

REQUEST FOR ADDITIONAL INFORMATION 755-5727 REVISION 3

5/10/2011

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 18 - Human Factors Engineering

Application Section: 18.11

QUESTIONS for Operating Licensing and Human Performance Branch (AP1000/EPR Projects) (COLP)

18-115

NUREG-0711, Section 12.4.6, criteria 2 states that the final as-built HSIs should be compared with the detailed design description to verify they conform to the design that resulted from the HFE design process and V&V activities. In section 2.0, "Scope," of the Design Implementation Plan (MUAP-10013, R0) it states that, "This plan covers all the safety significant HSI in the as-built US-APWR plant." Please clarify the meaning of term "safety significant."

18-116

Revision 3 of the DCD Chapter 18 does not contain a reference to the Design Implementation Plan (MUAP-10013, R0). Information within the IP is needed for the staff to reach a safety conclusion. Revise the DCD to include a reference to the Design IP.

18-117

NUREG-0711, Section 12.4.6, criteria 1, states that aspects of the design that were not addressed in V&V should be evaluated using an appropriate V&V method. In the last sentence, the criteria provide two examples (lighting & noise) as some of the design aspects that cannot be evaluated in a simulator. Section 18.11.2, of the DCD uses this NUREG criterion as one of the criteria for the design implementation methodology. The staff was not able to find any mention of how the methodology for this criteria will be implemented in the Design Implementation Plan (MUAP-10013, R0), Section 4.0 "Implementation Plan." How will the aspects that were not addressed in V&V be evaluated? Lighting and noise, are some examples. are there more or other aspects for the US-APWR design that cannot be evaluated on the simulator?

18-118

NUREG-0711, Section 12.4.6, criterion 1, states that aspects of the design that were not addressed in V&V should be evaluated using an appropriate V&V method. Please clarify the following staff concerns about MUAP-10013 (R0), Section 4.1.5, "MCR In-Situ Check,":

a. Clarify the term "in-situ."

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- b. Is the "in-situ assessment" described in the first paragraph, the regression analysis that is described in the second paragraph or something else? If it is not, please describe what will be done in this assessment.

18-119

Section 12.3, "Applicant Submittals," in NUREG-0711, states, "Upon completion of the applicant's efforts, a *results summary report* should be submitted so that the staff can review the applicant's design implementation using the criteria provided in Section 12.4 below." The results summary report not only provides a document for the staff to use to review the outcome of the DI process, it also assists the staff in determining responsibilities in the process (vendor/license applicant).

There does not appear to be information about a summary report in the Design IP (MUAP-10013). Will there be a summary report for the DI process? If so, include a description of the DI summary report in the IP. If not, clarify why this document was not included in the Design IP.