From: Smith, Stephen
Sent: Friday, January 22, 2010 11:38 AM
To: Scott, Michael; Savoy, Joanne
Subject: Palisades RAI Regarding Strainer Vortex Formation-RAI No Longer Required

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Joanne,

Please put this email in ADAMS and in the Palisades GSI-191 folder.

The Palisades licensee was requested, via draft RAI 26.b to provide information that justified that a vortex would not occur at relatively low strainer submergences. The low submergence cases only apply during small break LOCAs. Large break LOCAs were shown to have adequate submergence to prevent vortex formation. During a phone call to clarify RAIs, the licensee stated that they had already provided adequate information in a previous supplemental response (ML091820275, pg 91 and 92).

The staff reviewed the supplemental response and noted the following: The licensee provided information that compared the predicted minimum water level with water levels at which vortices had been observed under various test conditions. The licensee provided three test cases in which vortex formation was observed. For the two cases with small debris loads, a vortex formation was not observed until the submergence level was decreased several inches below the plant minimum flood level. For the case with the design basis debris load, the vortex was observed at a submergence about 2.5 inches above the predicted minimum flood level. The licensee also provided a conservative comparison between potential small break and large break debris generation loads. The comparison shows that the small break would generate significantly less debris than the large break and would therefore likely have lower head loss. The licensee also stated that the flow rate through the strainer during a SBLOCA during which the SITs would not discharge would be much lower than the tested flow rates. This would decrease head loss and the potential for vortex formation.

Based on the comparison of the vortex tests and the debris that would be available for the small and large break cases, and considering the lower flow rate that would occur with a break that did not allow SIT injection, it is concluded that it is reasonable that the formation of vortices will not occur for the Palisades strainer.

The staff concluded that draft RAI 26.b had been adequately addressed by the licensee and no further information was required.

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