

March 6, 2009 (10:19am)

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

<i>In the Matter of</i>	)	March 6, 2009
	)	
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	)	

NEW ENGLAND COALITION'S MOTION TO ALTER OR  
AMEND THE SCHEDULE IN THE ABOVE CAPTIONED PROCEEDING

New England Coalition, Inc. ("NEC"), intervenor in the above captioned matter, through its *pro se* representative, Raymond Shadis, herein respectfully moves the Atomic Safety and Licensing Board Panel ("ASLBP" or "Board") to alter or amend the schedule in the above captioned proceeding.

Specifically, NEC requests that the Board extend the time permitted for intervenors to file comment, response, and timely new or amended contentions regarding Entergy Nuclear Vermont Yankee, LLC. and Entergy Nuclear Operations, Inc.'s ("Entergy") confirmatory environmentally-assisted fatigue analyses of Vermont Yankee's core spray ("CS") and recirculation outlet ("RO") nozzles until thirty (30) days after Entergy has filed final, accurate, and complete analyses and until at least fifteen days after NRC Staff has filed its planned Supplemental Safety Evaluation Report and Audit Summary regarding the confirmatory analyses of the CS and RO nozzles.

## Background

On May 24, 2006, NEC filed a Petition to Intervene in the above captioned matter. On September 22, 2006, , the Board admitted NEC's safety contention 2, which stated, in summary,

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 time limited aging analysis, pursuant to 10 C.F.R. § 54.21(c).<sup>1</sup>

Thereafter, Entergy redid its metal fatigue calculations for the nine key locations. On August 2, 2007, Entergy issued the results of these refined calculations, ("CUFen Reanalyses.") The CUFen Reanalyses indicated that metal fatigue at the nine locations would not exceed regulatory limits and thus that an AMP was not required under 10 C.F.R. § 54.21(c)(1)(iii).

On September 4, 2007, NEC filed a motion to file a timely new or amended contention, challenging Entergy's CUFen Reanalyses and claiming that these TLAAAs were flawed and failed to meet the requirements of 10 C.F.R. § 54.21(c).<sup>33</sup>

On November 7, 2007, the Board admitted this new contention, designating it "Contention 2A" ; and reading

2A, as admitted, reads as follows:

[T]he analytical methods employed in Entergy's [environmentally corrected CUF] or CUFen Reanalysis were flawed by numerous uncertainties, unjustified assumptions, and insufficient conservatism, 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.  
LBP-07-15, 66 NRC 261, 267-68 (2007).

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<sup>1</sup> NEC Petition to Intervene at 14

In response to NRC Staff review and requests for additional information, , Entergy then submitted a second, more refined set of analyses. Subsequently the Board accepted for litigation NEC Contentions 2,B:

Entergy's Second CUFen Reanalysis neither validates the results of Entergy's First CUFen Reanalysis, nor independently demonstrates that CUFens for all components . . . are less than one.<sup>2</sup>

The Board placed consideration of Contention 2 in abeyance and the parties litigated Contentions 2A and 2B.

On November 24, 2008, the Board issued a Partial Initial Decision:<sup>3</sup>

This partial initial decision resolves Contentions 2A and 2B in favor of the intervenors, NEC and the Vermont Department of Public Services, leaves Contention 2 open and in abeyance, and resolves Contentions 3 and 4 (subject to specified conditions) in favor of Entergy.

Further the Board statedBoard states:

Assuming Entergy still wishes to pursue this license renewal, it must (1) recalculate the CUFen analyses for the CS and RR outlet nozzles, in accordance with the ASME Code, NUREG/[CR-]6583 and 5704, and all other regulatory guidance, (2) resubmit these results to the NRC Staff and serve them on the other parties herein, and (3) either demonstrate that the TLAA's [Time Limited Aging Analyses] are less than unity or submit an adequate AMP [Aging Management Plan] for these components. At that point we presume (but do not and cannot order) that the NRC Staff will evaluate Entergy's submissions.

Presumably NEC [New England Coalition] will do the same.

If the CUFen analyses are (1) done in accordance with the above stated guidance and the basic approach used in the Confirmatory CUFen Analysis for the FW [Feedwater] nozzle, (2) contain no significantly different scientific or technical judgments, and (3) demonstrate values less than unity, then this adjudicatory proceeding terminates. If not, NEC may file a new or amended contention challenging the adequacy of the CUFen calculation, or, if Entergy chooses to proceed under the AMP route, NEC may revitalize dormant Contention 2 (as to the adequacy of Entergy's AMP). In light of these possible eventualities, our ruling today can only be a partial initial decision, and this ASLB proceeding will

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2 New England Coalition, Inc.'s Motion to file a Timely New or Amended Contention (Mar. 17, 2008) at 3 [NEC Motion to File Contention 2B].

3 This initial decision is partial because the Board's authorization is contingent on the performance of additional metal fatigue analyses and because Contention 2 is held in abeyance. See *infra* Part III.C.2.

remain open until 45 days after Entergy performs the confirmatory CUFen analyses on the CS and RR nozzles, the NRC Staff approves them, and Entergy serves NEC and Vermont with full written results of such analyses. If no motion involving any such new, amended, or revitalized contention is filed by the 45th day, the adjudicatory proceeding on these matters shall be terminated. Decision at 67-68 (emphasis added).

In the “Conclusions” section of the Decision, the Board states:

Accordingly, the Board rules that our authorization to issue the license renewal is contingent upon, and the license renewal application cannot be granted unless and until, Entergy completes the confirmatory CUFen analyses on the core spray and reactor recirculation nozzles with satisfactory results without using the simplified Green’s function methodology and makes those analyses available for review by the NRC Staff and the other parties herein. The record will be held open with regards to Contentions 2A and 2B, and Contention 2 will be held in abeyance until 45 days after those events occur. Id. at 151-52, emphasis added.

On December 4, 2008, Entergy filed a Motion for Clarification regarding the conflicting time set points in the two Board statements above. The Board ruled that the later applied.

On January 8, 2009 Entergy filed and provided to the parties what it purported to be complete environmentally assisted fatigue (CUFen) analyses responsive to the PID.

In keeping with the Board’s Order, Entergy’s filing started a 45 day clock for intervenor responsive filings, however on January 25, 2009 the Vermont Department of Public Service filed an Unopposed Motion for Extension of Time, which the Board granted extending the response filing time for all parties until March 9, 2009.

On February 27, 2007, Entergy filed and provided to the parties a letter in which it reports several substantive errors or misstatements in the analyses of January 8, 2008, but which Entergy claims will make no difference in the conclusions of its previously filed report..

In connection with an NRC Staff audit of the confirmatory environmentally assisted fatigue (CUF en ) analyses that were provided to the parties to this proceeding on January 8, 2009, Entergy identified that Table 6 of Calculation 0801038.306 for the reactor recirculation outlet (RO) nozzle utilized Alloy 600 material properties instead of those for stainless steel. A supplemental evaluation using the proper input values determined that the environmentally adjusted cumulative usage factor CUF en at a non-limiting location in that nozzle (the safe end)

increased from less than 1% of the allowable value to approximately 4% of the allowable value.

In performing this supplemental evaluation, all calculation methods have been maintained; the limiting calculated CUF en for the RO nozzle of 0.119 remains unaffected. Therefore, the result of this finding is inconsequential.

Entergy has identified two other changes that should be made to the calculations for the RO nozzle, neither of which affects the results:

- In Calculation 0801038.306, a stress concentration factor (SCF) was used in the analysis of the nozzle blend radius, whereas use of such a factor is only needed for the nozzle safe end. Since the SCF is greater than 1.0, its use led to increasing the conservatism of the CUF en calculation for the nozzle blend radius. Removing the SCF that was applied to the blend radius will have no impact to the final conclusions of the calculation.

- With respect to Calculation 0801308.304, the definition of one thermal stress transient (Transient #9) is slightly different from the one used in the previous refined analysis Calculation No VY-16Q-306. Since Entergy intended to use the same thermal stress transient definitions for both sets of calculations, the definition of the transient in Calculation 0801308.304 will be modified to make it the same as for the refined calculation. Changing the definition of this thermal stress transient will have no impact on the results of the fatigue calculation for the nozzle.

In addition, Entergy identified the following editorial changes that should be made to the analysis of the reactor core spray (CS) nozzle: Calculation 0801038.302 for the CS nozzle. The TOTAL stresses listed in Table 4 for Node 2166 at a time of 66,165 seconds are incorrect. However, the correct numbers are used in the analysis and are contained in all of the supporting computer files.

Calculation 0801038.302 for the CS nozzle. Section 4.5 includes the statement: "The location of the nozzle loads is at 137.0625 inches [4] from the center of the RPV." The dimension of 137.0625 inches is correct; however, it cannot be found in Reference [4]. A different reference will be listed as the source of the dimension.

Calculation 0801038.303 for the CS nozzle. This calculation will be revised to update the reference contained in it for Calculation 0801038.302 from Revision 0 to Revision 1, once Calculation 08010308.302 is revised.

None of these editorial changes affect either the methodology used in the calculation or the calculation's results.

Entergy has initiated a condition report to address the above items. Upon completion of the corrective action review that will close out the condition report, the calculations of record will be revised.

As noted above, the conclusion that the CUF en s for both nozzles are less than unity is not affected by the changes discussed in this letter.

## Discussion

It is important to note that in its letter Entergy admits to changes in assumptions regarding materials and component geometry and that the CUFen calculations will be revised accordingly. Entergy further promises to include the now reported errant data,

assumptions, and conclusions in a forthcoming Vermont Yankee Nuclear Power Station condition report, and documented in-house resolution thereof; and then to provide the corrected Calculations of Record.

Amending this information goes right to the heart of the Board's PID finding that "performance of the confirmatory CUFens on the core spray and reactor recirculation nozzles as specified in the preceding sentence involves a considerable amount of technical and scientific judgment and is not a minor or ministerial task". Contrary to Entergy's assertion that the methodology does not change; in fact, materials selection, consideration of component geometry, and so on are integral to the application of technical and scientific judgement. NEC objects that Entergy's proposed corrections come egregiously late : over a month and a half after the filing to be corrected and unadorned by any excuse or apology. The proposed corrections come well toward the terminus of the parties' comment and responsive filing period, leaving little or no opportunity for the parties or the ASLB Panel to delve into Entergy's claim that the "corrections" will make no difference outcome of the analyses.

NEC cannot confirm that the amendments to inputs and assumptions in the confirmatory analyses do not skew the process and the results or that they have been properly integrated into the calculations unless NEC sees and has an opportunity to review the changes as they have been completely integrated into the calculation in their final form.

Further, Entergy's admission that the revised analysis provided on January 8, 2008 is not the calculation of record is troublesome. It appears to indicate that the forthcoming revised calculations and not those filed on January 8, 2009, will be the ones upon which NRC Staff will base the forthcoming Audit Summary and Supplemental Safety Evaluation Report ("SSER")<sup>4</sup> Surely, since the SSER will be in part based on information that has not yet been provided, and since NRC Staff has identified itself as adversarial to the intervenors, the intervenors should , as a

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<sup>4</sup> A February 17, 2008, NRC Audit Plan (and schedule is attached in hardcopy only , as that is the form in which NEC has it.

matter of simple fairness, have the opportunity to review and to respond to, a document that may sway the Board's final decision in this matter.

**Conclusion**

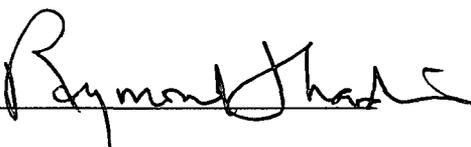
For all of the good reasons stated above, NEC respectfully moves the Board to alter or amend the schedule so as to extend the time permitted for intervenors to file comment, response, and timely new or amended contentions regarding Entergy Nuclear Vermont Yankee, LLC. and Entergy Nuclear Operations, Inc.'s ("Entergy") confirmatory environmentally-assisted fatigue analyses of Vermont Yankee's core spray ("CS") and recirculation outlet ("RO") nozzles until thirty (30) days after Entergy has filed final, accurate, and complete analyses and until at least fifteen days after NRC Staff has filed its planned Supplemental Safety Evaluation Report and Audit Summary regarding the confirmatory analyses of the CS and RO nozzles.

Respectfully submitted,

Raymond Shadis  
Pro se Representative  
New England Coalition  
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**Certification**

I hereby certify that New England Coalition made a good faith effort to find agreement among the parties regarding the issues brought forward in the foregoing motion.

Signed in the original 

Raymond Shadis  
Pro se Representative  
New England Coalition

## CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Motion were served on the persons listed below

by deposit in the U.S. Mail, first class, postage prepaid; where indicated by an asterisk, by electronic mail; and where indicated by a double asterisk, by both U.S. First Class and electronic mail, this 6th day of March, 2009.

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Original signed by



Raymond Shadis  
New England Coalition



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

February 17, 2009

NEC MOTION TO ALTER OR  
AMEND THE SCHEDULE  
**ATTACHMENT ONE**

MEMORANDUM TO: File

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

A handwritten signature in cursive script that reads "Jonathan Rowley".

SUBJECT: AUDIT PLAN FOR REVIEW OF CONFIRMATORY ANALYSES FOR THE  
CORE SPRAY AND REACTOR RECIRCULATION OUTLET NOZZLES  
AT THE VERMONT YANKEE NUCLEAR POWER STATION

This Memorandum makes the audit plan for the staff's review of confirmatory environmentally adjusted cumulative usage factor analyses for the core spray and reactor recirculation outlet nozzles at Vermont Yankee Nuclear Power Station publicly available (see enclosure).

Docket No. 50-271

Enclosure:  
As stated

# **Audit Plan**

**Review of the Confirmatory  
Cumulative Usage Factor  
Including Environmental Effects  
(CUF<sub>en</sub>) Analyses for the  
Core Spray and  
Reactor Recirculation Outlet Nozzles**

**Vermont Yankee Nuclear Power Station**

ENCLOSURE

### Background

On January 25, 2006, Entergy Nuclear Operations, Inc. and Entergy Nuclear Vermont Yankee, LLC (Entergy) submitted the license renewal application (LRA) for the Vermont Yankee Nuclear Power Station (VYNPS). In the Safety Evaluation Report of the Vermont Yankee license renewal application (LRA) of May 2008 (NUREG-1907), the staff proposed a license condition that would require Entergy to perform confirmatory analyses of the core spray (CS) and recirculation outlet (RO) nozzles two years prior to the period of extended operations and submit them to the NRC for review and approval. However, the Atomic Safety and Licensing Board (ASLB) stated in its November 24, 2008, partial initial ruling on three contentions related to the LRA that the analyses must be performed prior a final ruling on the contentions and prior to the issuance of a renewed license. On January 15, 2009, Entergy submitted the results of its confirmatory cumulative usage factor including environmental effects ( $CUF_{en}$ ) analyses for the CS and RO nozzles at the VYNPS.

### Audit Bases

The staff will perform an audit of the calculations used to produce the confirmatory results consistent with the proposed license condition.

### Audit Scope

The audit will focus on determining if the confirmatory analyses appropriately utilized the ASME Code Section III methodology rather than the Green's Function methodology, which was used in the original analyses, to demonstrate acceptable  $CUF_{en}$  for 60 years of plant life for the CS and RO nozzles at VYNPS.

### Necessary Information and Materials

The staff will review the calculations, any plant procedures, and any plant documents used to develop or that support the calculations.

### Team Assignments

<b>Organization</b>	<b>Name</b>	<b>Function</b>
NRC/NRR/DE/EMCB	John Fair	Project Team Leader
NRC/NRR/DLR/RER1	James Gavula	Co-project Team Leader
NRC/NRR/DE/EMCB	Mark Hartzman	Reviewer
NRC/NRR/DLR	Allen Hiser	Reviewer
NRC/NRR/DLR/RER1	Chuang-Yeh Yang	Reviewer

Audit Logistics

February 18 – 20, 2009

NPOC Offices  
11426 Rockville Pike, Suite 230  
Rockville, MD 20852

February 18, 2009

- Entrance briefing at 2:00 PM
- Start CS and RO review at 2:30 PM

February 19, 2009

- Continue CS and RO review at 8:00 AM

February 20, 2009

- Continue CS and RO review at 8:00 AM
- Exit briefing at 4:00 PM

Deliverables

An audit summary will be placed on the docket and the results of the audit will be documented in a Supplemental Safety Evaluation Report related to VY LRA. Both documents are planned to be issued by the end of April 2009.

References

- |                   |   |
|-------------------|---|
| January 25, 2006  | Vermont Yankee Nuclear Power Station License No. DPR-28 (Docket No. 50-271) License Renewal Application                     |
| May 2008          | Safety Evaluation Report Related to the License Renewal of Vermont Yankee Nuclear Power Station (NUREG-1907)                |
| November 24, 2008 | Atomic Safety and Licensing Board Partial Initial Decision (Ruling on Contentions 2A, 2B, 3, and 4), ASLBP No. 02-849-03-LR |
| January 15, 2009  | Vermont Yankee Nuclear Power Station License No. DPR-28 (Docket No. 50-271) License Renewal Application Amendment 37        |

# *New England Coalition*

VT NH ME MA RI CT NY

POST OFFICE BOX 545, BRATTLEBORO, VERMONT 05302

March 6, 2009

Office of the Secretary  
Attn: Rulemaking and Adjudications Staff  
Mail Stop: O-16C1  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**RE: Docket No. 50-271-LR, ASLBP No. 06-849-03-LR, Vermont Yankee Nuclear Power Station**

Dear Rulemaking and Adjudications Staff,

Please find enclosed for filing before the Atomic Safety and Licensing Board in the above captioned proceeding:

**NEW ENGLAND COALITION, INC.'S MOTION TO ALTER OR AMEND SCHEDULE**

Thank you for your kind attention,

<sup>/RS</sup>  


for New England Coalition, Inc.

Raymond Shadis  
Pro Se Representative  
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Edgecomb, Maine 04556