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June 19, 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-12170

Subject: US-APWR Chapter 18, Human Factors Engineering (HFE) Roadmap

- References:**
1. "Request for Additional Information No. 793-5880 REVISION 3 (SRP 18.03)," 7/27/2011; ML112082763.
 2. "MHI's Responses to US-APWR DCD RAI No. 793-5880 REVISION 3 (SRP 18.03)," UAP-HF- 11435, 12/16/2011; ML11356A147.
 3. "03/08/2012 Notice of Meeting with Mitsubishi Heavy Industries, Ltd. Concerning the Status of the Review of the US-APWR Human Factors Engineering," ML120540364.
 4. "03/08/2012 US-APWR Chapter 18 HFE Public Meeting Handout from staff," ML120740154.

The staff issued RAI 793-5880 (Reference 1) in order to gain clarity regarding MHI's Functional Requirements Analysis (FRA) and Function Allocation (FA) methodology. MHI responded to the staff's questions in Reference 2. NRC Staff have indicated that Reference 2 does not provide sufficient clarity to complete the review regarding MHI's FRA/FA methodology.

A meeting was held March 8, 2012 (Reference 3) where MHI presented the US-APWR FRA/FA methodology and discussed ITAAC related to Task Analysis (TA), Staffing and Qualifications, and HSI Design as outlined in Reference 4. Discussion during the meeting related to the FRA/FA methodology led the Staff to revisit MHI's submittals. A teleconference was held on April 26, 2012 to discuss the status of the US-APWR HFE review.

During the April 26, 2012 call, the staff informed MHI the specificity and completeness of the process descriptions associated with the FRA/FA element of the HFE design process are insufficient, and previous submittals, including RAI responses and technical reports, do not clearly describe the FRA/FA process. The staff stated these concerns can be extended to other HFE process descriptions.

In response to the concerns expressed by the staff during the April 26, 2012 call, MHI will perform a review of associated HFE documents. The review will identify documentation which does not clearly communicate the US-APWR HFE process. Subsequently, the identified documents will be revised to include an appropriate level of detail and clarity to address the concerns raised by the Staff.

Although the scope cannot be fully defined until the review is complete, MHI will review, and possibly revise, the documents listed below in Table 1. The level of detail and clarity of a document are

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subjective by nature, and thus will necessitate further interactions with the Staff. The NRC Staff expressed in the April 26, 2012 call such interactions were anticipated, and would be supported; however, no future interactions were scheduled at that time. MHI is also willing to support future interactions to produce the highest quality result.

Table 1: HFE Documentation to be Reviewed and Potentially Revised

Document Number	Title
DCD Chapter 18	Human Factors Engineering
MUAP-10012	Verification and Validation Implementation Plan
MUAP-09019	HSI Design
MUAP-10008	Staffing and Qualifications Implementation Plan
MUAP-10009	HSI Design Implementation Plan
MUAP-10013	Design Implementation Plan
MUAP-10014	Human Performance Monitoring Implementation Plan

The review of documents identified in Table 1 will be completed by June 29, 2012. A call or meeting might be arranged to discuss the results of the review. All document revisions will be completed and submitted to the NRC by September 28, 2012. If needed, additional public meetings or calls may be arranged to discuss the specific changes made and submitted to the NRC.

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

Sincerely,



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

CC: J. A. Ciocco
J. Tapia

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