

RAS M-403

New England Coalition

VT NH ME MA RI CT NY

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January 14, 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 FOR LEAVE TO REPLY AND REPLY TO ENTERGY'S OPPOSITION AND NRC STAFF'S ANSWER TO NEW ENGLAND COALITION'S MOTION FOR RECONSIDERATION.

Thank you for your kind attention,



for New England Coalition, Inc.

Raymond Shadis
Pro Se Representative
Post Office Box 98
Edgecomb, Maine 04556

DOCKETED
USNRC

January 15, 2009 (8:00am)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

Template Secy-041

DS-03

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

ENTERGY NUCLEAR VERMONT YANKEE,
L.L.C., and ENTERGY NUCLEAR)
OPERATIONS, INC.

(Vermont Yankee Nuclear Power Station)

January 14, 2009

Docket No. 50-271-LR

ASLBP-08-25

NEW ENGLAND COALITION'S MOTION FOR LEAVE TO REPLY
TO NRC STAFF AND ENTERGY NUCLEAR VERMONT YANKEE, L.L.C., and
ENTERGY NUCLEAR) OPERATIONS, INC.'s ANSWERS TO
NEW ENGLAND COALITION'S MOTION FOR RECONSIDERATION OF THE
LICENSING BOARD'S PARTIAL INITIAL DECISION

I. INTRODUCTION New England Coalition, Inc. ("NEC"), through its *pro se*
representative, Raymond Shadis, respectfully requests leave to reply to U.S. Nuclear
Regulatory Commission Staff's ("NRC Staff") ANSWER TO NEW ENGLAND
COALITION'S MOTION FOR RECONSIDERATION OF THE LICENSING
BOARD'S PARTIAL INITIAL DECISION.¹ ("Motion") and Entergy Nuclear Vermont

¹ § 2.323 (c) Answers to motions. Within ten (10) days after service of a written motion, or other period as determined by the Secretary, the Assistant Secretary, or the presiding officer, a party may file an answer in support of or in opposition to the motion, accompanied by affidavits or other evidence. The moving party has no right to reply, except as permitted by the Secretary, the Assistant Secretary, or the presiding officer.

Permission may be granted only in compelling circumstances, such as where the moving party demonstrates that it could not reasonably have anticipated the arguments to which it seeks leave to reply.

Yankee and Entergy Nuclear Operations, Inc.'s ("Entergy") OPPOSITION TO NEW ENGLAND COALITION'S MOTION FOR RECONSIDERATION OF THE LICENSING BOARD'S PARTIAL INITIAL DECISION

II. DISCUSSION New England Coalition avers that NRC Staff and Entergy Answers and Opposition misconstrue, misinterpret, and misrepresent NEC's Motion for Reconsideration to such an extreme degree that NEC could have in no way anticipated the arguments to which it seeks leave to reply and thus provide compelling circumstances under which the Board should grant leave to reply.

For example, on procedural grounds, NRC Staff incorrectly claims (*NRC Staff footnote 1*) that NEC "did not provide a certificate of service for its motion." In fact NEC did provide a Certificate of Service with its filing, albeit incorrectly naming the motion. However, the Certificate of Service was correctly dated and included with the motion; and no party, including NRC Staff, has claimed that they did not receive service.

NEC, on December 19, 2008, filed errata of its e-mail filing only; the hardcopy filing was filed but once. The e-mail filing errata being versions of electronic files that NEC had intended to file in the original e-mail filing, contained few, if any substantive differences; the differences being largely limited to formatting and the removal of spurious material left in the draft copies originally sent. Entergy interprets this, "NEC's Motion was filed twice." (*Entergy footnote 1*) Clearly, this was not so.

NRC Staff couples what is obviously a simple clerical error with the fact that NEC filed e-mail filing errata; NRC Staff claiming that "These deficiencies alone would

justify denial of NEC's Motion." NRC Staff then stretches a comparison to a case (Indian Point) where a party was dismissed from a proceeding for "...repeatedly submitting multiple, non-identical versions of the same pleading and failing to provide proof of service."² Clearly no such comparison is warranted.

Entergy mischaracterizes NEC's Motion by summarizing: " NEC's primary argument...is that the Board should have decided the issues the way NEC's experts opined instead of the way the Board did in its decision." (Entergy p.1) No objective and complete reading of NEC's Motion will support that summation.

In fact, Entergy's footnote [2] to this sentence, quoting from NEC's Motion lays out a quite different case. "The Board ruling contained findings and conclusions that unfairly favor, as more credible, the verbal opinions of less qualified witnesses unsupported by and documents or data, over the document and data supported written and oral testimony of much more highly qualified witnesses." And says Entergy, Doctor Hopenfeld accuses the Board of "...lack[ing] ...expertise to competently weigh conflicting testimony on all of the topics presented" and lack[ing] a fundamental understanding of the principles of safety risk assessment, material fatigue, material corrosion, and nuclear plant instrumentation."

NEC's Motion points out only that the Board offered no basis for their finding that Entergy and/or NRC witnesses were more credible on the issues than Dr. Hopenfeld.

NEC's Motion (citing the transcript) points out that one Board panel member actually abandoned his role as trier of the facts and testified; arguing with NEC's witness about the interpretation of technical data. This particular issue is not about the Board ,

² Entergy Nuclear Power Operations, Inc. (Indian point Generating Units 2&3), CLI-08-29,68 NRC ____,(December 9, 2008)

“...deciding issues the way NEC experts opined...” as Entergy would put it, but rather about the manner in which the Board moved to determine the facts; in a highly biased and prejudicial way.

NRC Staff and Entergy disagree on the scope of NEC’s Motion; with NRC Staff ignoring NEC argument and Exhibits on Contention 4 and focusing on the inadvertent omission of Contentions 3 and 4 at two places in NEC’s Motion where NEC charges the Board to review the record and to reconsider “ ...Contentions 2, 2a, and 2b...” Entergy is not nearly so deliberately obtuse and so states, “ The Motion seeks reconsideration of significant portions of the Board’s Partial Initial Decision (Ruling on Contentions 2A, 2B, 3, and 4). In this instance, Entergy’s reading is correct.

With regard to NEC’s allegation that an Entergy witness on at least one occasion misled the Board regarding the potential presence of contaminants in the reactor feedwater, Entergy says that placing evidence before the Board of an in-leaking condenser in a circulating pool laced with halogens from both the river and the service water system is not enough. Entergy further says, NEC appears to “... confuse the service water system and the circulating water system.” In truth, NEC does not confuse these systems and would attach to its reply evidence demonstrating just that in the form of Entergy testimony in another tribunal.

NRC Staff claims the “new evidence” NEC now provides to support its claim that Entergy’s witness misled the Board was available before the hearing; therefore cannot meet the standard of consideration of new evidence on reconsideration. Not only could NEC not anticipate this argument, but NEC could not anticipate that the Board would in the Partial Initial Decision allow this testimony to stand without comment. Further, the

documents, which detail an in-leaking condenser coupled with chlorine treatment of circulating water, and dissolved copper impurities in excess of Boiling Water Reactor Owners Group upper guideline limits were not provided by Entergy as disclosures even though Entergy had in hand NEC testimony listing trace feedwater impurities as a factor in calculating cumulative usage factors in a boiling water reactor environment. NRC Staff characterizes the testimony as regarding a 2004 service water leak. This is disingenuous at best and could not be anticipated. The line of questioning under consideration led from the Board's preface regarding feedwater or reactor water impurities; to the Board asking about service water intrusion, to the witness stating that he could not speak to that, to the witness then asking when the incident occurred, to the Board suggesting 2004. The witness did everything but tell the truth.³ In fact, as NEC's Motion exhibits show all the events in question took place in 2008.

NRC Staff says that neither NEC's "evidence" nor its Motion demonstrates that "...testimony regarding a 2004 service water leak was false or misleading thus rendering the Board's decision invalid." Clearly, NRC Staff misconstrues NEC's intent, which is not to show that a single error invalidates the Board's Decision, but rather to show by citing numerous examples that the Board did not competently and fairly arrive at its findings and conclusions. Accepting off-the-cuff, dissembling, and less-than-honest testimony as dispositive of an issue, as the Board did in this instance is but one example in a glacier of cumulative errors, failures to probe, and demonstrated biases which invalidate the bases (findings of fact and conclusions) for the Board's decision.

³ \ Virginia Electric & Power Co. (North Anna Power Station, Units 1 & 2), CLI-76-22, 4 NRC 480 (1976) silence (omissions) as to material facts regarding issues of major importance to licensing decisions is to be regarded as a material false statement. To the extent such omissions of material facts affect assurance of health and safety, sanctions under Section 186 may apply.

NRC Staff also questions the timing of NEC Exhibit JH MR-2, as it is dated prior to the evidentiary hearings. However, the industry comments that comprise NEC Exhibit JH MR-2 are an Entergy contractor document and were not however provided in disclosures until just two weeks before the hearings; after pre-filed direct and rebuttal testimony, and leaving insufficient time for witnesses to both prepare for hearing and review new material. Further, this exhibit is provided for purposes of clarification.

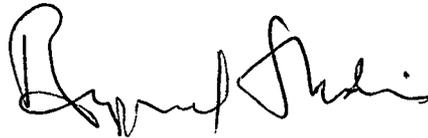
Similarly, Exhibits NEC MFR 1, 2, are offered for purposes of clarification; MFR3 is an Entergy document containing new information regarding the quality of the Vermont Yankee FAC program and dated , July 7, 2008, before the evidentiary hearings; but never provided in disclosures by Entergy.

III. CONCLUSION NEC's claim of extraordinary circumstances in the form of responding argument that could not have been anticipated, which warrants the Board's leave to reply, is amply demonstrated in the foregoing examples. Wherefore, NEC respectfully requests the Board's leave to reply to NRC Staff's Answer and Entergy's Opposition to NEC's Motion for Reconsideration of the Board's Partial Initial Decision in the above captioned matter.

IV. CERTIFICATION NEC hereby certifies that NEC has made a sincere effort to contact other parties in the proceeding and to secure the parties' agreement to the filing of this motion in order to address what NEC termed, Entergy's and the NRC Staff's apparent confusion regarding the intent and content of NEC's Motion for Reconsideration. . On January 12, 2009, NEC contacted the parties via e-mail to seek agreement. The States of Vermont and Massachusetts informed NEC that they would have no objection to this motion. Entergy stated that it would "oppose any such motion."

NRC Staff offered that it would require more precise detail of what NEC saw as Staff's confusion over the intent and content of NEC's motion for reconsideration. In the absence of additional detail on the content of the motion and the reply, the staff has stated it will oppose.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Raymond Shadis". The signature is fluid and cursive, with the first name being more prominent.

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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ENTERGY NUCLEAR VERMONT YANKEE,
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TO NRC STAFF AND ENTERGY NUCLEAR VERMONT YANKEE, L.L.C., and
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NEW ENGLAND COALITION'S MOTION FOR RECONSIDERATION OF THE
LICENSING BOARD'S PARTIAL INITIAL DECISION

I. INTRODUCTION In anticipation of the Atomic Safety and Licensing Board Panel's ("Board") grant to New England Coalition ("NEC") of a Leave to Reply to U.S. Nuclear Regulatory Commission Staff's ("NRC Staff") ANSWER TO NEW ENGLAND COALITION'S MOTION FOR RECONSIDERATION OF THE LICENSING BOARD'S PARTIAL INITIAL DECISION, ("Motion") and Entergy Nuclear Vermont Yankee and Entergy Nuclear Operations, Inc.'s ("Entergy") OPPOSITION TO NEW ENGLAND COALITION'S MOTION FOR RECONSIDERATION OF THE LICENSING BOARD'S PARTIAL INITIAL DECISION, New England Coalition, Inc. ("NEC"), through its *pro se* representative, Raymond Shadis, now makes the following Reply.

Entergy mischaracterizes NEC's Motion by summarizing: "NEC's primary argument...is that the Board should have decided the issues the way NEC's experts

opined instead of the way the Board did in its decision.” (Entergy Opposition p.1) No objective and complete reading of NEC’s Motion will support that summation.

In fact, Entergy’s footnote [2] to this sentence, quoting from NEC’s Motion lays out a quite different case. “The Board ruling contained findings and conclusions that unfairly favor, as more credible, the verbal opinions of less qualified witnesses unsupported by and documents or data, over the document and data supported written and oral testimony of much more highly qualified witnesses.” And says Entergy, Doctor Hopenfeld accuses the Board of “...lack[ing] ...expertise to competently weigh conflicting testimony on all of the topics presented” and lack[ing] a fundamental understanding of the principles of safety risk assessment, material fatigue, material corrosion, and nuclear plant instrumentation.”

NEC’s Motion points out only that the Board offered no basis for their finding that Entergy and/or NRC witnesses were more credible on the issues than Dr. Hopenfeld.

NEC’s Motion (citing the transcript) points out that one Board panel member actually abandoned his role as trier of the facts and testified; arguing with NEC’s witness about the interpretation of technical data. This particular issue is not about the Board , “...deciding issues the way NEC experts opined...” as Entergy would put it, but rather , as NEC’s Motion has it, about the manner in which the Board moved to determine the facts; in a highly biased and prejudicial way that incorporated misconceptions of fundamentally important scientific and technical concepts.

Entergy claims that, “...NEC ignores that one of the Board’s fundamental functions is to weigh factual evidence.” This is simply not true. NEC bases its Motion

largely on the Board's performance in weighing factual evidence. It is at the core of providing a fair hearing.

II. APPLICABLE LEGAL STANDARDS

Entergy states that Commission regulations require that : Motions for Reconsideration may not be filed except upon leave of the presiding officer or Commission upon a showing of compelling circumstances, such as the existence of a clear and material error in a decision, which could not have been reasonably anticipated. that renders the decision invalid.

Entergy claims that the Motion fails to show compelling circumstances that would warrant revisiting the decision. This is also not true. NEC has repeatedly made the case, with NRC concurrence that steam system pipe failure or the failure of reactor pressure boundary components can have a direct impact on public health and safety; and steam dryer failure, while the steam dryer is not a safety related component, can have an adverse impact on safety related components. Nothing is more compelling than the prospect of a 40 year old plant operating at 120 percent of its design capacity and beyond its design life without a best practices reliable program for predicting and preventing component failure. NEC claims that is exactly what the Board's Partial Initial Order has turned loose. NEC's Motion has pointed directly to examples where the Board has failed to understand essential information, where its judgments confound basic science and engineering, and where it has failed to engage in probing examination of issues and testimony.

Entergy claims that NEC largely repeats arguments it already made and which the Board properly rejected.

This is not true. NEC's Motion seeks to clarify; not repeat. NEC seeks to correct misapprehensions memorialized in the Board's Order and which NEC could not have predicted; all legitimate basis for a Motion for Reconsideration.¹

NRC Staff and Entergy disagree on the scope of NEC's Motion; with NRC Staff ignoring NEC argument and Exhibits on Contention 4 and focusing on the inadvertent omission of Contentions 3 and 4 at two places in NEC's Motion where NEC charges the Board to review the record and to reconsider "...Contentions 2, 2a, and 2b..." Entergy is not nearly so deliberately obtuse and so states, "The Motion seeks reconsideration of significant portions of the Board's Partial Initial Decision (Ruling on Contentions 2A, 2B, 3, and 4). In this instance, Entergy's reading is correct.

With regard to NEC's allegation that an Entergy witness on at least one occasion misled the Board regarding the potential presence of contaminants in the reactor

¹ 62 NRC 373 (2005) PRIVATE FUEL STORAGE, L.L.C.(Independent Spent Fuel Storage Installation) A properly supported reconsideration motion is one that does not rely upon (1) entirely new theses or arguments, except to the extent it attempts to address a presiding officer's ruling that could not reasonably have been anticipated, *see Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-97-2, 45 NRC3, 4&n.1 (1997) (citing cases); or (2) previously presented arguments that have been rejected, *see Nuclear Engineering Co.* (Sheffield, Illinois Low-Level Radioactive Waste Disposal Site), CLI-80-1, 11 NRC 1, 5 (1980). Instead, the movant must identify errors or deficiencies in the presiding officer's determination indicating the questioned ruling overlooked or misapprehended (1) some legal principle or decision that should have controlling effect; or (2) some critical factual information. *See Georgia Power Co.* (Vogtle Electric Generating Plant, Units 1 and 2), LBP- 94-31, 40 NRC 137, 140 (1994); *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), LBP-83-25, 17 NRC 681, 687, *rev'd and remanded on other grounds*, ALAB-726, 17 NRC 755 (1983). *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-17, 48 NRC 69, 73-74 (1998). In addition, as observed on another occasion: Although a party may not base a reconsideration motion on new information or a new thesis, *see LBP-98-10*, 47 NRC [288,] 292 [1998] (citing *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-97-2, 45 NRC 3, 4 (1997)), a request to reexamine existing record material that may have been misunderstood or overlooked, or to clarify a matter that the party believes is unclear, is appropriate, *see id.* at 296-97 (citing *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), LBP-83-25, 17 NRC 681, 687 (1983)); *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-99-39, 50 NRC 232, 237 (1999).

feedwater, Entergy says that placing evidence before the Board of an in-leaking condenser in a circulating pool laced with halogens from both the river and the service water system is not enough. Entergy further says, NEC appears to "... confuse the service water system and the circulating water system." In truth, NEC does not confuse these systems and attaches (NEC REPLY EXHIBIT ONE – Cross Examination of Jay Thayer, Site Vice President, Entergy Vermont Yankee) evidence demonstrating just that in the form of Entergy testimony in another tribunal.

NRC Staff states that it offered to withdraw Witness Dr. Chang's testimony, but his affidavit was included in the record at NEC's request and therefore the Board's consideration of this evidence should have been anticipated. It is quite true that on the whole Dr. Chang's testimony did not harm NEC's case. The error is that the Board permitted another witness, Mr. John Fair, an NRC staffer with no first hand knowledge of the development of the material in Dr. Chang's affidavit to testify regarding it. Further, NEC attorneys should not have been put in a position of having to decide if disappearing opposition witnesses would do more harm than good with personally unsupported testimony.

NRC Staff claims the "new evidence" NEC now provides to support its claim that Entergy's witness misled the Board was available before the hearing; therefore cannot meet the standard of consideration of new evidence on reconsideration.² Not only could NEC not anticipate this argument, but NEC could not anticipate that the Board would in the Partial Initial Decision allow this testimony to stand without comment. Further, the

² Motions for reconsideration are for the purpose of pointing out errors in the existing record, not for stating new arguments. However, A Licensing Board may decide within its discretion to consider such new arguments where there is no pressure in the present status of a case. Georgia Power Company (Vogtle Electric Generating Plant, Units 1 and 2), LBP-93-21, 38 NRC 143, 145 (1993).

documents, which detail an in-leaking condenser coupled with chlorine treatment of circulating water, and dissolved copper impurities in excess of Boiling Water Reactor Owners Group upper guideline limits were not provided by Entergy as disclosures even though Entergy had in hand NEC testimony listing trace feedwater impurities as a factor in calculating cumulative usage factors in a boiling water reactor environment.

III. SELECTED MATERIAL ISSUES

NRC Staff characterizes the testimony about trace water impurities as regarding a 2004 service water leak. This is disingenuous at best. The Staff knows full well that the line of questioning under consideration led from the Board's earlier concern about how Entergy accounted for water impurities in calculating CUFens. Entergy then responded, in essence, that because NUREG – 6909 dismissed the presence of water impurities during a transient as unlikely, they were not factored in.

JUDGE WARDWELL: Thank you.

5 For Entergy, these -- with the notice that
6 in fact this table was presented as part of the
7 rebuttal, I wanted to query you in regards to whether
8 or not you had any comments on the other ones that Dr.
9 Hopenfeld has brought up in his rebuttal with regards
10 to how you may have addressed these in your analyses.

11 JUDGE KARLIN: Let's clarify what the
12 table is.

13 JUDGE WARDWELL: Yes, it's table one, page
14 four of NEC JH 63.

15 And so the remaining other ones that Dr.
16 Hopenfeld agrees are less important than the three
17 most important ones are, deal with data scatter, size,
18 flow rate, heat to heat variation, loading history,
19 cyclic strain hardening, temperature below 150 which
20 we really have covered, trace impurities in the water,
21 and sulfite morphology.

22 If you have no additional comments, that's
23 fine. Also, that is fine, see if you wanted to
24 address how -- or refresh our memories of how these
25 are addressed in your cumulative use factors,
1094

1 environmentally factored into that analysis.

2 MR. STEVENS: I guess, the only thing I
3 would say is that this table indicates that none of
4 these factors were addressed in Entergy's analysis.

5 I don't agree with that.
6 All but two of them were either directly
7 or inherently included in the analysis.
8 JUDGE WARDWELL: And which two weren't
9 either directly or indirectly included?
10 MR. STEVENS: On page six, we have already
11 talked about item #13, existing cracks, and I had
12 identified that was not relevant.
13 In item #11, it talks about trace
14 impurities, and NUREG 6909 in fact points out that
15 those kinds of things were not considered because it's
16 not – it's very improbable that any kind of an
17 impurity would be present during a transient event.
18 So therefore they did not feel it appropriate to
19 evaluate.

With a preface regarding earlier Entergy statements about feedwater or reactor water impurities, the Board asked about service water intrusion. The witness stated that he could not speak to that, then asked when the incident occurred, with the Board suggesting 2004. The witness did everything but tell the truth.³ In fact, as NEC's Motion Exhibits A-D show all the events in question took place in 2008.

NRC Staff says that neither NEC's "evidence" nor its Motion demonstrates that "...testimony regarding a 2004 service water leak was false or misleading thus rendering the Board's decision invalid." Clearly, NRC Staff misconstrues NEC's intent, which is not to show that a single error invalidates the Board's Decision, but rather to show by citing numerous examples that the Board did not competently and fairly arrive at its findings and conclusions. Accepting off-the-cuff, dissembling, and less-than-honest testimony as dispositive of an issue, as the Board did in this instance, is but one example in a glacier of cumulative errors, failures to probe, and demonstrated biases which invalidate the bases (findings of fact and conclusions) for the Board's decision.

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NRC Staff also questions the timing of NEC Exhibit JH MR-2, as it is dated prior to the evidentiary hearings. However, the industry comments that comprise NEC Exhibit JH MR-2 are an Entergy contractor document and were not however provided in disclosures until just two weeks before the hearings; after pre-filed direct and rebuttal testimony, and leaving insufficient time for witnesses to both prepare for hearing and review new material. Further, this exhibit is provided for purposes of clarification.

Similarly, Exhibits NEC MFR 1, 2, are offered for purposes of clarification; MFR3 is an Entergy document containing new information regarding the quality of the Vermont Yankee FAC program and dated , July 7, 2008, before the evidentiary hearings; but never provided in disclosures by Entergy.

- Core Damage Frequency: Dr. Hopenfeld asserts that the Board failed to properly credit his testimony (Tr. 1613-19) concerning CDF, but according to Entergy he provides no explanation as to why his assertion is material, nor cites any part of the Decision as being in error as a result of his claims regarding CDF. These assertions, Entergy says, are not material to the Board's determinations. In fact, Dr. Hopenfeld and the motion cite the Board's lack of understanding of such fundamental risk concepts as CDF as a reason to request factual review or determination by an outside, independent expert. Again, this goes to the technical quality of the Board's trying of facts.

- Effect of Velocity on Corrosion: Dr. Hopenfeld asserts that the Board improperly weighed evidence concerning the effect of velocity on corrosion by finding that "benchmarking is not an issue" with respect to CHECWORKS. Hopenfeld Declaration at 13. Entergy states that Dr. Hopenfeld fails to explain the significance of his assertion or how it relates to the Board's determination regarding benchmarking CHECWORKS.

Now, that would be repetitive. Dr. Hopenfeld explained these relationships in detail in both his prefiled testimony and in oral testimony , as much as he was allowed, in the evidentiary hearings.

III. CONCLUSION In consideration of the forgoing , NEC respectfully moves the Board to dismiss NRC Staff's Answer and Entergy's Opposition to NEC's Motion for Reconsideration of the Board's Partial Initial Decision in the above captioned matter. Further, NEC now requests that the Board grant NEC's Motion for Reconsideration of the Board's Partial Initial Decision in the above captioned matter.

Respectfully Submitted,



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STATE OF VERMONT
PUBLIC SERVICE BOARD

NEC REPLY EXHIBIT ONE
Cross-Examination of
Jay Thayer, Site VP, Entergy
Reformatted for Purposes of
Electronic Transmission

DOCKET NUMBER 6812
PETITION OF ENTERGY NUCLEAR VERMONT YANKEE,
LLC AND ENTERGY NUCLEAR OPERATIONS, INC., FOR A
CERTIFICATE OF PUBLIC GOOD TO MODIFY CERTAIN
GENERATION FACILITIES AT THE VERMONT YANKEE
NUCLEAR POWER STATION IN ORDER TO INCREASE THE
STATION'S GENERATION OUTPUT --

January 14, 2004
9:00 a.m.

112 State Street
Montpelier, Vermont

Technical hearing held before the Vermont Public
Service Board, at the Third Floor Conference Room,
Chittenden Bank Building, 112 State Street, Montpelier,
Vermont, on January 14, 2004, beginning at 9:00 a.m.

P R E S E N T

BOARD MEMBERS: Michael H. Dworkin, Chairman
David C. Coen
John D. Burke

STAFF: George Young
David Farnsworth

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9 BY MR. SHADIS:

10 Q. Mr. Thayer, I would like to move now to page
11 3, please, of your January 13, 14 testimony. We will be
12 looking at question 6 and your response to question 6,
13 please.

14 A. I'm there.

15 Q. Would you also please find on the stand a
16 document headed NEC Cross Thayer letter E?

17 A. E as in echo?

18 Q. E as in Edward, Emily.

19 A. I have that.

20 Q. It's headed Entergy at the top. You have had
21 an opportunity to read that through before?

22 A. I saw that this morning.

23 Q. Okay. Fine. And could you identify the
24 document for us, please?

25 A. It's a document from Entergy to the Vermont

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1 Department of Environmental Conservation, Waste Water
2 Management Division, dated 15 February 2003.

3 Q. And if you would, please, turn to appendix B
4 of that document.

5 A. I have that page.
6 Q. Under the heading reason for change,
7 approximately halfway down the page.
8 A. Yes.
9 Q. I would like to direct your attention to the
10 second sentence in that paragraph, please.
11 A. I see that.
12 Q. What is the concentration levels recommended
13 for the service water system by the vendor as it's
14 explained in that sentence?
15 A. Within the service water piping system itself,
16 concentration is 75 parts per million.
17 Q. I see. And do I understand correctly that at
18 some point in processes at Vermont Yankee, that service
19 water system water is introduced to the cooling water to
20 the circulating water in the towers?
21 A. It mixes with the circulating water. That's
22 correct.
23 Q. Do you have any idea what the proportions of
24 that mix might be?
25 A. Typical circulating water flow is about

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1 240,000 gallons per minute. Typical service water flow is
2 about 7 to 10,000 gallons per minute.
3 Q. I see. And is the service water introduced to
4 the circulating water in the cooling towers in order to
5 provide make up for what is lost in vapor and so on?
6 A. No. It's actually introduced into the exit of
7 the circulating water coming out of the main condensers.
8 And then it either goes through the cooling towers
9 themselves, or it exits at the plant outfall to the
10 Connecticut River.
11 Q. So if it's surplus to the needs of the cooling
12 tower, then it would -- there would be an overflow
13 mechanism, would allow it then to go to the Connecticut
14 River, do I understand that correctly?
15 A. No. There is actually three cases. It's the
16 circulating water which is circulating to and -- from and
17 to the river. There is the circulating water circulating
18 to and from the cooling towers. And there is a hybrid
19 cycle where there is some of each going on.
20 Q. Right. Okay. In those cases where it is a
21 closed cycle, is service water introduced to the
22 circulating water in the cooling towers?
23 A. Yes, it would be.

24 Q. Have you any -- can you ballpark the relative
25 amounts of service water and circulating water that might

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1 be in the towers at any time? Is that the 240,000 and 7
2 to 8,000 figure that you quoted before?

3 A. No. Those are flows. And those are gallons
4 per minute. At any one time in the basin of the cooling
5 towers themselves, there is on the order of several
6 million gallons of water in the basin.

7 Q. And so if -- I'm wondering if you can help us
8 understand how much in the way of service water is
9 introduced to the towers?

10 A. Well, as I said before, it would be a ratio of
11 approximately the same as the ratio of the flows. About
12 10 to 240. So it's a very small amount into a very large
13 flow.

14 Q. Okay.

15 A. The closing idea in this paragraph is to -- it
16 gets back to the discharge limit of less than 2 PPM. That
17 is the regulatory limit, and that is the -- this is the
18 confirmation that at those rates that you had me quote
19 before in the service water system, with the dilution into
20 the circulating water system, the mixing and the
21 consumption of this chemical during treatment, it actually
22 is consumed, it breaks down to simple carbon dioxide, all
23 those processes combined would produce a limit in the
24 water at the point of sampling either at the discharge or
25 to the cooling towers, of less than 2 PPM. Parts per

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1 million. Excuse me.

2 Q. Certainly. Your discharge concentrations are
3 on one level calculated, but on another are there batch
4 sampling that take place? Is there point of discharge
5 sampling to confirm the concentrations when you empty into
6 the river?

7 A. Yes, there is. This service water system
8 treatment occurs about one hour every week. It's a
9 discrete addition of chemicals to the service water
10 system. Is sampled at the point of entry and at the point
11 of discharge to ensure that these limits are met.

(Emphasis Added)

**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))	

CERTIFICATE OF SERVICE

I, Raymond Shadis, hereby certify that copies of **NEW ENGLAND COALITION, INC.'S MOTION FOR LEAVE TO REPLY AND NEW ENGLAND COALITION'S REPLY TO ENTERGY'S OPPOSITION AND NRC STAFF'S ANSWER TO NEW ENGLAND COALITION'S MOTION FOR RECONSIDERATION.** in the above-captioned proceeding were served on the persons listed below, by U.S. Mail, first class, postage prepaid; and, where indicated by an e-mail address below, by electronic mail, on the 14th of January, 2009.

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