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15-1921-EL-BGA

Butler, Matthew

From:	Valerie Malicki <valeriechristina@rocketmail.com>
Sent:	Sunday, December 06, 2015 5:39 PM
To:	Puco ContactOPSB
Subject:	15-1921-EL-BGA
Attachments:	Letter - Tom Harrke - Californi Ridge - 9-Dec-2013.pdf

Dear OPSB,

The only way for industrial wind turbines to limit their noise, is to reduce their size or impose greater setback distance, per Stephen Ambrose, professional noise engineer with 35 years of experience.

Windlab proposes that Greenwich Neighbors United is re-introducing past issues. On the contrary, the turbine size and setback distance are CLEARLY relevant to this amendment.

Windlab proposes to base their information on solid research. Yet, they urge the OPSB to simply rubber-stamp this amendment based on precedence instead of solid noise research.

OPSB, please base your decisions on actual noise research& it's predicted community response. Again, as above, the only way for industrial wind turbines to limit their noise is to reduce their size or impose greater setback distances.

Sincerely,

Mrs. Valerie C. Malicki, MA, LPCC

Tel: 207-892-6691 **S.E. Ambrose & Associates** Email; seaa@myfairpoint.net
15 Great Falls Road, Windham, ME 04062
Acoustics, Environmental Sound & Industrial Noise

December 8, 2013

Theodore P. Hartke, PE, PLS
Hartke Engineering and Surveying, Inc.
117 S. East Avenue P.O. Box 123
Ogden, Illinois 61859

Ref: California Ridge Wind Turbine, Illinois

Dear Ted,

My name is Stephen Ambrose and I have over 35 years' experience performing environmental noise assessments for industrial and commercial facilities. My clients need to operate as a good acoustical neighbor to all nearby residential properties. I am a Board Certified Member of the Institute of Noise Control Engineering (INCE) and Member of the Acoustical Society of America (ASA).

Robert Rand (INCE) and I have worked together since we first met at Stone & Webster Engineering in the 1980's. For the past four years, we have been investigating industrial wind turbine audible and inaudible (infrasound) noise levels. We have identified why there are so many neighbor complaints involving excessive noise levels and adverse health impacts affects; sleep interference, headaches, nausea, vertigo, impaired cognitive ability, and more.

The only noise reduction option for wind turbines is to limit size or impose greater setback distance. This is especially true in quiet rural environments where there are no other man-made noise sources. Quiet areas need setback distances greater than a few thousand feet, but rather a mile or more. This is supported by research gathered from 55 environmental noise studies, which are summarized in the 1974 USEPA "Levels Document" (550/9-74-004). Research in 2004 by Pederson and Waye and the World Health Organization (WHO) 2009 Health Effect Guidelines are consistent with the USEPA recommendation when the noise levels are 'normalized' for quiet environments. This is all shown on Figure 1, which can be used to predict the range of public reactions to new noise source such as wind turbines.

Neighbors respond to the sound level increase and change frequency content. The public or community reaction is easily determined by locating the turbine noise level (dBA predicted or measured) on the 'x-axis' and the response is on the 'y-axis' when the black squares are intersected. Fifty 50 dBA exceeds and meets the black squares representing "*strong appeals to stop noise*" and "*vigorous community action*". Forty-five dBA has "*widespread complaints*" and "*strong appeals to stop noise*", 35 dBA has "*widespread complaints*" and "*sporadic complaints*". The design goal should be no louder than 32 dBA for "*no reaction*" or "*sporadic complaints*" at the worst.

This chart clearly shows that your family is being exposed to excessive noise and adverse health impacts. Please feel free to call me with any questions.

Respectfully,

Stephen E. Ambrose

Stephen E. Ambrose, *INCE, Board Certified*
Principal Consultant

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Community Response Prediction

WHO 2009 HEALTH EFFECTS GUIDELINES