

## ArevaEPRDCPEm Resource

---

**From:** Gleaves, Bill  
**Sent:** Wednesday, March 05, 2014 11:37 AM  
**To:** usepr@areva.com  
**Cc:** ArevaEPRDCPEm Resource; Gleaves, Bill; Budzynski, John; Wunder, George; Lu, Shanlai; Ashley, Clinton  
**Subject:** US EPR FINAL RAI 626, Question 06.03-19, eRAI 7281  
**Attachments:** RAI\_7281.docx

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on or about February 2, 2014, and discussed with your staff on or about February 27, 2014. We understand that the RAI contains no proprietary information. The schedule we have established for review of your application assumes technically correct and complete responses within 30 days of receipt of RAIs, unless otherwise agreed.

Sincerely,

Billy

William (Billy) Gleaves  
Sr. Project Manager  
U.S. EPR Design Certification  
U.S. Nuclear Regulatory Commission  
Telephone: 301-415-5848

The contents of this message may be sensitive. If this message has been received in error, please delete it without reading it. Your receipt of this message is not intended to waive any applicable privilege. Please do not disseminate this message without the permission of the author.

**Hearing Identifier:** AREVA\_EPR\_DC\_RAIs  
**Email Number:** 4828

**Mail Envelope Properties** (6F9E3C9DCAB9E448AAA49B8772A448C501A34EFE2F58)

**Subject:** US EPR FINAL RAI 626, Question 06.03-19, eRAI 7281  
**Sent Date:** 3/5/2014 11:36:51 AM  
**Received Date:** 3/5/2014 11:36:55 AM  
**From:** Gleaves, Bill

**Created By:** Bill.Gleaves@nrc.gov

**Recipients:**

"ArevaEPRDCPEm Resource" <ArevaEPRDCPEm.Resource@nrc.gov>  
Tracking Status: None  
"Gleaves, Bill" <Bill.Gleaves@nrc.gov>  
Tracking Status: None  
"Budzynski, John" <John.Budzynski@nrc.gov>  
Tracking Status: None  
"Wunder, George" <George.Wunder@nrc.gov>  
Tracking Status: None  
"Lu, Shanlai" <Shanlai.Lu@nrc.gov>  
Tracking Status: None  
"Ashley, Clinton" <Clinton.Ashley@nrc.gov>  
Tracking Status: None  
"usepr@areva.com" <usepr@areva.com>  
Tracking Status: None

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

Files	Size	Date & Time
MESSAGE	943	3/5/2014 11:36:55 AM
RAI_7281.docx	30024	

**Options**

**Priority:** Standard  
**Return Notification:** No  
**Reply Requested:** No  
**Sensitivity:** Normal  
**Expiration Date:**  
**Recipients Received:**

## **Request for Additional Information 626**

Issue Date: 03/05/2014

Application Title: U. S. EPR Standard Design Certification - Docket Number 52-020

Operating Company: AREVA NP Inc.

Docket No. 52-020

Review Section: 06.03 - Emergency Core Cooling System

Application Section: 6.3

### **QUESTION**

06.03-19

GDC 35 states that the emergency core cooling system shall provide abundant core cooling assuming a single failure.

In Chapter 6 of Revision 5 to the U.S. EPR FSAR Tier 2, the design certification applicant specifies that a non-safety-related pump and safety related isolation valves will be installed (attached and in parallel to the medium head safety injection system) to address the potential for Extended Loss of AC Power (ELAP) at a U.S. EPR nuclear power plant.

Figure 6.3-2, "Safety Injection / Residual Heat Removal System Train (Typical)," shows a Class I MOV (30JND11 AA012) rated for 1525 psi leading off the safety-related medium head safety injection (MHSI) line that is capable of failing via spurious opening (see also Table 6.3-6, "Safety Injection System Failure Modes and Effects Analysis"). A check valve (30JND11 AA011) in sequence after the MOV intended to prevent flow off the MHSI line in the event of a spurious opening is Class II and rated for 600 psi. How does this configuration satisfy GDC 35? The FMEA results should be reviewed in order to ensure that they are consistent with the regulatory requirements.

The basis for the question relates to conditions that would result in loss of the MHSI function; that is, the direction of flow posited is from the MHSI system in reverse flow through the check valve.