

STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

Petition of BNE Energy Inc. for a  
Declaratory Ruling for the Location,  
Construction and Operation of 4.8 MW  
Wind Renewable Generating Projects on  
Winsted-Norfolk Road in Colebrook,  
Connecticut ("Wind Colebrook North")

Petition No. 984

RECEIVED  
APR - 8 2011

April 4, 2011

CONNECTICUT  
SITING COUNCIL

SUPPLEMENTAL PRE-FILED TESTIMONY OF NOISE CONTROL  
ENGINEERING, INC., BY MICHAEL BAHTIARIAN, INCE Bd. Cert.

**Q45. Would you like to supplement the Pre-filed Testimony of Noise Control Engineering, Inc., (NCE) dated March 15, 2011?**

A45. Yes.

**Q46. Do you have additional comments to make about your review of the "Wind Colebrook North" wind turbine project located at Winsted-Norfolk and Rock Hall Roads in Colebrook, Connecticut?**

A46. Yes, I do.

**Q47. What additional comments do you have?**

A47. Exhibit M, the Noise Evaluation, dated November 2010, does not select the proper point for computing compliance with the Connecticut noise control regulations. RCSA § 22a-69-3.1 provides: "No person shall cause or allow the emission of excessive noise beyond the boundary of his/her Noise Zone so as to violate any provisions of these Regulations." A Noise Zone is defined in RCSA § 22a-69-1.1 as: "(o) noise zone means an individual unit of land or a group of contiguous parcels under the same ownership as indicated by public land records and, as relates to noise emitters, includes contiguous publicly dedicated street and highway rights-of-way, railroad rights-of-way and waters of the State."

In Exhibit M, on the map that follows page 9, “Wind Colebrook North Noise Monitoring and Receptor Locations,” BNE shows noise receptor locations which are not determined at the proper Noise Zone, property boundary of the property controlled by BNE. In the Appendix to Exhibit M, in the sound level calculations, BNE uses distances from each of the wind turbines to each of the indicated “Receptors” and thereafter modeled noise conditions for both daytime conditions at wind speed of 9 m/s and nighttime conditions at 8 m/s.

These calculations are not in keeping with the regulation as the noise receptors are not on the property boundary, and therefore the modeled noise conditions tell us nothing about the compliance Connecticut’s noise regulations.

**Q48. Have you modeled compliance with Connecticut’s noise regulations for worst-case conditions (nighttime using a wind speed of 9 m/s) to arrive at a sound level at the property line nearest to each of the turbines involved in the Wind Colebrook North petition?**

A48. Yes, I have.

**Q49. What did you do to model the results?**

A49. I measured the distance to the property line by using the sheet identified as C-003 in Exhibit F, “Wind Colebrook North Connecticut Clearing Limits Plan,” to determine the shortest distance from each tower to the nearest property line to establish the distance to a receptor. Then, based on a hub height of 328 feet, a sound power level of  $L_w=106$  decibels and an absorption coefficient of  $a = 0.005$  dB/m, I modeled the nighttime conditions to obtain the results on Table NCE 1 attached.

I used a simple spreadsheet that mimicked the methods used by VHB given in Exhibit M. My calculations are attached as Exhibit 6.

**Q50. Do these model results show compliance with the Connecticut noise regulation at the property boundary?**

A50. No; these results show that the wind turbines will not be in compliance with the Connecticut regulation at the property boundary. Based on this modeling, I am of the opinion that these wind turbines will be in excess of 6 to 9 dB above the permitted limits at night. Further, this evaluation shows that excesses of 0 to 3 decibels to the industrial-to-residential limit of 51 dB(A) would also occur.

4/4/2011

Date

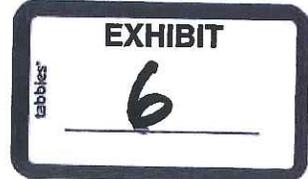
 INCE BE Cert.

Noise Control Engineering, Inc.

By: Michael Bahtiaran

### Property Line Evaluation

	Hub height	328 ft	100 meters			
	Lw	106 dB(A)				
	Abs Coef	0.005 dB/m =	5 dB/km			
Background Levels dB(A)	PL-N1	PL-N2	PL-N3	PL-S1	PL-S2	PL-S3
Wind Turbine N1	38.1	38.1	38.1	38.1	38.1	38.1
Wind Turbine N2	38.1	38.1	38.1	38.1	38.1	38.1
Wind Turbine N3	38.1	38.1	38.1	38.1	38.1	38.1
Wind Turbine S1	38.1	38.1	38.1	38.1	38.1	38.1
Wind Turbine S2	38.1	38.1	38.1	38.1	38.1	38.1
Wind Turbine S3	38.1	38.1	38.1	38.1	38.1	38.1
Horizontal Distance to Recv (ft)	PL-N1	PL-N2	PL-N3	PL-S1	PL-S2	PL-S3
Wind Turbine N1	231	1,761	1,710			
Wind Turbine N2	1,568	401	755			
Wind Turbine N3	1,725	911	102			
Wind Turbine S1				216	1,498	1,188
Wind Turbine S2				1,511	141	1,496
Wind Turbine S3				1,419	1,253	406
Distance to Rec, R (ft)	PL-N1	PL-N2	PL-N3	PL-S1	PL-S2	PL-S3
Wind Turbine N1	401	1,791	1,741			
Wind Turbine N2	1,602	518	823			
Wind Turbine N3	1,756	968	343			
Wind Turbine S1				393	1,533	1,232
Wind Turbine S2				1,546	357	1,532
Wind Turbine S3				1,456	1,295	522
Distance to Rec, R (meters)	PL-N1	PL-N2	PL-N3	PL-S1	PL-S2	PL-S3
Wind Turbine N1	122	546	531			
Wind Turbine N2	488	158	251			
Wind Turbine N3	535	295	105			
Wind Turbine S1				120	467	376
Wind Turbine S2				471	109	467
Wind Turbine S3				444	395	159
Sound Pressure Level	PL-N1	PL-N2	PL-N3	PL-S1	PL-S2	PL-S3
Wind Turbine N1	53	38	38			
Wind Turbine N2	39	50	46			
Wind Turbine N3	38	44	54			
Wind Turbine S1				53	39	42
Wind Turbine S2				39	54	39
Wind Turbine S3				40	41	50
<b>Total SPL, dB(A)</b>	<b>53</b>	<b>51</b>	<b>55</b>	<b>53</b>	<b>54</b>	<b>51</b>
<b>Residence -to-Reesidnce Limit, dB(A)</b>	<b>45</b>	<b>45</b>	<b>45</b>	<b>45</b>	<b>45</b>	<b>45</b>
<i>Excess to above limit, dB</i>	<i>8</i>	<i>6</i>	<i>10</i>	<i>8</i>	<i>9</i>	<i>6</i>
<b>Industrial-to-Reesidnce Limit, dB(A)</b>	<b>51</b>	<b>51</b>	<b>51</b>	<b>51</b>	<b>51</b>	<b>51</b>
<i>Excess to above limit, dB</i>	<i>2</i>	<i>0</i>	<i>4</i>	<i>2</i>	<i>3</i>	<i>0</i>



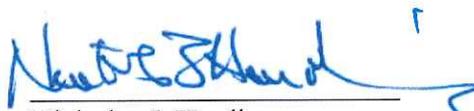
**CERTIFICATION**

I hereby certify that a copy of the foregoing document was delivered by first-class mail and e-mail to the following service list on the 7<sup>th</sup> day of April, 2011:

Carrie L. Larson  
Paul Corey  
Jeffery and Mary Stauffer  
Thomas D. McKeon  
David M. Cusick  
Richard T. Roznoy  
David R. Lawrence and Jeannie Lemelin  
Walter Zima and Brandy L. Grant  
Eva Villanova

and sent via e-mail only to:

John R. Morissette  
Christopher R. Bernard  
Joaquina Borges King

  
\_\_\_\_\_  
Nicholas J. Harding