MITSUBISHI HEAVY INDUSTRIES, LTD.
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TOKYO, JAPAN

June 13, 2012

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-12160

Subject: **MHI's Response to US-APWR DCD RAI No. 930-6494 Revision 3 (SRP Section 05.04.02.01)**

Reference: 1) "Request for Additional Information 930-6494 Revision 3, SRP Section: 05.04.02.01 - STEAM GENERATOR MATERIALS - APPLICATION SECTION 5.4.2" dated May 14, 2012.

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. 930-6494 Revision 3".

Enclosed is the response to RAI 930-6494, Question 05.04.02.01-13 that is contained within Reference 1.

Please contact Mr. Joseph Tapia, General Manager of Licensing Department, Mitsubishi Nuclear Energy Systems, Inc. if the NRC has questions concerning any aspect of the submittals. His contact information is below.

Sincerely,

Y. Ogata

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

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NRO

Enclosure:

1. Response to Request for Additional Information No. 930-6494 Revision 3.

CC: J. A. Ciocco
J. Tapia

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Enclosure 1

UAP-HF-12160
Docket No.52-021

Response to Request for Additional Information No. 930-6494
Revision 3

June 2012

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

6/13/2012

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 930-6494 REVISION 3**
SRP SECTION:	**05.04.02.01 – STEAM GENERATOR MATERIALS APPLICATION SECTION 5.4 QUESTIONS for Component Integrity Branch (CIB)**
APPLICATION SECTION:	**5.04.02**
DATE OF RAI ISSUE:	**5/14/2012**

QUESTION NO.: 05.04.02.01-13

The NRC staff has become aware of operating experience in the United States that might have direct applicability to the US-APWR steam generator design. 10 CFR 52.47(a)(22) requires design certification applications to include information necessary to demonstrate how operating experience insights have been incorporated into the plant design. Specifically, tubes in the replacement steam generators (RSGs) at the San Onofre Nuclear Generating Station (SONGS) Units 2 and 3 degraded at an unexpectedly high rate during the first cycle of operation. The modes of degradation were tube wear at the retainer bar, tube-to-support wear, and tube-to-tube wear.

Although the root causes of this wear have not yet been reported, they may include features of the design and/or fabrication. Since MHI designed and fabricated the RSGs for SONGS, the staff requests that the applicant provide the following information about the steam generators proposed in the US-APWR design certification:

1. Describe how the SONGS RSG experience affects the US-APWR steam generator design and fabrication, the types of testing and analysis MHI performed in order to determine the effects, and the basis for that conclusion. If the effects have not yet been determined, please identify a date when MHI can provide this information.

2. Describe lessons learned from the SONGS RSG experience and the actions being taken in design and fabrication to preclude similar degradation in the US-APWR steam generator tubes.

ANSWER:

The SONGS RSG tube wear root cause is still under evaluation. MHI is working with Southern California Edison to complete that evaluation.

After the evaluation, MHI will be able to assess the applicability of the root cause to the US-APWR SG design. The applicability of any lessons learned to the US-APWR SG design will also be addressed.

Impact on DCD

There is no impact on the DCD

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 Reports

There is no impact on any Technical / Topical Reports.