

REQUEST FOR ADDITIONAL INFORMATION 604-4775 REVISION 0

6/25/2010

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 03.09.04 - Control Rod Drive Systems  
Application Section: 3.9.4

QUESTIONS for Engineering Mechanics Branch 1 (AP1000/EPR Projects) (EMB1)

03.09.04-7

This question is a follow-up to question 03.09.04-4, RAI 570-4428.

In its response, MHI stated:

"The stepping and the rod drop test are performed as post-refueling startup test. Additionally, the stepping test is also performed in plant operation periodically. Those frequency and criteria are specified in Subsections 14.2 referring to Chapter 16."

MHI also stated it would make the following change to the DCD.

Post-Refueling Startup Test

- The stepping and the rod drop tests are performed as in-service/post-refueling startup tests. The criteria of this test are applicable to all CRDMs as described in Subsection 14.2. In addition, the stepping test is also performed in plant operation periodically, and the frequency is specified in Chapter 16.

This intended DCD change is contrary to the response above. The change is fine if the word "in-service/" is removed from the first line. MHI needs to remove this one word to make the change acceptable.

Reference: MHI's Response to US-APWR DCD RAI No. 570-4428; MHI Ref: UAP-HF-10140; dated May 19, 2010; ML101450199.

03.09.04-8

This question is a follow-up to question 03.09.04-6, RAI 570-4428.

In its response, MHI listed on-site checks and the prerequisites for the preoperational tests. The staff requests that these details be included in the next revision in the DCD.

Reference: MHI's Response to US-APWR DCD RAI No. 570-4428; MHI Ref: UAP-HF-10140; dated May 19, 2010; ML101450199.

## REQUEST FOR ADDITIONAL INFORMATION 604-4775 REVISION 0

03.09.04-9

This question is a follow-up to question 03.09.04-2, RAI 569-4433.

The staff does not find the applicant's response to be adequate.

In the applicant's response on page 2, "Since the Latch Assembly is supported by the CRDM pressure housing which is classified as Seismic Category I, the motion of the Latch Assembly is not jammed." The applicant is requested to clarify how the latch assembly cannot be jammed.

The applicant is also requested to provide a justification to explain why the latch mechanism does not need to be seismically qualified to comply with GDC 2, or to revise the seismic classifications of the CRDM components to ensure adequate seismic qualification for the safety functions of the Control Rod Drive System.

The applicant is also requested to clarify the deletions to be incorporated into DCD Revision 3 of the 2<sup>nd</sup> paragraph of Subsection 3.9.4.2.3.

*~~Sticking and galling of the latch mechanism are safety related.~~ The design, fabrication, inspection, and testing of the ~~safety-related~~ latch mechanism comes under the quality assurance requirement regarding safety components in 10 CFR 50.55a (Reference 3.9-29).*

Reference: MHI's Response to US-APWR DCD RAI No. 569-4433; MHI Ref: UAP-HF-10132; dated May 13, 2010; ML101380128.