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TOKYO, JAPAN

May 27, 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-09265

Subject: MHI's Responses to US-APWR DCD RAI No. 335-2530 Revision 1

Reference: 1) "Request for Additional Information No. 335-2530 Revision 1, SRP
Section: 18 - Human Factors Engineering, Application Section: 18.5
Staffing and Qualifications," dated April 13th, 2009.

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 No. 335-2530 Revision 1."

Enclosed is the response to the 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,

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

Enclosure:

1. Response to Request for Additional Information No. 335-2530 Revision 1

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

D081
NRC

Contact Information

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Enclosure 1

UAP-HF-09265
Docket No. 52-021

Response to Request for Additional Information No. 335-2530
Revision 1

May 2009

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

5/27/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.: NO. 335-2530 REVISION 1
SRP SECTION: 18 - HUMAN FACTORS ENGINEERING
APPLICATION SECTION: 18.5 STAFFING AND QUALIFICATIONS
DATE OF RAI ISSUE: 4/13/2009

QUESTION NO. 18-27

On January 28, 2009 MHI submitted predecessor design information for the Japanese APWR. The following documents describing historical practices were submitted by MHI: Selection of Event Scenario for Task Analysis, January 2009, (UAP-HF-09020-Enclosure 5)

Task Analysis (GOMS) Summary Report, January 2009, (UAP-HF-09020- Enclosure 6) . The cover letter (UAP-HF-090920) for these enclosures stated that they were intended to present the HFE bases used for the design of the US-APWR.

The enclosures to MHI document UAP-HF-09020 provide information that indicates a methodology was used but the documents don't sufficiently demonstrate how that methodology incorporated guidance from NUREG-0711. Nor was the case made that the predecessor plant design could stand on its own as the starting point for the development of the US-APWR design. From the information the staff has received, there does not appear to be a good basis for making such a case.

The enclosures of MHI document UAP-HF-09020 were particularly difficult to evaluate for the following reasons:

1. No overall structure was provided. It was difficult to understand the basis and methodology for conducting the task analysis for the APWR design.
2. There was a significant amount of atypical word usage. The staff had to make assumptions about intended meaning in many places.
3. Criteria and methods used to reach results were not sufficiently described
4. The use of these documents is uncertain. They do not appear to be documents which would be included by reference in the US APWR DCD.
5. The task analysis that was conducted used single-operator operation scenarios. It is not clear how this will be implemented for the US-APWR design which requires at least two operators at all time. This issue has been described in RAI-2526.

Please provide a description of the methodology used to complete the task analysis for the APWR, and ensure that the level of detail is sufficient to demonstrate the structure of the approach.

ANSWER:

The technical report which will be submitted in June, 2009 includes the implementation procedure used to conduct the task analysis. This procedure, along with the results of the task analysis conducted for this phase of the HFE program, demonstrates the structure of the approach.

Impact on DCD

There is no impact on the COLA

Impact on COLA

There is no impact on the COLA

Impact on PRA

There is no impact on the PRA

This completes MHI's responses to the NRC's questions.