

## US-APWRRRAIsPEm Resource

---

**From:** Ciocco, Jeff  
**Sent:** Tuesday, May 07, 2013 2:15 PM  
**To:** us-apwr-rai@mhi.co.jp; US-APWRRRAIsPEm Resource  
**Cc:** Stubbs, Angelo; Lee, Samuel; Galvin, Dennis  
**Subject:** US-APWR Design Certification Application RAI 1030-7105 (3.4.1)  
**Attachments:** US-APWR DC RAI 1030 BFP 7105.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.

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

Thank you,

Jeff Ciocco  
US-APWR Projects  
New Nuclear Reactor Licensing  
301.415.6391  
[jeff.ciocco@nrc.gov](mailto:jeff.ciocco@nrc.gov)



**Hearing Identifier:** Mitsubishi\_USAPWR\_DCD\_eRAI\_Public  
**Email Number:** 96

**Mail Envelope Properties** (320204600EA7B9408FE833FF15E4FF7DD657B752CE)

**Subject:** US-APWR Design Certification Application RAI 1030-7105 (3.4.1)  
**Sent Date:** 5/7/2013 2:15:22 PM  
**Received Date:** 5/7/2013 2:15:24 PM  
**From:** Ciocco, Jeff

**Created By:** Jeff.Ciocco@nrc.gov

**Recipients:**

"Stubbs, Angelo" <Angelo.Stubbs@nrc.gov>

Tracking Status: None

"Lee, Samuel" <Samuel.Lee@nrc.gov>

Tracking Status: None

"Galvin, Dennis" <Dennis.Galvin@nrc.gov>

Tracking Status: None

"us-apwr-rai@mhi.co.jp" <us-apwr-rai@mhi.co.jp>

Tracking Status: None

"US-APWRRRAIsPEm Resource" <US-APWRRRAIsPEm.Resource@nrc.gov>

Tracking Status: None

**Post Office:** HQCLSTR01.nrc.gov

Files	Size	Date & Time
MESSAGE	501	5/7/2013 2:15:24 PM
US-APWR DC RAI 1030 BFPF 7105.pdf		59411
image001.jpg	3989	

**Options**

**Priority:** Standard

**Return Notification:** No

**Reply Requested:** No

**Sensitivity:** Normal

**Expiration Date:**

**Recipients Received:**

# REQUEST FOR ADDITIONAL INFORMATION 1030-7105

Issue Date: 5/7/2013

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

Operating Company: Mitsubishi Heavy Industries

Docket No. 52-021

Review Section: 03.04.01 - Internal Flood Protection for Onsite Equipment Failures  
Application Section: 3.4.1

## QUESTIONS

03.04.01-33

In the applicant's 2nd revised response to RAI 841-6055, the applicant made revisions to the internal flooding analyses based on changes in moderate energy line crack contributions to internal flooding due to changes in the design to some portions of moderate energy lines. In the response the applicant stated “most of the water-containing moderate energy piping is excluded from flooding source because that piping is to be designed so that a crack is not required to be postulated in the line in accordance with the criteria described in Section 3.6.2.1.2.2.” According to the RAI response, this will be attained in design by maintaining stress on the pipes below the threshold by means of route and support design. It was also noted that cracks are not postulated only if the cracks are excluded based on the criteria specified in Section 3.6.2.1.2.1 or 3.6.2.1.2.2, and that full-circumferential breaks of non-seismically designed pipes are considered in the flooding evaluation in conformance with SRP 3.4.1.

Mark ups to Section 3.4.1 of the US-APWR DCD were also provided as part of the response to RAI 841-6055. The terminology used in the DCD markups of sections discussing the moderate energy line flooding evaluation often states that most of the water-containing moderate energy piping in the area is excluded from flooding sources because the piping is to be designed so that a crack is not required to be postulated in accordance with the criteria described in subsection 3.6.2.1.2.2.

On April 17, 2013, the staff conducted an audit of the US-APWR flooding evaluations. The staff reviewed the applicant calculations and drawings and confirmed that applicant treatment of flooding from moderate energy lines were appropriate. However, the staff finds that the applicant does not clearly identify the moderate energy line system, and piping that will be designed to meet the “no crack” criteria in the US-APWR DCD. Therefore, the staff requests that the applicant provide additional information in the DCD to more clearly identify the criteria used for classification of the moderate energy piping (or systems) to be designed as "no crack," and identify the piping systems (or portions of piping system) that the "no crack" design is being applied as well as those where moderate energy piping is assumed to crack or break.

