

  
**MITSUBISHI HEAVY INDUSTRIES, LTD.**  
16-5, KONAN 2-CHOME, MINATO-KU  
TOKYO, JAPAN

September 12, 2011

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-11313

**Subject: MHI's Response to US-APWR DCD RAI 807-5967 Revision 3 (SRP  
10.04.06)**

**Reference:** 1) "Request for Additional Information 807-5967 Revision 3, SRP Section:  
10.04.06 – Condensate Cleanup System, Application Section: 10.4.6, dated  
August 18, 2011.

With this letter, Mitsubishi Heavy Industries, Ltd. ("MHI") transmits to the U.S. Nuclear  
Regulatory Commission ("NRC") a document entitled "Responses to Request for Additional  
Information 807-5967 Revision 3."

Enclosed is the response to 1 RAI 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,



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



Enclosure:

1. Response to Request for Additional Information 807-5967 Revision 3

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

Contact Information

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Docket No. 52-021  
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Enclosure 1

UAP-HF-11313  
Docket No. 52-021

Response to Request for Additional Information No. 807-5967  
Revision 3

September, 2011

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**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION**

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9/12/2011

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

**RAI NO.:** NO. 807-5967 REVISION 3  
**SRP SECTION:** 10.04.06 CONDENSATE CLEANUP SYSTEM  
**APPLICATION SECTION:** 10.4.6  
**DATE OF RAI ISSUE:** 8/18/2011

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**QUESTION NO.:** 10.04.06-17

In response to RAI 630-5044, Question 10.04.06-16 you state that the COL applicant will provide secondary side water chemistry values and operator actions, or it will commit to the latest version of the EPRI "PWR Secondary Water Chemistry Guidelines". Although the staff finds this resolution to be acceptable, you should include a new COL item in the DCD to identify this action to the COL applicant.

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**ANSWER:**

In DCD Revision 3, MHI added a COL applicant item discussion to the body of subsection 10.3.5.5. Consistent with this change, MHI will revise the DCD to add a COL item in 10.3.7 as shown below:

COL 10.3(4) The COL applicant will provide secondary side water chemistry threshold values and recommended operator actions for chemistry excursions, or provide a commitment to the latest version of the EPRI "PWR Secondary Water Chemistry Guidelines" in effect at the time of COLA submittal.

**Impact on DCD**

The COL item shown above will be added to Subsection 10.3.7. Please see Attachment-1.

**Impact on R-COLA**

The COLA will be revised to incorporate the new COL item described in the DCD.

**Impact on S-COLA**

The COLA will be revised to incorporate the new COL item described in the DCD.

**Impact on PRA**

There is no impact on the PRA.

**Impact on Technical/Topical Report**

There is no impact on a Technical/Topical Report.

This completes MHI's response to NRC's question.

## 10. STEAM AND POWER CONVERSION SYSTEM

## US-APWR Design Control Document

- smooth transition at shop or field welds
- selection of pipe diameter to have velocities within industry recommended values
- use of corrosion resistant materials
- use of austenite stainless steel and P11 and P22 chrome-moly materials

The type of fluid, flow rates, fluid temperatures and pressure of ASME Code Class 2 and 3 piping for steam and feedwater system are shown in Table 10.3.2-6.

The Combined License Applicant will provide a description of the FAC monitoring program for carbon steel portions of the steam and power conversion systems that contain water or wet steam and are susceptible to erosion-corrosion damage. The description will address consistency with Generic Letter 89-08 and NSAC-202L-R23 and will provide a milestone schedule for implementation of the program.

DCD\_10.03.  
06-12

### 10.3.7 Combined License Information

#### COL 10.3(1) FAC monitoring program

*The Combined License Applicant will provide a description of the FAC monitoring program for carbon steel portions of the steam and power conversion systems that contain water or wet steam and are susceptible to erosion-corrosion damage. The description will address consistency with Generic Letter 89-08 and NSAC-202L-R23 and will provide a milestone schedule for implementation of the program.*

DCD\_10.03.  
06-12

#### COL 10.3(2) Deleted

#### COL 10.3(3) Operating and maintenance procedures for water hammer prevention

*The Combined License Applicant is to provide operating and maintenance procedures including adequate precautions to prevent water (steam) hammer, relief valve discharge loads and water entrainment effects in accordance with NUREG-0927 and a milestone schedule for implementation of the procedure.*

#### COL 10.3(4) The COL applicant will provide secondary side water chemistry threshold values and recommended operator actions for chemistry excursions, or provide a commitment to the latest version of the EPRI "PWR Secondary Water Chemistry Guidelines" in effect at the time of COLA submittal.

DCD\_10.04.  
06-17

### 10.3.8 References

- 10.3-1 General Design Criteria for Nuclear Power Plants, NRC Regulations Title 10, Code of Federal Regulations, 10 CFR Part 50, Appendix A.
- 10.3-2 Station Blackout, Regulatory Guide 1.155 Rev.0, August 1988.