From: Jonathan Rowley
To: dmannai@entergy.com; hmetell@entergy.com
Date: 12/31/2007 3:02:45 PM
Subject: WORD version of RAI

Mail Envelope Properties (47794AE5.9E3 : 12 : 35182)

Subject: WORD version of RAI
Creation Date 12/31/2007 3:02:45 PM
From: Jonathan Rowley

Created By: JGR@nrc.gov

Recipients	Action	Date & Time
entergy.com PM dmannai (dmannai@entergy.com) hmetell (hmetell@entergy.com)	Transferred	12/31/2007 3:03:10

Post Office	Delivered	Route
		entergy.com

Files	Size	Date & Time
VY RAI 4.3.3-3 (3).doc	34816	12/31/2007 3:02:04 PM

Options
Auto Delete: No
Expiration Date: None
Notify Recipients: Yes
Priority: Standard
ReplyRequested: No
Return Notification:
Send Notification when Opened

Concealed Subject: No
Security: Standard

To Be Delivered: Immediate
Status Tracking: Delivered & Opened

Draft RAI 4.3.3-3

Your response to RAI 4.3.3-2 in a letter dated December 11, 2007, LRA Amendment 33, identified the Feedwater, Core Spray and Recirculation Outlet nozzles as the exceptions where the maximum component stress difference with time did not match the maximum stress intensity calculated by ANSYS. Amendment 33 failed to demonstrate that the shearing stresses are negligibly small. In several cases, it was reported that component stress difference is 10% to 50% lower than the maximum stress intensity calculated by ANSYS. For the Recirculation Outlet nozzle blend radius location, new Green=s functions were developed using the maximum stress intensity calculated from ANSYS. It implies that the Green=s functions are not unique. Using this methodology to calculate stresses or cumulative usage factors (CUFs), the results are valid only when the inputs to the Green=s function are reliable. Because the validity (reliability) of the Green=s function has not been established, the staff cannot accept the results presented in Amendment 33 and requests the following additional information for the three nozzles.

Please provide results of environmental assisted fatigue (EAF) analysis using 3-D ANSYS modeling for the Feedwater, Core Spray, and Recirculation Outlet nozzles following either NB-3200 or NB-3600 rules of the ASME B&PV Code Section III and demonstrate that CUFs, incorporating appropriate Fen for the nozzles under consideration, are all less than the Code limit of 1.0. The applicant must fully justify, subject to staff=s approval, the analysis method, the load (stress) combination, and the results in compliance with the ASME III Code requirements if 2-D modeling is used or less than three (3) nozzles are analyzed by using 3-D modeling. This includes the demonstration of having negligibly small shearing stresses at the blend radius location. Should you still wish to use the Green=s function methodology, please provide satisfactory benchmark results against a publically accepted and NRC endorsed computer code (e.g., ANSYS).