI's Amended Responses to US-APWR DCD RAI No. 21 through 23

- References:**
- 1) "Request for Additional Information No. 21 Revision 0, SRP Section: 02.03.03 - Onsite Meteorological Measurements Programs Application Section: 2.3.3," dated June 23, 2008
 - 2) "Request for Additional Information No. 22 Revision 0, SRP Section: 02.03.02 - Local Meteorology Application Section: 2.3.2," dated June 23, 2008
 - 3) "Request for Additional Information No. 23 Revision 0, SRP Section: 02.03.01 - Regional Climatology Application Section: 2.3.1," dated June 23, 2008

With this letter, Mitsubishi Heavy Industries, Ltd. ("MHI") transmits to the U.S. Nuclear Regulatory Commission ("NRC") documents as list of Enclosures.

Enclosed are the amended responses to 3 RAIs contained within Reference 1 through 3.

The response to RAI No. 21, question 02.03.03-2, is amended to add a clarifying statement that the COL Applicant action item includes the provision of site-specific pre-operational and operational programs for meteorological measurements as part of providing other meteorology information consistent with Section 2.3. This clarification is included in DCD Chapter 2 Revision 1, Section 2.3 and Subsection 2.3.6.

The response to RAI No. 22, question 02.03.02-2, is amended to add a clarifying statement that the COL Applicant action item includes the provision of local meteorology as part of providing other meteorology information consistent with Section 2.3. This clarification is included in DCD Chapter 2 Revision 1, Section 2.3 and Subsection 2.3.6.

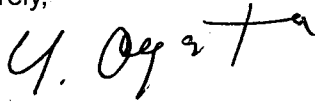
The response to RAI No. 23, question 02.03.01-6, is amended to clarify ambient design air temperature values are based on annual exceedances. In addition, discussion of 5% annual exceedance values is removed as extraneous information. These clarifications are included in DCD Chapter 2 Revision 1, Table 2.0-1 and Subsection 2.3.1.

The response to RAI No. 23, question 02.03.01-9, is amended to add a clarifying statement that the COL Applicant action item includes the provision of regional climatology as part of providing other meteorology information consistent with Section 2.3. This clarification is included in DCD Chapter 2 Revision 1, Section 2.3 and Subsection 2.3.1.

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NRO

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.

Enclosures:

1. "Amended Response to Request for Additional Information No. 21 Revision 0"
2. "Amended Response to Request for Additional Information No. 22 Revision 0"
3. "Amended Response to Request for Additional Information No. 23 Revision 0"

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

Contact Information

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Enclosure 1

UAP-HF-08148
Docket No. 52-021

Amended Response to Request for Additional Information No. 21
Revision 0

August 2008

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

7/18/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.: NO.21 REVISION 0
SRP SECTION: 02.03.03 - ONSITE METEOROLOGICAL MEASUREMENTS
PROGRAMS
APPLICATION SECTION: 02.03.03
DATE OF RAI ISSUE: 6/23/2008

QUESTION NO. : 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.

ANSWER:

It is agreed to remove from Subsection 2.3.3 the list of information to be provided to sufficiently describe the pre-operational and operational programs for meteorological measurements at a proposed site. A statement of reference to RG 1.23 exists for guidance on acceptable onsite meteorological programs.

Impact on DCD

DCD Chapter 2 Revision 1 is to incorporate the following changes:

- In Subsection 2.3.3, replace the first paragraph in its entirety with the following: "The site-specific pre-operational and operational programs for meteorological measurements are to be provided, which may include offsite satellite facilities. RG 1.23 (Reference 2.3-1) contains guidance on acceptable onsite meteorological programs, and any deviations from RG 1.23 guidance are to be identified and justified on a site-specific basis."
- In Subsection 2.3.3, delete paragraphs 3 through 6 in their entirety.

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

8/12/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.: NO.21 REVISION 0
SRP SECTION: 02.03.03 - ONSITE METEOROLOGICAL MEASUREMENTS
PROGRAMS
APPLICATION SECTION: 02.03.03
DATE OF RAI ISSUE: 6/23/2008

QUESTION NO. : 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.

ANSWER:

A COL Applicant action item is stated in DCD Section 2.3 that requires a COL Applicant to verify their selected site meteorology. This action item is intended to apply to other "Meteorology" subsections, including the onsite meteorological measurements program discussed in DCD Subsection 2.3.3. This COL Applicant action item is included in Subsection 2.3.6 as COL 2.3(1). As clarification, a statement is added for the COL Applicant to provide site-specific pre-operational and operational programs for meteorological measurements as part of providing other meteorology information consistent with Section 2.3.

Impact on DCD

DCD Chapter 2 Revision 1 is to incorporate the following changes, which also includes DCD changes relating to resolution of RAI Nos. 22 question 2, 23 question 9, and 41-771:

- In Subsection 2.3, replace the second sentence in its entirety with the following: "The COL Applicant is to provide site-specific pre-operational and operational programs for meteorological measurements, and is to verify characteristics of the site-specific regional climatology and local meteorology are bounded by the site parameters for the standard US-APWR design or demonstrate by some other means that the proposed facility and associated site-specific characteristics are acceptable at the proposed site."
- In Subsection 2.3.6, replace COL 2.3(1) statement in its entirety with the following: "*The COL Applicant is to provide site-specific pre-operational and operational programs for meteorological measurements, and is to verify characteristics of the site-specific regional climatology and local meteorology are bounded by the site parameters for the standard US-APWR design or demonstrate by some other means that the proposed facility and associated site-specific characteristics are acceptable at the proposed site.*"

02.03.03-2

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

This completes MHI's responses to the NRC's questions.

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Enclosure 2

UAP-HF-08148
Docket No. 52-021

Amended Response to Request for Additional Information No. 22
Revision 0

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RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

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**US-APWR Design Certification
Mitsubishi Heavy Industries
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RAI NO.: NO.22 REVISION 0
SRP SECTION: 02.03.02 - LOCAL METEOROLOGY
APPLICATION SECTION: 02.03.02
DATE OF RAI ISSUE: 6/23/2008

QUESTION NO. : 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.

ANSWER:

It is agreed to remove the list of information to be provided to sufficiently describe the local meteorology of a proposed site, and to incorporate a statement of reference to SRP 2.3.2.

Impact on DCD

DCD Chapter 2 Revision 1 is to incorporate the following changes:

- Delete Subsections 2.3.2.1, 2.3.2.2, and 2.3.2.3 in their entirety.
- In Subsection 2.3.2, add the following paragraph: "Site-specific information on local meteorology is based on long-term data from nearby reasonably representative locations and shorter-term onsite data as discussed in SRP 2.3.2 (Reference 2.3-7)."
- Add the following to the end of Subsection 2.3.7: "2.3-7 Local Meteorology. NUREG-0800, SRP 2.3.2, Rev. 3, U.S. Nuclear Regulatory Commission, Washington, DC, March 2007."

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

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Docket No. 52-021

RAI NO.: NO.22 REVISION 0
SRP SECTION: 02.03.02 - LOCAL METEOROLOGY
APPLICATION SECTION: 02.03.02
DATE OF RAI ISSUE: 6/23/2008

QUESTION NO. : 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.

ANSWER:

A COL applicant action item is stated in DCD Section 2.3 that requires a COL Applicant to verify their selected site meteorology. This action item is intended to apply to other "Meteorology" subsections, including the local meteorology information discussed in DCD Subsection 2.3.2. This COL Applicant action item is included in Subsection 2.3.6 as COL 2.3(1). As clarification, a statement is added for the COL Applicant to provide local meteorology information as part of providing other meteorology information consistent with Section 2.3.

Impact on DCD

Refer to RAI 21, question 02.03.03-2, for changes to sentences in Section 2.3 and Subsection 2.3.6.

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

This completes MHI's responses to the NRC's questions.

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MHI Ref: UAP-HF-08148

Enclosure 3

UAP-HF-08148
Docket No. 52-021

Amended Response to Request for Additional Information No.23
Revision 0

August 2008

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

RAI NO.: NO. 23 REVISION 0
SRP SECTION: 02.03.01 - REGIONAL CLIMATOLOGY
APPLICATION SECTION: 02.03.01
DATE OF RAI ISSUE: 6/23/2008

QUESTION NO. : 02.03.01-1

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

ANSWER:

It is agreed this is a typographical error.

Impact on DCD

The 3rd row, 1st column in Table 2.0-1 (Sheet 1 of 5) of DCD Revision 1 is to incorporate the following change:

- Replace "snowpak" with "snowpack".

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

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RAI NO.: NO. 23 REVISION 0
SRP SECTION: 02.03.01 - REGIONAL CLIMATOLOGY
APPLICATION SECTION: 02.03.01
DATE OF RAI ISSUE: 6/23/2008

QUESTION NO. : 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.

ANSWER:

It is agreed the basis for extreme wind speed (other than tornado) is the 3-second gust based on a 100-year return period, and the importance factor is 1.15 for seismic category I and II structures.

Impact on DCD

The 10th row, 2nd column in Table 2.0-1 of DCD Revision 1 is to incorporate the following change:

- Add at end of current text "... based on 100-year return period, with importance factor of 1.15 for seismic category I/II structures"

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

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RAI NO.: NO. 23 REVISION 0
SRP SECTION: 02.03.01 - REGIONAL CLIMATOLOGY
APPLICATION SECTION: 02.03.01
DATE OF RAI ISSUE: 6/23/2008

QUESTION NO. : 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.

ANSWER:

It is agreed DCD Section 3.3 provides the technical basis for the 100-year, 3-second gust wind speed.

Impact on DCD

The paragraph in Subsection 2.3.1 of the DCD Revision 1 is to incorporate the following change:

- Add as the third sentence of the paragraph "The extreme wind speed as stated in Table 2.0-1 corresponds to the criteria described in Subsection 3.3.1.1."

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

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RAI NO.: NO. 23 REVISION 0
SRP SECTION: 02.03.01 - REGIONAL CLIMATOLOGY
APPLICATION SECTION: 02.03.01
DATE OF RAI ISSUE: 6/23/2008

QUESTION NO. : 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
-

ANSWER:

The tornado a) maximum rotational speed, b) maximum translational speed, c) radius of maximum rotational speed, and d) rate of pressure drop are provided in DCD Subsection 3.3.2.1.

Impact on DCD

A statement is to be added in Subsection 2.3.1 of DCD Revision 1 to refer to Subsection 3.3.2.1 for the tornado site parameters. Refer to RAI 23, question 02.03.01-5, for the sentence to be added in DCD Revision 1 Subsection 2.3.1.

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

02.03.01-4

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RAI NO.: NO. 23 REVISION 0
SRP SECTION: 02.03.01 - REGIONAL CLIMATOLOGY
APPLICATION SECTION: 02.03.01
DATE OF RAI ISSUE: 6/23/2008

QUESTION NO. : 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.

ANSWER:

It is agreed to include a reference to DCD Subsection 3.3.2.1 in DCD Subsection 2.3.1.

Impact on DCD

The paragraph in Subsection 2.3.1 of the DCD Revision 1 is to incorporate the following change:

- Add as the second sentence of the paragraph: "Refer to Subsection 3.3.2.1 for a complete summary of design basis tornado parameters, including maximum wind speed, maximum rotational speed, maximum translational speed, radius of maximum rotational wind from center of tornado, atmospheric drop, and rate of pressure change."

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

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RAI NO.: NO. 23 REVISION 0
SRP SECTION: 02.03.01 - REGIONAL CLIMATOLOGY
APPLICATION SECTION: 02.03.01
DATE OF RAI ISSUE: 6/23/2008

QUESTION NO. : 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.

ANSWER:

It is agreed that ambient temperature and humidity statistics are to be provided in DCD Table 2.0-1, as discussed in SRP 2.3.1. A 2% annual exceedance is not used as input. The 100-year maximum and minimum dry bulb temperature values are identical to the 0% maximum and minimum annual exceedance values, and therefore are not repeated as 100-year values in Table 2.0-1.

The temperature values provided in DCD Table 2.0.1 were calculated on the basis of 30 years worth of data (on an hourly basis) from an airport in the Southwest and an air base in Southern Florida, in close proximity to potential US-APWR sites. In addition, this determination also included the temperatures in the Utilities Requirements Document (URD). A statistical comparison was made and conservative values that bounded these data bases were included.

02.03.01-6

Therefore, it is considered that the values in Table 2.0.1 are bounding and representative of virtually all conditions in the continental United States.

Impact on DCD

DCD Chapter 2 Revision 1 is to incorporate the following changes:

- Add the following as 11th row in Table 2.0-1

Ambient design air temperature (1% annual exceedance maximum)	100°F dry bulb, 77°F coincident wet bulb, 81°F non-coincident wet bulb
--	--

- Add the following as 13th row in Table 2.0-1

Ambient design air temperature (1% annual exceedance minimum)	-10°F dry bulb
--	----------------

- Add the following as 5th and 6th sentences in Subsection 2.3.1: "Annual exceedance values of zero and one percent are based on the EPRI Advanced Light Water Reactor Utility Requirements Document (Reference 2.3-8) and conservative estimates of historical high and low values for potential US-APWR sites. These values are considered to bound approximately 75% to 80% of the continental US (excluding Alaska)."

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

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RAI NO.: NO. 23 REVISION 0
SRP SECTION: 02.03.01 - REGIONAL CLIMATOLOGY
APPLICATION SECTION: 02.03.01
DATE OF RAI ISSUE: 6/23/2008

QUESTION NO. : 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.

ANSWER:

As stated in DCD Revision 0 Subsection 9.2.5.2, the COL Applicant will determine the type of ultimate heat sink (UHS) based on specific site conditions and meteorological data. This is consistent with SRP 2.3.1 Section 1.6., which states meteorological conditions identified as design and operating bases for CP, OL, and COL applications include the UHS meteorological conditions resulting in the maximum evaporation and drift loss of water, minimum water cooling, and, if applicable, the potential for water freezing in the UHS water storage facility.

Impact on DCD

The paragraph in Subsection 2.3.1 of the DCD Revision 1 is to incorporate the following change:

- Add as the fourth sentence of the paragraph: "Ultimate heat sink (UHS) meteorological conditions are dependent on the site-specific climatology and selection of UHS type, as discussed in Subsection 9.2.5."

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

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**US-APWR Design Certification
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Docket No. 52-021**

RAI NO.: NO. 23 REVISION 0
SRP SECTION: 02.03.01 - REGIONAL CLIMATOLOGY
APPLICATION SECTION: 02.03.01
DATE OF RAI ISSUE: 6/23/2008

QUESTION NO. : 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.

ANSWER:

It is agreed to remove the list of information to be provided to sufficiently describe the regional meteorology of a proposed site, and to incorporate a statement of reference to SRP 2.3.1.

Impact on DCD

DCD Chapter 2 Revision 1 is to incorporate the following changes:

- Delete Subsections 2.3.1.1 and 2.3.1.2 in their entirety.
- In Subsection 2.3.1, add the following as the first sentence of the paragraph: "Site-specific information is provided for regional climatology, including general climate conditions and frequency of severe weather phenomena as discussed in SRP 2.3.1 (Reference 2.3-6)."
- Add the following to the end of Subsection 2.3.7: "2.3-6 Regional Meteorology. NUREG-0800, SRP 2.3.1, Rev. 3, U.S. Nuclear Regulatory Commission, Washington, DC, March 2007."

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

8/12/2008

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RAI NO.: NO. 23 REVISION 0
SRP SECTION: 02.03.01 - REGIONAL CLIMATOLOGY
APPLICATION SECTION: 02.03.01
DATE OF RAI ISSUE: 6/23/2008

QUESTION NO. : 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.

ANSWER:

A COL Applicant action item is stated in DCD Section 2.3 that requires a COL Applicant to verify their selected site meteorology. This action item is intended to apply to other "Meteorology" subsections including regional climatology information discussed in DCD Subsection 2.3.1. This COL Applicant action item is included in Subsection 2.3.6 as COL 2.3(1). As clarification, a statement is added for the COL Applicant to provide regional climatology information as part of providing other meteorology information consistent with Section 2.3.

Impact on DCD

Refer to RAI 21, question 02.03.03-2, for changes to sentences in Section 2.3 and Subsection 2.3.6.

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

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RAI NO.: NO. 23 REVISION 0
SRP SECTION: 02.03.01 - REGIONAL CLIMATOLOGY
APPLICATION SECTION: 02.03.01
DATE OF RAI ISSUE: 6/23/2008

QUESTION NO. : 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.

ANSWER:

As stated in Section 2.0, site parameters are selected to bound an estimated 75% to 80% of the US landmass (that is, continental US exclusive of Alaska), including all sites under current consideration. The selection of the 100-year snowpack maximum snow weight of 50 psf allows for a portion of the weight of 48-hour probable maximum winter precipitation (PMWP) as contributing to the roof live load of 75 psf for the design of seismic category I buildings. Therefore, the 100-year snowpack maximum snow weight is increased to 75 psf to account for the 48-hour PMWP and roof drainage system, which are evaluated on a site-specific basis by the COL Application.

Impact on DCD

DCD Chapter 2 Revision 1 is to incorporate the following changes:

- Change the third row, first column of Table 2.0-1 (Sheet 1 of 5): "100-year snowpack maximum snow weight (roof)" to "Roof Snow Load (100-year snowpack maximum snow weight including contributing portion of 48-hour probable maximum winter precipitation [PMWP])"
- Change the third row, second column of Table 2.0-1 (Sheet 1 of 5): "50 lb/ft²" to "75 lb/ft²"

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

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Docket No. 52-021**

RAI NO.: NO. 23 REVISION 0
SRP SECTION: 02.03.01 - REGIONAL CLIMATOLOGY
APPLICATION SECTION: 02.03.01
DATE OF RAI ISSUE: 6/23/2008

QUESTION NO. : 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.

ANSWER:

As stated in SRP Section 1.6, the site parameters for the 100-year snowpack maximum snow weight and 48-hour PMWP are provided by the DC application. The design and operating bases for the site-specific climatology are provided by the COL Application.

Relating to the roof design that would prevent the accumulation of PMWP on top of any seismic category I buildings, DCD Subsection 3.4.1.2 discusses the roof drainage design features that exist to limit the effects of PMP. To state that the roof drainage system includes allowances for the PMWP, DCD Revision 1 Subsection 3.4.1.2 is to be revised as "... a drainage system capable of handling the PMP, including allowances for primary roof drainage issues caused by probable maximum winter precipitation."

Impact on DCD

The second sentence in the second paragraph of Subsection 3.4.1.2 in DCD Revision 1 is to incorporate the following change:

- Revise "... a drainage system capable of handling the PMP." to "... a drainage system capable of handling the PMP, including allowances for the primary roof drainage issues caused by probable maximum winter precipitation."

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

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**US-APWR Design Certification
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Docket No. 52-021**

RAI NO.: NO. 23 REVISION 0
SRP SECTION: 02.03.01 - REGIONAL CLIMATOLOGY
APPLICATION SECTION: 02.03.01
DATE OF RAI ISSUE: 6/23/2008

QUESTION NO. : 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.

ANSWER:

The site parameters listed in DCD Table 2.0-1 for ambient design air temperature with exceedance values of zero, one, and five percent, are based on the EPRI Advanced Light Water Reactor Utility Requirements Document (URD) and US-APWR potential sites. These values are considered to bound approximately 75% to 80% of the continental United States (excluding Alaska).

Impact on DCD

DCD Chapter 2 Revision 1 is to incorporate the following changes:

- Add the following as the fifth sentence in Subsection 2.3.1: Exceedance values of zero, one, and five percent, are based on the EPRI Advanced Light Water Reactor Utility Requirements Document (Reference 2.3-8) and US-APWR potential sites. These values are considered to bound approximately 75% to 80% of the continental US (excluding Alaska)."
- Add the following to the end of Subsection 2.3.7: "2.3-8 Advanced Light Water Reactor Utility Requirements Document. Rev. 8, Electric Power Research Institute, Palo Alto, CA, March 1999."

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

7/18/2008

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

RAI NO.: NO. 23 REVISION 0
SRP SECTION: 02.03.01 - REGIONAL CLIMATOLOGY
APPLICATION SECTION: 02.03.01
DATE OF RAI ISSUE: 6/23/2008

QUESTION NO. : 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.

ANSWER:

Clarifications to the NRC's RAI No. 23, question 13, from MHI has led the NRC to determine that the response to this RAI is no longer necessary.

Impact on DCD

There is no impact on DCD.

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

7/18/2008

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

RAI NO.: NO. 23 REVISION 0
SRP SECTION: 02.03.01 - REGIONAL CLIMATOLOGY
APPLICATION SECTION: 02.03.01
DATE OF RAI ISSUE: 6/23/2008

QUESTION NO. : 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.

ANSWER:

Clarifications to the NRC's RAI No. 23, question 14, from MHI has led the NRC to determine that the response to this RAI is no longer necessary.

Impact on DCD

There is no impact on DCD.

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

This completes MHI's responses to the NRC's questions.

02.03.01-16