

US-APWRRRAIsPEm Resource

From: Ciocco, Jeff
Sent: Monday, March 04, 2013 2:55 PM
To: us-apwr-rai@mhi.co.jp; US-APWRRRAIsPEm Resource
Cc: Tegeler, Bret; Shams, Mohamed; Reyes, Ruth; Hamzehee, Hossein
Subject: US-APWR Design Certification Application RAI 1011-7041 (19.1.5)
Attachments: US-APWR DC RAI 1011 SEB1 7041.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 45 days to respond to the RAI. We will adjust the schedule accordingly.

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

Thank you,

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REQUEST FOR ADDITIONAL INFORMATION 1011-7041

Issue Date: 3/4/2013

Application Title: US-APWR Design Certification - Docket Number 52-021

Operating Company: Mitsubishi Heavy Industries

Docket No. 52-021

Review Section: 19 - Probabilistic Risk Assessment and Severe Accident Evaluation
Application Section: 19.1.5

QUESTIONS

19-582

(Follow-up to RAI question 19-525)

Seismic Qualification of Equipment

In RAI 761-5804, question 19-525, staff requested the applicant to address seismic margin qualification of Seismic Category I equipment to assure at least a 1.67 factor margin above the SSE in accordance with ISG-20. In addition, staff noted that ISG-20 stipulates that test response spectra must be chosen so as to demonstrate no more than one percent rate of failure would be expected when the plant is subjected to the applicable seismic margin ground motion.

In a June 28, 2011 RAI response (ML11181A006), the applicant stated that a load factor of 1.4 or smaller can meet the target high confidence of low probability of failure (HCLPF) value with margin. The applicant described the technical basis supporting this conclusion in MUAP-07030(R3), US-APWR Probabilistic Risk Assessment, Attachment 24E.

Staff performed a review of the applicant's technical basis, described in MUAP-07030(R3), Attachment 24E, and finds the technical approach to be consistent with industry guidance referenced in ISG-20. However, ISG-20, Section 5.4, stipulates that for equipment on the seismic equipment list (SEL) qualified via tests, DCD Chapter 19 should include a description of procurement specification including the enhanced required response spectra (RRS) as described in ISG-20, Section 5.1.2. This description is limited to equipment on the SEL which is qualified via tests to ensure appropriate HCLPF capacity of the procured equipment. Staff review of USAPWR DCD, Chapter 19, finds that no such description is provided. To address this issue, staff requests the applicant to include a description of procurement specification in DCD Chapter 19 including the enhanced RRS consistent with ISG-20, Section 5.1.2.

19-583

Post-DC Activities

(Follow-up to RAI question 19-526)

REQUEST FOR ADDITIONAL INFORMATION 1011-7041

In RAI 761-5804, question 19-526, staff requested the applicant provide additional information pertaining to the need for a COL action requiring verification of plant SSC seismic margin capacity consistent with the FSAR.

In a June 28, 2011 RAI response (ML11181A006), the applicant provided a new COL action item, COL 19.3(5), requiring the COL applicant to identify a milestone for completing a comparison of the as-built SSC HCLPFs to those assumed in DCD Section 19.1.5.1. Staff performed a review of COL 19.3(5), and finds that it does not satisfy ISG 20 acceptance criteria. ISG-20, Section 5.1.4, stipulates that the DCD should contain COL items requiring the COL applicant to (1) update the design specific plant system and accident sequence analysis to incorporate site-specific effects (soil liquefaction, slope failure, etc.) and plant-specific features (safety-related site-specific structures), (2) update the seismic equipment list (SEL) with HCLPF values and associated failure modes to adequately reflect the site-specific effects and plant-specific features of the COL site. The proposed COL item does not address these aspects.

To address this issue, staff requests the applicant to revise COL item 19.3(5) to address the criteria discussed in ISG-20, Section 5.1.4.

