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TOKYO, JAPAN

September 8, 2009

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-09442

Subject: MHI's Response to US-APWR DCD RAI No.440-3359 Revision 1

References: 1) "Request for Additional Information No.440-3359 Revision 1, SRP Section: 01 - Introduction and Interfaces, Application Section: 1.2" dated August 12, 2009.

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.440-3359 Revision 1".

Enclosed is the responses to five RAIs contained within Reference 1.

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.

Enclosure:

1. Response to Request for Additional Information No. 440-3359, Revision 1

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

Contact Information

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DOB /
NRO

Docket No. 52-021
MHI Ref: UAP-HF-09442

Enclosure 1

UAP-HF-09440
Docket Number 52-021

Response to Request for Additional Information No. 440-3359,
Revision 1

September, 2009

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

09/08/2009

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

RAI NO.: NO. 440 - 3359 REVISION 1
SRP SECTION: 01 - INTRODUCTION AND INTERFACES
APPLICATION SECTION: 1.2
DATE OF RAI ISSUE: 8/12/09

QUESTION NO. RAI 1.2-1

In Section 1.2.1.5.6 of the US-APWR DCD, clarify the Statement:

The onsite ac power system is supplied offsite power from the transmission system by two independent connections to the transmission system.

ANSWER:

The onsite ac power system is supplied with offsite power from the grid by two physically independent circuits.

Impact on DCD

The third paragraph of DCD Tier 2 Subsection 1.2.1.5.6 will be revised as follows:

The onsite ac power system is supplied with offsite power from the grid by two physically independent circuits. Each offsite power circuit has enough capacity and capability to power the loads required during all modes of plant operation, including emergency shutdown and postulated design basis events. The onsite power system consists of both ac power system and dc power system. Both ac and dc systems include Class 1E and non-Class 1E systems. The Class 1E onsite ac and direct current (dc) power systems provide power to the safety loads required during LOOP and design basis accident (DBA) conditions. The power from the transmission system to the Class 1E distribution is preferred to furnish electric power under accident and post-accident conditions. The redundant trains are physically separated and electrically isolated from each other and also from the non-Class 1E systems.

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

09/08/2009

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RAI NO.: NO. 440 - 3359 REVISION 1
SRP SECTION: 01 - INTRODUCTION AND INTERFACES
APPLICATION SECTION: 1.2
DATE OF RAI ISSUE: 8/12/09

QUESTION NO. RAI 1.2-2

In Section 1.2.1.5.2.4 of the US-APWR DCD, clarify the Statement:

The tubes are hydraulically expanded to the full depth of the tubesheet at each end and supported by broached tube support plates.
Please clarify what is meant by "broached tube support plates."

ANSWER:

"Broached tube support plates" means the tube support plates are fabricated by a broaching process where the tube holes are made in the plate to enable tube insertion and to provide support for the tubes. The broaching process is a machining operation in which a toothed tool, known as a broach, is used to remove material. It is used when precision machining is required.

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

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RAI NO.: NO. 440 - 3359 REVISION 1
SRP SECTION: 01 - INTRODUCTION AND INTERFACES
APPLICATION SECTION: 1.2
DATE OF RAI ISSUE: 8/12/09

QUESTION NO. RAI 1.2-3

In Section 1.2.1.5.4.6 of the US-APWR DCD, clarify the statement:

The LWMS is classified as comprising the liquid waste processing system and the reactor coolant drain system.

ANSWER:

The LWMS is described in Chapter 11, Section 11.2. The LWMS includes the following:

- The equipment and floor drainage processing subsystem
- The detergent drainage subsystem
- The chemical drainage subsystem
- The reactor coolant drainage subsystem

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

09/08/2009

**US-APWR Design Certification
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RAI NO.: NO. 440 - 3359 REVISION 1
SRP SECTION: 01 - INTRODUCTION AND INTERFACES
APPLICATION SECTION: 1.2
DATE OF RAI ISSUE: 8/12/09

QUESTION NO. RAI 1.2-4

In Section 1.2.1.6 of the US-APWR DCD, clarify the statement:

The final configuration of the main cooling system is site-specific; however, the reference plant main cooling complex of the once-through cooling type.

ANSWER:

There is a typographical error in this statement. It should read, "The final configuration of the main cooling system is site-specific; however, the reference plant main cooling complex **is** of the once-through cooling type.

Impact on DCD

The third paragraph of Section 1.2.1.6 of the DCD will be revised to read:

The area within the perimeter fence of a US-APWR installation includes a site-specific portion of the facility. The control structure at the main gate controls site ingress and egress. As shown on the site plan, the main building structures are arranged with the R/B in the center and the other buildings clustered around the R/B to facilitate safe and efficient operation. The final configuration of the main cooling system is site-specific; however, the reference plant main cooling complex **is** of the once-through cooling type. The unit's auxiliary transformers, reserve auxiliary transformer, and the main step-up transformers are located in the transformer area. The main switchyard area is site specific.

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. 440 - 3359 REVISION 1
SRP SECTION: 01 - INTRODUCTION AND INTERFACES
APPLICATION SECTION: 1.2
DATE OF RAI ISSUE: 8/12/09

QUESTION NO. RAI 1.2-5

a) In Section 1.2.1.7.2.1 Reactor Building of the US-APWR DCD, there is a typo on the bottom of page 1.2-49:

“Safety metal crad switchgear and load center” should read “Safety metal clad switchgear and load center”

b) In Section 1.2.1.7.2.7 Turbine Building of the US-APWR DCD, there is a typo on the bottom of page 1.2-50:

“The T/G is” should read “The T/B is”

ANSWER:

a) Section 1.2.1.7.2.1, the second bullet under *Safety-related Electrical Area* will be revised to read:

- Safety metal clad switchgear and load center

b) Section 1.2.1.7.2.7, the first paragraph will be revised to read:

The T/B houses the non safety-related equipment of the T/G and its auxiliary systems, (main condenser, feedwater heaters, moisture separator reheaters, etc.). The T/B is steel structure, which is designed to withstand all loads including the load of the overhead traveling crane. The foundation of the building is made of concrete.

Impact on DCD

The above changes will be incorporated in Revision 2 of the DCD Tier 2.

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.