April 10, 2008

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
ENTERGY NUCLEAR VERMONT YANKEE, LLC	)	Docket No. 50-271-LR
AND ENTERGY NUCLEAR OPERATIONS, INC.	)	
	)	ASLBP No. 06-849-03-LR
(Vermont Yankee Nuclear Power Station)	)	

NRC STAFF ANSWER TO NEC MOTION TO FILE
A TIMELY NEW OR AMENDED CONTENTION 2A (METAL FATIGUE)

INTRODUCTION

Pursuant to 10 C.F.R. §§ 2.309(h)(1) and 2.323(c), the Staff of the Nuclear Regulatory Commission ("Staff") herein answers "New England Coalition, Inc.'s (NEC) Motion to File a Timely New of Amended Contention" ("Motion") filed by NEC on March 17, 2007. For the reasons set forth below, the Staff submits that NEC Contention 2A's challenge to Entergy's method for calculating cumulative usage factors (CUF) is moot, but that NEC's challenge to Entergy's environmental correction factors (Fens) remains valid and thus NEC Contention 2A should be amended to the extent discussed herein.

BACKGROUND

In LBP-07-15, the Board admitted NEC Contention 2A:

> NEC now contends . . . that the analytical methods employed in Entergy's [environmentally corrected CUF, or] CUFen Reanalysis were flawed by numerous uncertainties, unjustified assumptions, and insufficient conservatisms, and produced unrealistically optimistic results. Entergy has not, by this flawed reanalysis, demonstrated that the reactor components assessed will not fail due to metal fatigue during the period of extended operation.

See 66 NRC 261, 267-68 (2007) (omissions and brackets in original). In that decision,

the Board ruled that NEC Contention 2[1] would be held in abeyance. *Id.* at 271.

Since the Board admitted NEC 2A, Entergy has calculated the CUFen for the feedwater nozzle using the ASME Code, Section III, Subsection NB-3200 methodology and made that analysis the analysis of record.[2] *See* Letter, Entergy to USNRC, "License Renewal Application, Amendment 34," BVY 08-002 (Jan. 30, 2008); Letter Entergy to USNRC, "License Renewal Application Amendment 36," BVY 08-012 (Feb. 21, 2008). The results of Entergy's analysis were sent to the parties on February 15, 2008. In addition, the Staff has proposed a license condition requiring Entergy to, at least two years prior to the period of extended operation, calculate the CUFen for the reactor recirculation nozzle and the core spray nozzle, using the ASME Code method and document the analysis as the analysis of record in its Final Safety Analysis Report. *See* Safety Evaluation Report Related to License Renewal of Vermont Yankee Nuclear Power Station ("SER") (Feb. 25, 2008) at Section 1.7; Section 4.3.3.2. *See also* Letter from William J. Shack, Advisory Committee on Reactor Safeguards Chairman, to Chairman Dale E. Klein (Mar. 20, 2008) (ML080660692) at 3.

DISCUSSION

NEC now contends: 1) Entergy's analysis of record neither validates the results of Entergy's "First CUFen Reanalysis" nor independently demonstrates that CUFens for all components listed in License Renewal Application Table 4.3-3 and all

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[1] NEC Contention 2 stated: Entergy's License Renewal Application does not include an adequate plan to monitor and manage the effects of aging [due to metal fatigue] on key reactor components that are subject to an aging management review, pursuant to 10 C.F.R. § 54.21(a) and an evaluation of the time limited aging analysis, pursuant to 10 C.F.R. § 54.21(c). LBP-07-15, 66 NRC at 264 (brackets in original).

[2] Although NEC refers to Entergy's analysis using the ASME code methodology as Entergy's "Second CUFen Reanalysis," the Staff considers Entergy's analysis the "analysis of record" and will refer to it as such.

NUREG/CR-6260 locations are less than 1.0; 2) Entergy's analysis of record "does not address errors in Entergy's First CUFen Reanalysis resulting from several other factors indentified in NEC's Contention 2A;" 3) Entergy's analysis of record "addresses only the feedwater nozzle, and its results are not bounding for other components." Motion at 3. NEC relies on the Seventh Declaration of Dr. Joram Hopenfeld ("Seventh Hopenfeld Declaration") to support its Motion.

Late-filed contentions must meet the requirements of 10 C.F.R. § 2.309(f)(2) as well as the standard contention admissibility requirements of 10 C.F.R. § 2.309(f)(1). The Staff briefed these requirements in its August 6, 2007 Staff Answer. The Staff does not dispute that NEC's Motion meets the requirements of § 2.309(f)(2): the Motion was prompted by information that was not previously available, the new formation is materially different than information that was previously available (i.e. Entergy's analysis of record is materially different from Entergy's previous analysis), and the Motion is timely (i.e. complies with the Board's Initial Scheduling Order dated Nov. 17, 2006).

As to the requirements of § 2.309(f)(1), the first part of NEC's proposed amendment is inadmissible to the extent that it seeks to challenge the validity of Entergy's "First CUFen Reanalysis." The Staff and Entergy consider the analysis using the ASME Code methodology, not the method used in Entergy's First CUFen Reanalysis, the analysis of record and thus the analysis which demonstrates compliance with 10 C.F.R. § 54.21(c)(1). Letter from Entergy to USNRC, "License Renewal Application Amendment 36," BVY 08-012 (Feb. 21, 2008); SER at 4.3.3.2. Furthermore, NEC and Dr. Hopenfeld have not challenged the validity of Entergy CUF analysis of record. *See* Motion at 3 (stating that Entergy's "Second CUFen Reanalysis" addresses the uncertainty in the CUF values in Entergy's "First CUFen Reanalysis"); Seventh Declaration of Dr. Hopenfeld at ¶8. Therefore, there is no genuine dispute, as required

by § 2.309(f)(1)(vi), as to the validity of the first reanalysis and, to the extent existing Contention 2A challenges the validity of Entergy's "First CUFen Renalaysis" it is moot.

The Staff does not object to admitting the second part of NEC's proposed amendment, however, the Staff notes this assertion is already part of Contention 2A. NEC asserts in its Motion and Dr. Hopenfeld states in his Seventh Declaration attached thereto, that Entergy's analysis of record does not address "errors" in calculation of Fens due to factors already identified in Contention 2A and Dr. Hopenfeld's Sixth Declaration. Motion at 3, Seventh Declaration of Dr. Joram Hopenfeld at ¶8. In this regard, NEC's Motion is more an argument anticipating arguments that Contention 2A is moot than an argument for a new or amendment contention.

The third part of NEC's proposed amendment, asserting that the analysis of record for the feedwater nozzle is not bounding, is inadmissible because it fails to identify a genuine dispute on a material fact as required by 10 C.F.R. §2.309(f)(1)(vi). Dr. Hopenfeld asserts ¶11-12 of his Seventh Declaration that Entergy should be required to calculate the CUFens for the recirculation and core-spray nozzles using the method analysis used in the analysis of record for the feedwater nozzle. Entergy will be required, by license condition, to do precisely as Dr. Hopenfeld requests: calculate the CUFens for the core spray and recirculation nozzles in accordance with ASME requirements at least two years prior to the period of extended operation and submit the calculations to the NRC for review and approval. *See* SER at Sections 1.7 and 4.3.3.2.

Consequently, Contention 2A should be amended to read:

> NEC now contends that the environmental fatigue correction factors (Fens) used by Entergy in its CUFen reanalysis using the ASME Code methodology are flawed, and therefore Entergy has not, by this reanalysis, demonstrated that the reactor component(s) assessed will not fail due to metal fatigue during the period of extended operation.

CONCLUSION

For the reasons set forth above the Staff submits that Contention 2A's challenge to Entergy's methods for calculating cumulative usage factors (CUFs) is moot and thus Contention 2A should be amended to limit to the issue that remains in controversy: the validity of Entergy's environmental correction factors (Fens).

Respectfully submitted,

/RA/

Mary C. Baty
Counsel for NRC Staff

Dated at Rockville, Maryland
this 10th day of April, 2008

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CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF ANSWER TO NEC MOTION TO FILE A TIMELY NEW OR AMENDED CONTENTION 2A (METAL FATIGUE)" in the above-captioned proceeding have been served on the following by electronic mail with copies by deposit in the NRC's internal mail system or, as indicated by an asterisk, by electronic mail, with copies by U.S. mail, first class, this 10th day of April, 2008.

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