

REQUEST FOR ADDITIONAL INFORMATION NO. 181-2047 REVISION 0

2/9/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 14.03.05 - Instrumentation and Controls - Inspections, Tests, Analyses, and Acceptance
Criteria
Application Section: DCD Section 2.5

QUESTIONS for Construction Inspection and Allegations Branch (CCIB)

14.03.05-1

ITAAC Items 1 and 2 in Table 2.5.1-5

These two ITAAC state that the functional arrangements of the RPS, ESFAS, SLS, HSIS, and DAS are as described in Figures 2.5.1-1, -2, and -3 and also the design description. The design description does not really describe the functional arrangements of these systems. Can you indicate other than reference to figures in the design description where the functional arrangements of these systems are stated in the design description?

14.03.05-2

ITAAC Item 4 in Table 2.5.1-5

This ITAAC makes reference to level switches in the design commitment and acceptance criterion. Level switches in this connotation could have two meanings. Actual level switches for measuring level and also the classification of being at the division level. A clarification of what is actually meant is required.

14.03.05-3

ITAAC Item 7 in Table 2.5.1-5

The acceptance criterion for this ITAAC should include the following words at the beginning of sentence. "A report exists and concludes that the tests and/or analyses determined that....."

In addition, the words in the acceptance criterion should be as descriptive as the design commitment.

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14.03.05-4

ITAAC Item 9 in Table 2.5.1-5

The ITAAC is concerned with each division of PSMS being powered from its own Class 1E division. However, the design description states that each division of the PSMS is supplied from two safety-related power sources to ensure reliability. Clarify the intent of this ITAAC taking into account what is stated in the design description.

14.03.05-5

ITAAC Item 10 in Table 2.5.1-5

This ITAAC should be split into two ITAAC - one for PSMS redundant divisions and one for the communication systems.

The two paragraphs in the design commitment can be combined into one for the PSMS redundant divisions by stating that electrical independence is achieved by installing isolators at interfaces between redundant divisions.

The ITAAC for the communication systems should state what is stated in the 3) acceptance criterion about communication independence being achieved by separation of the communication processing functions from those for trip and actuation processing functions.

14.03.05-6

ITAAC Item 11 of Table 2.5.1-5

The design commitment is more descriptive than the acceptance criterion. This is not acceptable. The acceptance criterion must be as and/or more descriptive than the design commitment. The words 'the ability to manually actuate the display' are confusing and their intent does not seem clear.

This is also applicable to following ITAAC:

ITAAC Item 19 of Table 2.5.1-5 - In addition, the AC of this ITAAC only refers to the uncertainties being based on the methodology, whereas the design commitment refers to both setpoints and uncertainties being based on the methodology.

ITAAC Item 20 of Table 2.5.1-5

ITAAC Item 21 of Table 2.5.1-5

ITAAC Item 22 of Table 2.5.1-5

ITAAC Item 24 of Table 2.5.1-5

ITAAC Item 1 of Table 2.5.3-4

ITAAC Item 2 of Table 2.5.3-4

ITAAC Item 4 of Table 2.5.3-4

ITAAC Item 5 of Table 2.5.3-4

ITAAC Item 3 of Table 2.5.4-2

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ITAAC Item 1 of Table 2.5.5-1

ITAAC Item 2 of Table 2.5.5-1

ITAAC Item 3 of Table 2.5.5-1

ITAAC Item 1 of Table 2.5.6-1

ITAAC Item 2 of Table 2.5.6-1

14.03.05-7

ITAAC Item 13 in Table 2.5.1-5

Confirm that the equipment listed in table 2.5.1-1 for item 13 are not only properly color coded to their respective divisions, but are also uniquely identified by equipment number tag or bar code.

Each item of equipment needs to be uniquely identified by equipment tag or bar code that identifies the equipment and its service. This facilitates physically locating an item of equipment and matching it to its function on its associated P&ID drawing. This also uniquely identifies the equipment for purposes of the instrument recall system and machinery history records.

14.03.05-8

ITAAC Item 15 in Table 2.5.1-5

How is isolation achieved between the PSMS and the PCMS? If this by isolators, should not the isolators be tested as in ITAAC 10 in this same table?

14.03.05-9

ITAAC Item 2 in Table 2.5.2-3

The design commitment and acceptance criterion appear to have three different ITAAC in one. If that is the intent, then the ITAAC should be numbered separately. If that is not the intent, then clarification is required in this ITAAC.