

REQUEST FOR ADDITIONAL INFORMATION 413-2998 REVISION 1

6/24/2009

US-APWR Design Certification
Mitsubishi Heavy Industries
Docket No. 52-021
SRP Section: 18 - Human Factors Engineering
Application Section: DCD section 18.10

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

18-63

Acceptance Criteria:

NUREG-0711 section 11 provides acceptance criteria for HFE design verification and validation.

Evaluation:

The staff has reviewed the DCD Chapter 18 section 10; MUAP-07007-P, Revision 1, "HSI system Design Description and HFE Process;" and Technical Report MUAP-08014P, Rev. 0, "Human System Interface Verification and Validation (Phase 1a)."

In general the V&V information is not of sufficient detail to support an implementation plan level review. This is based on the following conclusions:

1. NUREG-0711 acceptance criteria are consistently either quoted or summarized with no further detail explaining how the acceptance criteria will be met. With no more information than a restatement of the NUREG criteria, the staff cannot evaluate whether appropriate methods are used to implement the criteria.
2. The dependency on Japanese predecessor plant design is continued in this section. As communicated previously, there is insufficient information on the predecessor design. The basis for the Japanese predecessor plant HFE design must be explained because it has not been previously approved for operation in the United States.
3. A V&V implementation plan has not been submitted while MUAP-08014 is submitted as a results summary report. Review and approval of subproducts specified by the NUREG acceptance criteria (Operational conditions, scenarios, performance characteristics, performance measures) are needed before results summary reports can be evaluated. (NOTE: The phase 1a V&V described in MUAP08014 more closely corresponded to a performance based test as described in NUREG-0711 section 8.4.6.2 than V&V)

Information Request:

Please explain how each of the NUREG-0711 V&V criterion is (or will be) accomplished.