

REQUEST FOR ADDITIONAL INFORMATION NO. 183-1935 REVISION 0

2/9/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 14.03.07 - Plant Systems - Inspections, Tests, Analyses, and Acceptance Criteria
Application Section: DCD Section 2.7

QUESTIONS for Construction Inspection and Allegations Branch (CCIB)

14.03.07-7

Discuss why inspections are not required by US-APWR DCD Tier 1 Table 2.7.6.7-3, item 5 to verify that seismic category I PSS equipment, identified in US-APWR DCD Tier 1 Table 2.7.6.7-1, are located in a seismic structure.

An important aspect of the seismic design commitment for item 5 is that the PSS components are located in a seismic structure. An inspection for component location relative to seismically protected structures is necessary. Example 5.a.i in Tier 2 Table 14.3-2 provides an acceptable verification of the commitment.

Also applicable to following ITAAC:

ITAAC Item 2 in Table 2.7.6.13-3

14.03.07-8

Identify the source of signal to be evaluated in the test for item 10.b in US-APWR DCD Tier 1 Table 2.7.6.7-3.

The Logic section in Tier 1 Section 2.7.6.7.1 on page 2.7-212 indicates that a containment isolation signal will cause the valves listed in US-APWR DCD Tier 1 Table 2.7.6.7-1 to close. The specific valve positioning signal should be identified for clarity.

The design commitment should state that 'The PSS valves identified in Table 2.7.6.7-1 perform the active safety functions listed in that table upon receipt of a signal.'

The AC should mirror the revised design commitment.

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14.03.07-9

ITAAC Item 2 in Table 2.7.6.9-2

This ITAAC if necessary asks an inspector to verify that fire detectors actuate when they are not identified by reference to a table or a listing of them. Both the design commitment and AC should identify those fire detectors. In additions, the AC would be better stated like the following: 'The tests of the as-built fire detectors conclude that all the fire detectors (reference) responded to simulated fire conditions and initiated fire alarms.'

14.03.07-10

ITAAC Item 3 in Table 2.7.6.9-2

This ITAAC should identify the number of fire pumps and their percentage capacity rather than referring to a sufficient number of them. It should also identify the largest fire pump. The failure of largest fire pump seems applicable to single failure criteria.

14.03.07-11

ITAAC Item 4 in Table 2.7.6.9-2

This ITAAC is actually two ITAAC configured as one. The two ITAAC should be shown as two ITAAC.

In addition, the ITAAC should direct the reader to a listing of the equipment required for safe shutdown or a report/study listing them.

Applicable also to following ITAAC:

ITAAC Item 6 in Table 2.7.6.9-2 - Only in regard to listing two ITAAC instead of one.

14.03.07-12

ITAAC Item 5 in Table 2.7.6.9-2

This ITAAC is very confusing how it is presently written. Suggested changes are the following:

'The fire protection water supply system has at least 300,000 gallons available from primary or redundant sources for the largest US-APWR sprinkler system plus manual hose streams to support those fire suppression activities for two hours or longer.'

Both the design commitment and the AC could use those words.

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14.03.07-13

The following typographical or editorial errors were noted in US-APWR Tier 2, Chapter 14, Section 14.3.4.8 and Tier 1, Chapter 2, Section 2.8:

Page 2.8-2, Design Commitment, Item 2: The word "is" should be "are."

14.03.07-14

Explain the link between the Design Commitment specified in US-APWR DCD Tier 1 Table 2.8-1, items 1.a and 1.b, and the reference to radiation zones identified in US-APWR DCD Tier 1 Table 2.8-2.

US-APWR DCD Tier 1 Table 2.8-2 is not discussed in Tier 1 Section 2.8. The zones identified in Table 2.8-2 are not tied to any specific Tier 1 Figures. The US-APWR DCD Tier 1 Table 2.8-1, items 1.a and 1.b design commitment is that shielding walls and doors are provided to maintain the maximum radiation levels specified in Table 2.8-2. Any radiation level is possible per US-APWR DCD Tier 1 Table 2.8-2. As written and explained, it is not possible for an inspector to verify the design commitments listed in US-APWR DCD Tier 1 Table 2.8-1, items 1.a and 1.b.

For item 1.b, why no reference to a listing of shielding walls and floor in auxiliary building like for item 1.a.

14.03.07-15

ITAAC Item 2 in Table 2.8-1

The reference for this ITAAC seems confusing. If everything is covered in Section 2.7.6.13, what is the need for this ITAAC?