

## US-APWRRAlSPeM Resource

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**From:** Ciocco, Jeff  
**Sent:** Tuesday, May 29, 2012 1:54 PM  
**To:** us-apwr-rai@mhi.co.jp; US-APWRRAlSPeM Resource  
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**Subject:** US-APWR Design Certification Application RAI 936-6466 (14.3.5, Tier 1, 2.5)  
**Attachments:** US-APWR DC RAI 936 CITB 6466.pdf

MHI,

The attachment contains the subject Request for Additional Information (RAI). This RAI was sent to you in draft form. Your licensing review schedule assumes technically correct and complete responses within 30 days of receipt of RAIs. However, MHI requests, and we grant 60 days to respond to this RAI. We will adjust the schedule accordingly.

Please submit your RAI response to the NRC Document Control Desk.

Thank you,

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**Hearing Identifier:** Mitsubishi\_USAPWR\_DCD\_eRAI\_Public  
**Email Number:** 7

**Mail Envelope Properties** (320204600EA7B9408FE833FF15E4FF7D91D5B8CB02)

**Subject:** US-APWR Design Certification Application RAI 936-6466 (14.3.5, Tier 1, 2.5)  
**Sent Date:** 5/29/2012 1:53:58 PM  
**Received Date:** 5/29/2012 1:54:01 PM  
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<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	601	5/29/2012 1:54:01 PM
US-APWR DC RAI 936 CITB 6466.pdf	69306	
image001.jpg	3989	

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REQUEST FOR ADDITIONAL INFORMATION 936-6466 REVISION 3

5/29/2012

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: Tier 1, 2.5

QUESTIONS for ITAAC Branch (CITB)

14.03.05-33

Tier 1 Table 2.5.1-6, ITAAC 1 & 2 – This ITAAC should be deleted. SRP 14.3 does not require a “functional arrangement” ITAAC for I&C systems. The system is adequately verified by logic testing.

14.03.05-34

Tier 1 Table 2.5.1-6, ITAAC 4 – This ITAAC should be reworded for clarity and specificity. Define the extent to which the test must carry through the logic (e.g. do the components in the field have to change state).

- a. “Conventional PSMS switches in the MCR can be used to provide manual initiation for reactor trip and ESF Manual Actuations identified in Tables 2.5.1-2 and 2.5.1-3.”

*Conventional switches on the operators console in the MCR can be used to provide manual initiation for reactor trip and ESF Manual Actuations identified in Tables 2.5.1-2 and 2.5.1-3.*

- b. “As-built conventional PSMS switches in the MCR can be used to provide manual initiation for the reactor trip Manual Actuation identified in Table 2.5.1-2 and the ESF Manual Actuations identified in Table 2.5.1-3.”

*The reactor trip Manual Actuation identified in Table 2.5.1-2 and the ESF Manual Actuations identified in Table 2.5.1-3 successfully actuate upon manual operation of the as-built conventional PSMS switches on the operators console in the MCR.*

14.03.05-35

Tier 1 Table 2.5.1-1 lacks adequate specificity. What comprises the RT and ESF Measurement Instrumentation?

14.03.05-36

Tier 1 Table 2.5.1-6, ITAAC 8 - Is analysis also required? Does this actually include the field instruments? Would these be subjected to accident related hazards?

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14.03.05-37

Tier 1 Table 2.5.1-6, ITAAC 9 - Verification of separate power sources should be by a test signal. Utilizing Tier 2 Figure 7.1-4 would provide more specificity as to the power source configuration.

14.03.05-38

Tier 1 Table 2.5.1-6, ITAAC 11 - This ITAAC should be reworded. The objective of what is being verified, how it's being verified and the acceptance criteria are not clear.

14.03.05-39

Tier 1 Table 2.5.1-6, ITAAC 14.a & b - The extent to which the test is carried through needs to be defined. Are simulated signals acceptable?

14.03.05-40

Tier 1 Table 2.5.1-6, - ITAAC 16 - The intent of what this ITAAC is attempting to verify is not clear (e.g. the specific instruments are not identified, is this meant to be a simple cable ck or are actual inputs from the field instruments to be verified?).

14.03.05-41

Tier 1 Table 2.5.1-6, ITAAC 17.a - What is considered timely? The design commitment and acceptance criteria should match.

14.03.05-42

Tier 1 Table 2.5.1-6, ITAAC 18 & 29.a - Are simulated signals going to be used?

14.03.05-43

Tier 1 Table 2.5.1-6, ITAAC 29.b - The extent to which the test is carried through needs to be defined. Are simulated signals acceptable?

14.03.05-44

Tier 1 Table 2.5.2-3, ITAAC 6 - This ITAAC should be deleted. SRP 14.3 does not require a "functional arrangement" ITAAC for I&C systems. The system is adequately verified by logic testing.

## REQUEST FOR ADDITIONAL INFORMATION 936-6466 REVISION 3

14.03.05-45

Tier 1 Table 2.5.2-3, ITAAC 7 - The extent to which the test is carried through needs to be defined.

14.03.05-46

Tier 1 Table 2.5.3-4, ITAAC 1 - This ITAAC should be deleted. SRP 14.3 does not require a "functional arrangement" ITAAC for I&C systems. The system is adequately verified by testing.

14.03.05-47

Tier 1 Table 2.5.3-4, ITAAC 1.c & 1.d - The extent to which each test is carried through needs to be defined. Identify the location of the controls.

14.03.05-48

Tier 1 Table 2.5.3-4, ITAAC 1.e - Please specify the seismic event referred to in the ITAAC.

14.03.05-49

Tier 1 Table 2.5.5-1, ITAAC 1 - This ITAAC should be deleted. SRP 14.3 does not require a "functional arrangement" ITAAC for I&C systems. The system is adequately verified by testing.

14.03.05-50

Tier 1 Table 2.5.6-1, ITAAC 1, Delete the ITAAC. SRP 14.3 does not require a "functional arrangement" ITAAC for I&C systems. The system is adequately verified by testing.

14.03.05-51

Tier 1 Table 2.5.6-1, ITAAC 4 - Please add analysis to the ITA.

