

November 26, 2007

LICENSEE: Entergy Nuclear Operations, Inc.

FACILITY: Vermont Yankee Nuclear Power Station

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON OCTOBER 16, 2007, BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND ENTERGY NUCLEAR OPERATIONS, INC., CONCERNING AUDIT QUESTIONS 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. (Entergy) held a telephone conference call on October 16, 2007, to discuss and clarify the staff's audit questions concerning the Vermont Yankee Nuclear Power Station (VYNPS) license renewal application asked during the October 9 - 10, 2007, audit of the VYNPS time-limited aging analyses. While attempting to address the staff's audit questions, Entergy determined that further clarification was needed on some of the questions. The telephone conference call was useful in clarifying the intent of the staff's audit questions.

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

The applicant had an opportunity to comment on this summary.

*/RA/*

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. List of Audit Questions

cc w/encls: See next page

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DATE	11/26/07	11/26/07	11/26/07

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**TELEPHONE CONFERENCE CALL  
VERMONT YANKEE NUCLEAR POWER STATION  
LICENSE RENEWAL APPLICATION**

**LIST OF PARTICIPANTS  
OCTOBER 16, 2007**

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Jonathan Rowley  
Kenneth Chang  
Michael Metell  
David Mannai  
James Fitzpatrick  
Alan Cox  
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David Lach  
Terry Herrmann  
Gary Stevens

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**REQUESTS FOR ADDITIONAL INFORMATION (RAI)  
VERMONT YANKEE NUCLEAR POWER STATION  
LICENSE RENEWAL APPLICATION**

**OCTOBER 16, 2007**

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of Entergy Nuclear Operations, Inc. held a telephone conference call on October 16, 2007, to discuss and clarify the following audit questions concerning the Vermont Yankee Nuclear Power Station (VYNPS) license renewal application (LRA).

**1<sup>st</sup> Audit question**

The ASME Code defines that stress intensity from two temperature transients is calculated from the stress components from the two conditions. Please explain how it could be calculated from stress intensities of the two conditions derived from Greens Functions, especially at locations of geometric discontinuity. Also, please justify the validity of combining the thermal transient stress intensities with the stress intensities from the external loads and pressure loading.

**Discussion:** The staff provided further clarification on the question.

**2<sup>nd</sup> Audit question**

Provide justification for statement on page 5 of 34 of Calculation No. VY-16Q-302, that "The Green function methodology provides identical results compared to running the input transient through the finite element model."

**Discussion:** The staff provided further clarification on the question.

**3<sup>rd</sup> Audit question**

For the blend radius for the feedwater nozzle in Calculation No. VY-16Q-302, Table 4, Page 16, why are the Total and M+B stresses for thermal transient 3, shown in columns 3 and 4, high at 0 seconds ( $t = 0$ )? This question also applies to transient 4 at  $t = 1801.9$  seconds, transient 9 at  $t = 2524$  seconds, and transient 21-23 at  $t = 20144$  seconds.

**Discussion:** The applicant indicated that the question is clear.

**4<sup>th</sup> Audit question**

Explain why there are differences in the calculated cumulative usage factor (CUF) values between Rev. A and Rev. 0 of the Structural Integrity calculations. Also, why are the CUFs calculated by Structural Integrity different from the CUFs shown in Tables 4.3.1 and 4.3.3 of the Vermont Yankee license renewal application?

ENCLOSURE 2

**Discussion:** The applicant indicated that the question is clear.

**5<sup>th</sup> Audit question**

Page 1-1 of Report VY-16Q-401 indicates that refined transient definitions for 60 years of operation are used in the computation of the CUF incorporating environmentally assisted fatigue effects. Please explain the refinements in the transient definitions.

**Discussion:** The applicant indicated that the question is clear.

**6<sup>th</sup> Audit question**

For the feedwater nozzles there are large differences between the CUFs without the environmental fatigue life correction (Fen) factors shown in Table 4.3.1 of the Vermont Yankee license renewal application and those shown in Calculation No. VY-16Q-302. Section 2.0 of the calculation on page 4 of 32 states, "...several of the conservatisms originally used in the original feedwater evaluation (such as grouping of transients) are removed..." Please explain what conservatisms were removed.

**Discussion:** The applicant indicated that the question is clear.

**7<sup>th</sup> Audit question**

For stainless steel components listed in table 3-10 of Structural Integrity Report SIR-07-132 (VY-16Q-404), please justify that the calculated Fen values are conservative.

**Discussion:** The applicant indicated that the question is clear.

Memo to Entergy Nuclear Operations, Inc. from J. Rowley dated November 26, 2007

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Vermont Yankee Nuclear Power Station

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