From: Jonathan Rowley
To: dmannai@entergy.com; hmetell@entergy.com; jdevinc@entergy.com
Date: 12/21/2007 12:22:52 PM
Subject: 12/18 meeting summary and draft RAI

Gentlemen

You will find attached to this email the summary of our December 18, 2007 conference call and a draft RAI. Please review and comment on the meeting summary. We can schedule a conference call for after the Christmas holiday to discuss the draft RAI if you deem it necessary.

Mail Envelope Properties (476BF66C.FFD : 12 : 35182)

Subject: 12/18 meeting summary and draft RAI
Creation Date 12/21/2007 12:22:52 PM
From: Jonathan Rowley

Created By: JGR@nrc.gov

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Summary of Telephone Conference - December 18, 2007.doc	65536	12/21/2007 10:43:58 AM
VY RAI 4.3.3-3 (2).wpd	4833	12/21/2007 10:09:32 AM

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LICENSEE: Entergy Nuclear Operations, Inc.

FACILITY: Vermont Yankee Nuclear Power Station

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON DECEMBER 18, 2007, BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND ENTERGY NUCLEAR OPERATIONS, INC., CONCERNING A REQUEST FOR ADDITIONAL INFORMATION PERTAINING TO THE VERMONT YANKEE NUCLEAR POWER STATION LICENSE RENEWAL APPLICATION

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of Entergy Nuclear Operations, Inc. held a telephone conference call on December 18, 2007, to discuss and clarify the staff=s request for additional information (RAI) concerning the Vermont Yankee Nuclear Power Station license renewal application. The telephone conference call was useful in clarifying the intent of the staff=s RAI.

Enclosure 1 provides a listing of the participants and Enclosure 2 contains the RAI discussed with the applicant, including a brief description on the status of the item.

The applicant had an opportunity to comment on this summary.

Jonathan G. Rowley, Project Manager
Projects Branch 2
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-271

Enclosures:
1. List of Participants
2. Request for Additional Information

cc w/encls: See next page

LICENSEE: Entergy Nuclear Operations, Inc.

FACILITY: Vermont Yankee Nuclear Power Station

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON DECEMBER 18, 2007, BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND ENTERGY NUCLEAR OPERATIONS, INC., CONCERNING A REQUEST FOR ADDITIONAL INFORMATION PERTAINING TO THE VERMONT YANKEE NUCLEAR POWER STATION LICENSE RENEWAL APPLICATION

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cc w/encls: See next page

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NAME		JRowley	RFranovich
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TELEPHONE CONFERENCE CALL
VERMONT YANKEE NUCLEAR POWER STATION
LICENSE RENEWAL APPLICATION

LIST OF PARTICIPANTS
DECEMBER 18, 2007

PARTICIPANTS	AFFILIATIONS
Jonathan Rowley	Nuclear Regulatory Commission (NRC)
Kenneth Chang	NRC
On Yee	NRC
Qi Gan	NRC
David Mannai	Entergy Nuclear Operations, Inc. (Entergy)
David Lach	Entergy
Michael Metell	Entergy
Scott Goodwin	Entergy
James Fitzpatrick	Entergy
Alan Cox	Entergy
David Gerber	Structural Integrity Associates (SIA)
Terry Herrmann	SIA

Enclosure 1

REQUESTS FOR ADDITIONAL INFORMATION
VERMONT YANKEE NUCLEAR POWER STATION
LICENSE RENEWAL APPLICATION

DECEMBER 18, 2007

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of Entergy Nuclear Operations, Inc. held a telephone conference call on December 18, 2007, to discuss and clarify the following request for additional information (RAI) concerning the Vermont Yankee Nuclear Power Station (VYNPS) license renewal application (LRA).

RAI 4.3.3-2

Your response to audit question # 387 in your November 14, 2007, letter states that "In most cases the maximum component stress difference with time matched the maximum stress intensity calculated by ANSYS. This shows that shearing stresses are negligible for the thermal transient at that location and the maximum component stress difference is the maximum stress intensity."

Please identify the exceptions where maximum component stress difference with time did not match the maximum stress intensity calculated by ANSYS. In addition, please justify the exceptions, based on quantitative evaluations, that the shearing stresses are negligible and the maximum component stress difference is the maximum stress intensity for the branch nozzle blend radius (nozzle corner) locations with geometrical discontinuities for the applicable thermal transients. Your response should cover the shearing stress differences at the 0-180 degree axis and the 90-270 degree axis to the pipe run axis.

Discussion: The response to RAI 4.3.3-2, submitted by VY on December 11, 2007, was reviewed by several staff and discussed during the conference call. The staff could not accept the response to close the issue raised by RAI 4.3.3-2. The staff mentioned two alternative approaches that could be used to address the environmentally assisted fatigue (EAF) for all NUREG/CR-6260 nozzle locations at VY. The first is by 3-D modeling, and the second is by using 2-D modeling with adequate justification provided by the applicant. Both alternatives should be based on use of the industry wide accepted computer code ANSYS.

The applicant emphasized that 2-D modeling for EAF is the current licensing basis (CLB) for VYNPS.

Based on the discussion with the applicant, an additional RAI may be required. The staff will have an internal discussion in order to make that determination.

Enclosure 1

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 whether 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 CUFs, the results are valid only when the inputs to the Green's function are reliable. Without certainty on the validity of the Green's function used, the staff can not accept the results presented in Amendment 33 and requests that 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.