

## **NRR-PMDAPEm Resource**

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**From:** Feintuch, Karl  
**Sent:** Thursday, September 15, 2011 6:56 PM  
**To:** 'jack.gadzala@dom.com'  
**Subject:** ME6288 - Kewaunee Amendment Request Re: service water flow to component cooling heat exchangers - Request for Additional Information (RAI)

(DRAFT) REQUEST FOR ADDITIONAL INFORMATION  
KEWAUNEE POWER STATION  
LICENSE AMENDMENT REQUEST 252:  
OPERATION OF SERVICE WATER FLOW TO  
COMPONENT COOLING HEAT EXCHANGERS  
DOCKET NO. 50-305

By letter dated May 9, 2011 (ADAMS Accession Number ML11137A028), as supplemented by a letter dated June 30, 2011 (ML111820365), Dominion Energy Kewaunee, Inc. (DEK, the licensee) requested an amendment to the Renewed Facility Operating License for the Kewaunee Power Station (KPS). The proposed amendment would revise the KPS current licensing basis (CLB) regarding the manner in which service water is supplied to the component cooling heat exchangers by the main return valves and the bypass flow control valves.

In the course of their technical reviews, the cognizant technical branches (SBPB – Balance of Plant Branch and IHPB – Health Physics and Human Performance Branch) have requested further information items to enable completion of their respective Safety Evaluation efforts. These items are provided in draft form for you to review for clarification. We seek to confirm your understanding of the items and the determination of a firm date for response, typically within 30 days of the date of this Request for Additional Information (RAI).

Please contact me by 9/19/2011 to confirm that the items are clear to you and to the responsive DEK staff without further discussion or that a clarifying conference call is needed. Upon determination that the RAI items are clear and confirmation of when responses to these items are due, these draft RAI items will be considered to be in final form.

### **RAI-1 ( from SBPB)**

Table 1 of the licensee's letter dated June 30, 2011, states that during the post accident injection phase, approximately 1200 gallons per minute (gpm) flow through each of the bypass valves SW 1306 A and B. SW 1306 A and B are 4 inch throttle valves in the 4 inch bypass lines around the 10 inch component cooling heat exchanger SW discharge valves. The Nuclear Regulatory Commission's staff notes that 1200 gpm flow through a 4 inch pipe has a flow velocity greater than 30 ft/sec. From Figure 9.6-2 of the KPS USAR, the 4 inch bypass valves appear to be globe valves, which could have a seat diameter that is typically 0.75 (or less) of the size of the pipe diameter (approximately 0.57 flow area) and could result in a calculated flow velocity through the valve of approximately 50 ft/sec. 30-50 ft/sec flow velocities seem excessive for a 4 inch pipe and valve. Possible effects of excessive flow could be excessive vibration, cavitation, and valve seat/disc erosion and/or choke flow.

- (1) Discuss the validity of the large flow velocities through the 4 inch bypass pipe and valves as stated above and in your letter dated June 30, 2011.
- (2) Discuss whether excessive vibration and cavitation occur and whether that is acceptable and why.
- (3) Is choke flow possible through the 4 inch valves under these circumstances? and if so: (a) What is the actual flow rate? and  
(b) Is it satisfactory for LOCA mitigation?

### **RAI-2 (from IHPB)**

Please describe any changes to the safety parameter display system resulting from the proposed LAR.



**Hearing Identifier:** NRR\_PMDA  
**Email Number:** 149

**Mail Envelope Properties** (26E42474DB238C408C94990815A02F096898011B36)

**Subject:** ME6288 - Kewaunee Amendment Request Re: service water flow to component cooling heat exchangers - Request for Additional Information (RAI)

**Sent Date:** 9/15/2011 6:55:51 PM

**Received Date:** 9/15/2011 6:55:00 PM

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Tracking Status: None

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

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	3242	9/15/2011 6:55:00 PM

**Options**

**Priority:** Standard

**Return Notification:** No

**Reply Requested:** No

**Sensitivity:** Normal

**Expiration Date:**

**Recipients Received:**