

February 21, 2006

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
ENTERGY NUCLEAR VERMONT YANKEE,)	Docket No. 50-271-OLA
LLC and ENTERGY NUCLEAR)	
OPERATIONS, INC.)	ASLBP No. 04-832-02-OLA
)	
(Vermont Yankee Nuclear Power Station))	

NRC STAFF'S RESPONSE TO NEW ENGLAND COALITION'S
BRIEF CONCERNING THE SCOPE OF NEC CONTENTION 4

INTRODUCTION

In accordance with the Atomic Safety and Licensing Board's Order in the telephone conference call of January 24, 2006 (Tr. 728-30, 765), the NRC Staff ("Staff") hereby responds to the brief filed by New England Coalition ("NEC") on February 14, 2006, concerning the scope of NEC Contention 4.¹ For the reasons set forth herein, the Staff submits that NEC's Brief improperly attempts to expand the scope of this late-filed contention beyond the specific issue which the Licensing Board had authorized it to raise therein, and improperly seeks to raise concerns outside the scope of the contention as filed and admitted. Accordingly, the Staff respectfully submits that the scope of the contention should be limited to the adequacy of the seismic analysis for the alternate cooling system ("ACS") cooling tower – which NEC had previously claimed was missing – in that this is the sole issue which NEC had previously raised and which the Board authorized NEC to re-submit upon submitting this late-filed contention.

¹ "New England Coalition's Brief on the Scope of Its Contention Regarding Inadequate Analysis of the Vermont Yankee Alternate Cooling System Performance Under Conditions of Extended Power Uprate" (NEC's "Brief"), filed February 14, 2006. The schedule for filing briefs on this matter was extended by one week, at NEC's request and without opposition, by Order of February 7, 2006.

BACKGROUND

This proceeding concerns the application filed by Entergy Nuclear Vermont Yankee, L.L.C. and Entergy Nuclear Operations, Inc. (collectively “Entergy” or “Applicant”) for an amendment to the operating license for the Vermont Yankee Nuclear Power Station (“VYNPS” or “Vermont Yankee”), to authorize an extended power uprate (“EPU”), increasing the maximum power level by approximately 20%. On July 1, 2004, the Commission published in the *Federal Register* a Notice of Consideration of Issuance and Opportunity for Hearing, which specified, *inter alia*, that any petitions for leave to intervene and contentions concerning the amendment must be filed within 60 days, *i.e.*, by August 30, 2004.² Petitions for leave to intervene and contentions were then filed by the State of Vermont Department of Public Service and NEC.

Among the contentions filed by NEC was its Contention 4, which asserted as follows:

The license amendment should not be approved. Entergy cannot assure seismic and structural integrity of the cooling towers under uprate conditions, in particular the Alternate Cooling System cell. At present the minimum appropriate structural analyses have apparently not been done.³

On November 22, 2004, the Licensing Board admitted NEC Contention 4, as restated in Appendix 1 to the Licensing Board’s Order. As admitted, the contention stated as follows:

The license amendment should not be approved because Entergy cannot assure seismic and structural integrity of the cooling towers under uprate conditions, in particular the Alternate Cooling System cell. At present the minimum appropriate structural analyses have apparently not been done.

² See “Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc.; Notice of Consideration of Issuance of Amendment to Facility Operating License and Opportunity for a Hearing,” 69 Fed. Reg. 39,976 (2004). The Notice further advised that “Nontimely requests and/or petitions and contentions will not be entertained absent a determination by the Commission or the presiding officer of the Atomic Safety and Licensing Board that the petition, request and/or the contentions should be granted based on a balancing of the factors specified in 10 CFR 2.309(a)(1)(i)-(viii).” *Id.*

³ “New England Coalition’s Request for Hearing, Demonstration of Standing, Discussion of Scope of Proceeding and Contentions,” dated August 30, 2004, at 11-12; emphasis added. The basis for this contention was identified as “the Declaration of Arnold Gundersen under Ultimate Heat Sink [Exhibit D] and further testimony to be provided at hearing” *Id.* at 12; see also “Declaration of Arnold Gundersen in Support of Petitioners’ Contentions,” dated August 30, 2004, at 5-7.

Entergy Nuclear Vermont Yankee, L.L.C., and Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station), LBP-04-28, 60 NRC 548, 580 (2004); emphasis added. In admitting the contention, the Licensing Board stated, "The gist of this contention is that a new seismic and structural analysis should be performed to qualify the Vermont Entergy cooling towers for the additional loads that will result from increasing the maximum power by 20%." *Id.* at 573; emphasis added.

On May 25, 2005, Entergy submitted a cooling tower seismic evaluation,⁴ and on July 13, 2005, it filed a motion to dismiss NEC Contention 4 as moot, or in the alternative, for summary disposition of the contention, based on its submission of that analysis.⁵ In a Memorandum and Order dated September 1, 2005, the Licensing Board granted the Applicant's motion to dismiss the contention as moot, finding that the Applicant's submittal of its seismic analysis satisfied the contention's assertion that such an analysis had not been submitted. *Entergy Nuclear Vermont Yankee, L.L.C., and Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), LBP-05-24, 62 NRC 429, 434 (2005). At the same time, the Board afforded NEC an opportunity to file a new contention challenging the adequacy of that analysis, ruling that "[t]o the extent that NEC has specific complaints regarding Entergy's new seismic and structural analysis that are within the scope of the EPU application," it may file new or amended contentions within 20 days of the date of the Board's order, which then "will be deemed timely for purposes of 10 C.F.R. § 2.309(f)(2)(iii)." *Id.* at 433; emphasis added.

⁴ See Calculation No. 1356711-C-001, "Cooling Tower Seismic Evaluation," dated April 5, 2005, prepared by ABS Consulting ("ABS") on behalf of Entergy.

⁵ See "Entergy's Motion to Dismiss as Moot, or in the Alternative, for Summary Disposition of New England Coalition Contention 4," dated July 13, 2005. See also (1) "NRC Staff's Answer to Entergy's Motion to Dismiss as Moot, or in the Alternative, for Summary Disposition of [NEC] Contention 4," dated July 25, 2005; and (2) "New England Coalition's Answer Opposing Entergy's Motion to Dismiss as Moot, or in the Alternative, for Summary Disposition of [NEC's] Contention 4" dated August 2, 2005.

NEC filed its request for leave to file a new contention on September 21, 2005.⁶ NEC's new contention asserted as follows:

The Entergy Vermont Yankee [ENVY] license application (including all supplements) for an extended power uprate of 20% over rated capacity is not in conformance with the plant specific original licensing basis and/or 10 CFR Part 50, Appendix S, paragraph I(a), and/or 10 CFR Part 100, Appendix A, because it does not provide analyses that are adequate, accurate, and complete in all material respects to demonstrate that the Vermont Yankee Nuclear Power Station Alternate Cooling System [ACS]¹ in entirety, in its current actual physical condition (or in the actual physical condition ENVY will effectuate prior to commencing operation at EPU), will be able to withstand the effects of an earthquake and other natural phenomena without loss of capability to perform its safety functions.² ENVY must be able to demonstrate that the actual structures, systems and components comprising the ACS will perform satisfactorily at the requested increased plant power level.

¹ The ACS system includes, but is not limited to, towers, fill, structural members and bracing, shear pins and/or tie rods, basins, piping, pumps, valves and controls, fan motors, fan decks and fan gearing, emergency electrical supply, and all components vital to design basis objectives and licensing basis requirements intended to assure operability when the system is called upon in an emergency.

² Under uprate conditions, in particular, the removal of additional decay heat generated by uprated reactor power, any seismically induced impairment of the ACS function is apt to eliminate already attenuated margins.

Request at 1.⁷

Responses to NEC's new contention were filed by Entergy and the Staff on October 19, 2005. In its response, Entergy provided a detailed assessment of the new contention, and opposed its admission as untimely, lacking in factual support, impermissibly broad and vague,

⁶ "New England Coalition's Request for Leave to File A New Contention" ("NEC Request"), dated September 21, 2005.

⁷ NEC provided four bases in support of its contention, along with certain "Supporting Evidence," including a declaration from Dr. Ross B. Landsman. See NEC Request at 4-13 and "Declaration of Dr. Ross B. Landsman Supporting New England Coalition's Alternate Cooling System Contention," dated September 19, 2005 ("Landsman Declaration").

and, in part, raising issues that are outside the scope of this proceeding.⁸ For its part, the Staff in large part did not oppose the admission of the contention, finding that it satisfied the timeliness and scope requirements of the Board's previous Orders;⁹ the Staff further stated its view the contention appears to satisfy the requirements of 10 C.F.R. § 2.309(f)(2)(i)-(ii), "in that seismic and structural analyses associated with the ACS at EPU conditions were not available at the time [NEC] petitioned for a hearing, and the ABS report was, thus, 'materially different' from information previously available. *See generally* [NEC] Request at 16-17, ¶ 12." Staff Response at 7.¹⁰ The Staff opposed the admission of the contention to the extent that it sought to challenge the "current actual physical condition" of the ACS, since the adequacy of current operations under the existing license is beyond the scope of this proceeding. Staff Response at 8.¹¹ NEC then filed a reply, in which it adopted and incorporated the arguments set forth in

⁸ "Entergy's Response to the New England Coalition's Request for Leave to File A New Contention," dated October 19, 2005, at 4, 10, and 11-30.

⁹ "NRC Staff Answer to New England Coalition Request for Leave to File A New Contention," ("Staff Response"), dated October 19, 2005, at 6, 7. As the Staff noted, the Board had previously stated that the contention would be deemed timely if filed within 20 days, *id.* at 6; and the Staff cited NEC's assertion that the Board had previously found the issue raised in this contention to be within the scope of the proceeding. *Id.* at 8, citing NEC Request at 17, ¶ 13 ("The matter at issue has already been found to be within the scope of the proceeding.").

¹⁰ The Staff pointed out that NRC regulations provide that a late-filed contention may be admitted with leave of the presiding officer only upon a showing that:

- (i) the information upon which the amended or new contention is based was not previously available;
- (ii) the information upon which the amended or new contention is based is materially different than information previously available; and
- (iii) the amended or new contention has been submitted in a timely fashion based on the availability of the subsequent information.

Staff Response at 4-5, *citing* 10 C.F.R. § 2.309(f)(2).

¹¹ A late-filed contention must satisfy the contention admissibility requirements of § 2.309(f)(1), which requires, in part, that a petitioner ". . . (iii) demonstrate that the issue raised in the contention is within the scope of the proceeding."

the Staff's response, "to the extent they do not contradict the arguments advanced" in NEC's reply¹² – and NEC argued that its new contention should be admitted, in that it presented NEC's view that "the proffered analysis 'cannot assure the seismic and structural integrity of the cooling tower under uprate conditions, in particular the Alternate Cooling System cell.'" NEC Reply at 4; emphasis added; *cf. id.* at 5, 6.

On December 2, 2005, the Licensing Board issued its Memorandum and Order admitting NEC's new contention.¹³ Therein, the Board found, *inter alia*, that the contention was timely filed under 10 C.F.R. § 2.309(f)(2), in that the contention "challenges the sufficiency of the ABS Report, which, because it filled a prior omission, necessarily constitutes 'information . . . not previously available.' 10 C.F.R. § 2.309(f)(2)(i). And since something is obviously different than nothing, the ABS Report is also 'information . . . materially different than information previously available.' 10 C.F.R. § 2.309(f)(2)(ii)." LBP-05-32, slip op. at 8; emphasis added.¹⁴ With respect to the scope of the contention, the Board found that the contention was admissible, based on its challenge to the adequacy of the ABS Report. The Board stated,

¹² "New England Coalition's Reply to Applicant and NRC Staff Answers to [NEC's] Request for Leave to File A New Contention" ("NEC Reply"), dated October 26, 2005, at 2.

¹³ *Entergy Nuclear Vermont Yankee, L.L.C., and Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), LBP-05-32, 62 NRC ____ (Dec. 2, 2005) (slip op.).

¹⁴ Similarly, the Board held that:

Originally, there was no seismic analysis of the ACS and NEC asserted that "Entergy cannot assure the seismic and structural integrity" of the ACS because "the minimum appropriate structural analyses" had not been done. NEC Original Petition at 11. Entergy has now done a seismic analysis and NEC is challenging it because it allegedly fails to take into account various factors, such as documentation of the breaking strength of tie rods, the effects of aging mechanisms, moisture and chemicals on the ACS, changes in the ACS since the ABS Report, and non-conservative assumptions about concrete and steel splices. NEC Request at 7. We conclude that NEC raised the seismic issue, to the extent possible, in its original contention of omission and has continued to pursue the issue now, by alleging various deficiencies in the ABS Report.

LBP-05-32, slip op. at 8-9 (footnotes omitted); emphasis added.

“NEC provides four bases and various supporting evidence, including seven specific examples from the Declaration of Dr. Landsman identifying specific deficiencies in the ABS Report, *id.* at 2-6, and these define the basic scope of the proposed contention.” *Id.* at 11-12; emphasis added. *Cf. id.* at 13 (the alleged deficiencies in the ABS Report cited by Dr. Landsman are within the scope of the proceeding); *id.* at 14-15 (the seven alleged deficiencies in the ABS Report establish the issues for which there is a genuine dispute of material fact).

Subsequent discussions among the parties revealed a disagreement as to the scope of the admitted contention, and the Board directed that briefs be filed by the parties outlining their positions. Tr. 712-16, 724-30. In accordance with the Board’s Order, NEC filed its Brief on February 14, 2006, in which it asserted that the contention requires consideration of the ACS “in its entirety,” rather than just “the [ACS] cooling towers,” NEC Brief at 3, and its conclusion, based on a review “of the publicly available documents, including the license amendment application and license safety assessment,” that Entergy had failed to provide “analyses that are adequate, accurate, and complete in all material respects to demonstrate that the ACS will, under uprate conditions, will be able to withstand the effects of an earthquake and other natural phenomena without loss of capability to perform its safety functions.” *Id.* at 4. A brief in response to NEC’s Brief was filed by the Applicant on February 21, 2006.

DISCUSSION

Any contention challenging the adequacy of the EPU amendment application or the Applicant’s Safety Analysis Report (“SAR”) was required to be filed by August 30, 2004, as set forth in the Commission’s *Federal Register* Notice of July 1, 2004. Both the Commission and the Licensing Board have emphasized the need for petitions to intervene and contentions in this proceeding to be filed in a timely manner. *See, e.g., Entergy Nuclear Vermont Yankee, L.L.C., and Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), Order dated August 18, 2004 (unpublished) (denying a request for extension of time filed by the Governor

and three members of Congress); *Vermont Yankee*, LBP-04-28, 60 NRC at 577-78; *Vermont Yankee*, LBP-05-24, 62 NRC at 433. Thus, NEC was required to file any contentions seeking to challenge the seismic or structural integrity of the ACS or any other structure, system, or component (“SSC”) of the VYNPS by August 30, 2004.

NEC’s Contention 4, which the Licensing Board dismissed as moot in LBP-05-24, asserted that the Applicant had failed to file an analysis of “the seismic and structural integrity of the cooling towers under uprate conditions, in particular the Alternate Cooling System cell.” As the Licensing Board found in LBP-05-24, the Applicant’s submission of its ABS Report addressed that omission and rendered the contention moot. *Id.* at 432. To the extent that NEC may have sought to raise any other issue in NEC Contention 4, those issues were resolved in LBP-05-24. *See id.* at 432-33. Thus, the Licensing Board’s decision in LBP-05-24 effectively resolved all issues which had been or could have been raised by that time with respect to the seismic and structural integrity of the ACS or any other SSC, except insofar as some material new information might support a late-filed contention. In particular, as stated by the Board, only “to the extent that NEC has specific complaints regarding Entergy’s new seismic and structural analysis that are within the scope of the EPU application” would a new contention be considered timely and authorized under the Board’s decision. *Id.* at 433.

The procedural background of this issue, set forth in detail above, demonstrates that the sole issue which NEC was authorized to raise in its new contention concerns the adequacy of the Applicant’s ABS Report – which specifically addresses the capability of the ACS cooling tower to withstand the effects of a design basis earthquake without losing the ability to perform its intended safety functions. The adequacy of that report is the sole issue which supports NEC’s late filing of this new contention.¹⁵ Moreover, the adequacy of the ABS Report is the

¹⁵ As discussed *supra* at 5, the Staff did not oppose the admission of NEC’s new contention, based on its view that the contention was specifically based upon alleged deficiencies in the ABS Report. *See* Staff Response of October 19, 2005, at 7, 8.

sole basis for the Licensing Board's decision to admit NEC's new contention. Thus, the Board found that "NEC raised the seismic issue, to the extent possible, in its original contention of omission and has continued to pursue the issue now, by alleging various deficiencies in the ABS Report." LBP-05-32, slip op. at 8-9.¹⁶ Further, the Board held that the alleged deficiencies in the ABS Report which were identified by NEC's Dr. Landsman "define the basic scope of the proposed contention." *Id.* at 11-12. Each of the seven issues raised by Dr. Landsman involve the ABS Report's assessment of the ability of the ACS cooling towers to withstand a seismic event; no other issues may be raised at this time, without filing a further contention which meets the filing requirements of 10 C.F.R. § 2.309.

In its Brief, NEC attempts to raise numerous other issues, not contained within the scope of its contention as admitted. For example, NEC asserts that the ability of "the entire ACS" to withstand a seismic event must be litigated within the scope of this contention, and it now asserts that documents other than the ABS Report are inadequate. NEC Brief at 3-4. As set forth above, however, the only issues which are within the scope of this contention are the issues which were timely filed and properly supported by NEC in the bases for the contention. NEC failed to provide any specific basis to support the contention's generalized assertion that the "entire" ACS system is deficient; moreover, any such generalized assertion, and any challenge to the adequacy of any documents other than the ABS Report, should have been raised previously, and are not fairly presented in a contention challenging the adequacy of the ABS Report's ACS cooling tower seismic evaluation.

Finally, the Staff notes that in Basis VII, NEC's Dr. Landsman asserted that "ABS does not provide reasonable assurance of seismic qualification." Landsman Declaration at 8, ¶ 18. In support of this assertion, Dr. Landsman refers to various alleged deficiencies in the ABS

¹⁶ Further, the Board observed that the issue raised by NEC "has evolved from focusing on the absence of any seismic analysis, to the quality of the analysis that was subsequently submitted." LBP-05-32, slip op. at 9 n.20; emphasis in original.

Report – and he further asserts that the ABS Report is deficient insofar as it relies upon “a non-conservative design basis earthquake” (“DBE”), set out in the Final Safety Analysis Report (“FSAR”) for the VYNPS, and argues that other documents published in 1988 and 1991 suggest that a different DBE should have been established. *Id.* To the extent that NEC and Dr. Landsman may have sought to challenge the sufficiency of the DBE – which was established long before and independently of the ABS Report – they seek to raise an issue that far exceeds the scope of both this contention and the EPU application, would significantly expand the scope of permissible litigation in this proceeding, and was neither contemplated nor authorized by the Licensing Board’s decisions in LBP-05-24 or LBP-05-32.

CONCLUSION

In light of the parties’ disagreement as to the scope of the scope of this contention, the Staff respectfully submits that further clarification by the Licensing Board of its ruling in LBP-05-32 would assist the parties in framing the issues and preparing for hearings in this proceeding. Further, consistent with the Licensing Board’s rulings in LBP-05-24 and LBP-05-32, the Staff submits that the Board’s decision should be clarified to indicate that the admitted scope of NEC’s new contention is limited to the alleged deficiencies identified by Dr. Landsman concerning the ABS Report’s ACS cooling tower seismic evaluation, as discussed above.

Respectfully submitted,

/RA/

Sherwin E. Turk
Counsel for NRC Staff

Dated at Rockville, Maryland
this 21st day of February, 2006

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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LLC and ENTERGY NUCLEAR)	
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CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF'S RESPONSE TO NEW ENGLAND COALITION'S BRIEF CONCERNING THE SCOPE OF NEC CONTENTION 4," in the above-captioned proceeding have been served on the following by deposit in the United States mail, first class; or as indicated by an asterisk (*), by deposit in the Nuclear Regulatory Commission's internal mail system; and by e-mail as indicated by a double asterisk (**), this 22nd day of February, 2006.

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