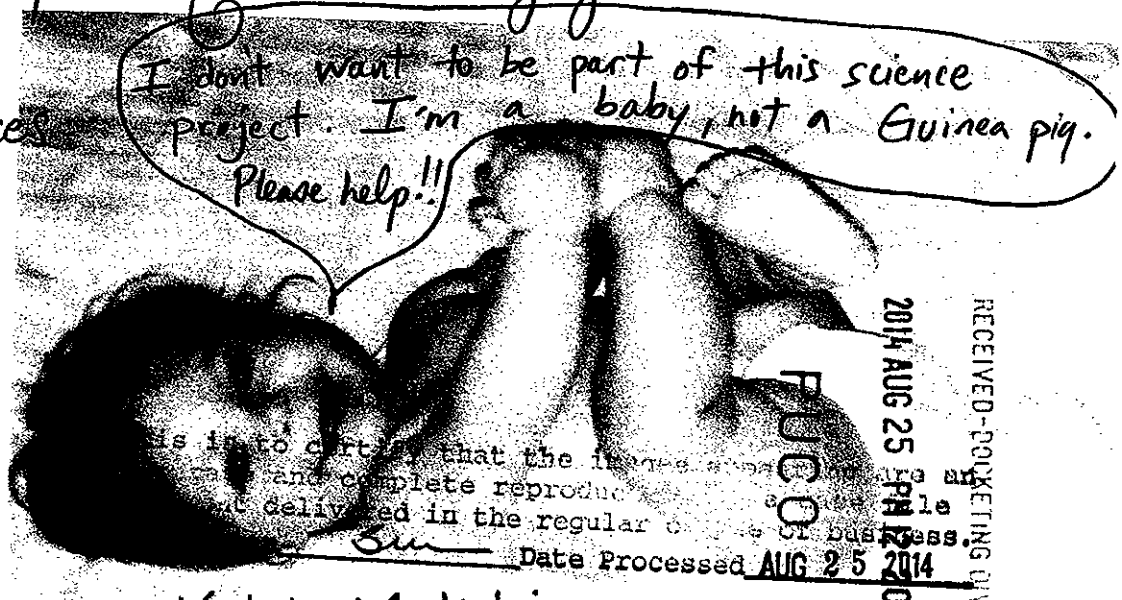
FILE

Dear James Zehringer,

Aug 18, 13
2014

(This is referencing case #13-0990-EL-BGN. (Greenwich Industrial Wind Turbines, 717 ft. from my home.)

Please see the enclosed document. People have felt the acoustic & vibration measurements inside & outside their homes, & this has been in science journals since the late 70's & early 80's as in this article from the U.S. Dept of Energy.



"Strong resonances found in the acoustic pressure field ..... resulting in sensation of whole-body vibration." (Solar Energy Research Institute)

Violet Malicki,
9th generation Huron Co., Ohio resident.
2373 Alph Rd, Greenwich OH 44837

Please do NOT sacrifice my innocent sweet body on the alter of corporate greed, lies, "green" energy, and political agendas. I am a baby. —Violet Malicki

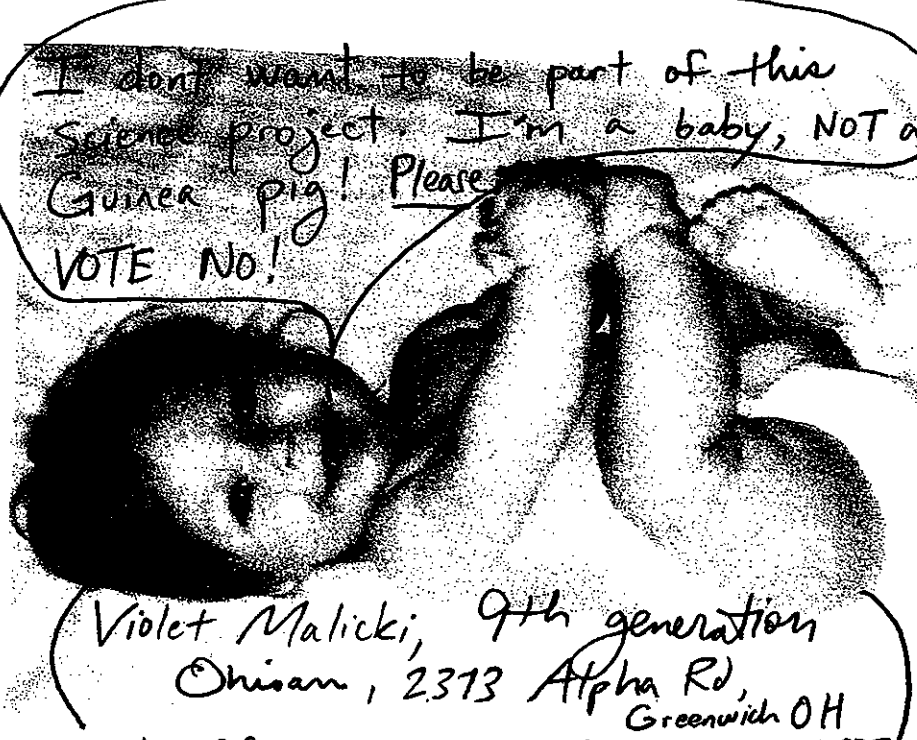
Enc: Rosie & Violet & the beautiful landscape @ our home, Harvard Dr study & testimony (Harvard Dr testimony), Ambrose Noise Study, US Dept of Energy study, Sophia pic

Dear OPSB, [Ref case #13-0990-EL-BGN] (cover page)
Aug. 14, 2014

"Please help me! Please protect my innocent brain and body and life and future." -Violet Malicki

Infrasound Low-Frequency Noise (ILFN) Emissions for the Greenwich Industrial Turbine Power Station are not regulated; ILFN is NOT addressed in the Staff Report; and Windlab refuses to answer questions about the ILFN (even after lying to my face & promising they would!)

ILFN destroys lives, thousands around the world have suffered, mainly sleep deprivation, a form of TORTURE the UN Council does not allow - even in war.



(Violet Malicki, 9th generation Ohioan, 2313 Alpha Rd, Greenwich OH 44837)

P.S. setback minimum; Sophia's pic enclosed (www.opsb.com)

P.S. MUCH more info in the Public docket - please review with scrutiny!

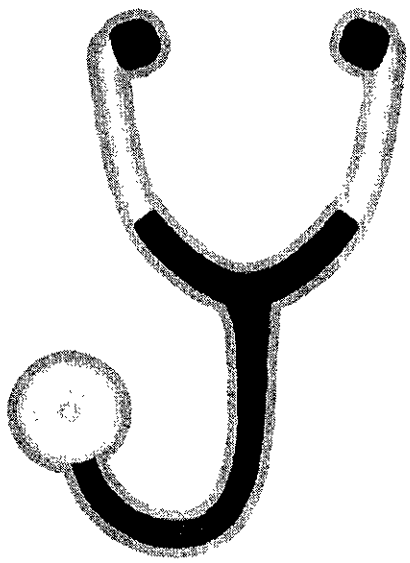
Please do not allow my baby to be tortured.
Please deny the certificate.
(FROM: Russell, Valerie, Rosie & Violet)
(cc: all members of the OPSB)

Sincerely,
Valerie Malicki MA, LPCC

Russell Malicki & Rosie too

Medical doctor sees Wind Turbine Syndrome in his patients (Vermont)

"Wind Turbine Noise & Adverse Health Effects"



Testimony before the Vermont Public Service Board (PSB) 7/29/14

....— by Sandy Reider, MD

My name is Sandy Reider, I am a primary care physician in Lyndonville, and I have been practicing clinical medicine in Vermont since I received my license in 1971. [Dr. Reider is a graduate of the Harvard University School of Medicine — *Editor.*]

In the interest of full disclosure, I am not being paid for involvement in this issue, nor did I seek this out; rather, it found me by way of a patient I had known well for several years, and who, in late 2011, suddenly developed severe insomnia, anxiety, headaches, ringing ears, difficulty concentrating, and frequent nausea, seemingly out of the blue. This puzzled us both for a few months before we finally came to understand that he suffered from what was, then, a relatively new clinical entity known as "wind turbine syndrome", related in his particular case to the comparatively small NPS 100 KW turbine that began generating power atop Burke Mountain in the fall of 2011.

In the course of the 2012 legislative session, I described this patient in detail in testimony for the Senate Natural Resources and Health Care Committees, as well as the Governor's Siting Commission. Since his symptoms were so typical and similar to those described by thousands of other individuals living too close to large wind turbines all over the globe, I have attached my testimony for the Senate Health Care Committee and encourage you to review it for its very characteristic description of what it is that this board, I trust, hopes to mitigate by recommending more protective sound standards for these industrial wind installations.

I should add that I have seen 4 additional patients living close to the large Sheffield and Lowell projects, as well as an individual living near another single NPS 100KW turbine in Vergennes. All presented with similar, though not identical, symptoms to those described in my testimony.

That there have already been so many complaints here in Vermont related to wind turbines suggests that the current noise standards may be inadequate. Either the utilities have been regularly out of compliance with the current existing standards (Shirley Nelson's detailed daily records suggest this has indeed occurred with some regularity) and/or that the scientific data and studies upon which the current noise standards are based is incomplete, or possibly just plain wrong.

Over the past 2 years I have reviewed much of the relevant scientific literature, and out of my 42 years of experience and perspective as a clinician, respectfully offer the following observations and comments.

Firstly, I do not doubt at all that these large turbines can and do cause serious health problems in a significant number of persons living nearby, even though the vibrational-acoustic mechanisms behind this harm are not yet completely understood (1,5). Repetitive sleep disruption is the most often cited adverse effect, and disturbed sleep and its resulting stress over time is known to cause or exacerbate cardiovascular illnesses (2,), chronic anxiety and depression, as well as worsening of other pre-existing medical problems. This is especially concerning for the most vulnerable among us — children, the elderly, those who are naturally sensitive to sound, or prone to motion sickness or migraine headaches, and, as mentioned, those who are unwell to start with.

The position adopted by developers of large industrial wind projects, and thus far supported by regulatory and health agencies, has been that there is no evidence of a direct effect on health from wind turbines; rather, that the claimed adverse health effects are indirect, due mainly to the individual's negative attitude about the wind turbines (so-called "nocebo" effect), and therefore it is their fault, it's all in their heads, and so on. Not only is this incorrect, it is disingenuous. There is simply no clinical justification for ignoring harm being done to individuals and communities, whether direct or indirect, on these grounds — simply put, harm is harm, whatever the mechanism.

However, good evidence for direct adverse effects has existed since the mid-80's when Neil Kelley headed a group of researchers, under the auspices of the US Department of Energy and NASA, and found conclusive evidence that adverse effects, very similar to those that describe "wind turbine syndrome", were due primarily to very low frequency sound and inaudible infrasound (6). This role of infrasound was subsequently confirmed by Kelley's team under controlled laboratory conditions, and resulted in a complete redesign of turbines from the downwind trestle-mounted turbines to today's upwind turbine on a single massive tower. Furthermore, he recommended protective maximum levels of this low frequency sound.

> *The joint radiation levels (expressed in terms of acoustic intensity and measured external to a structure) in the 8, 16, 31.5 and 63 Hz standard (ISO) octaves* ***should not exceed band intensity threshold limits of 60, 50, 40 and 40 dB (re 1 pWm −2) more than 20% of the time.*** *These figures compare favorably with a summary of low-frequency annoyance situations by Hubbard.*

(It is worth noting that very often infrasound levels are higher inside a building than outside, the structure acting as a resonating chamber and amplifying the lower "vibration" frequencies. Thus measurements for low frequency sound should be made inside the structure as well as outside. Also, low frequency sound levels are not only building design and geometry specific, but also site specific, especially in a place like Vermont where the topography and climactic conditions are so variable. There may be unacceptable indoor infrasound levels in one home, while another home over the hill may have undetectable or very low levels.)

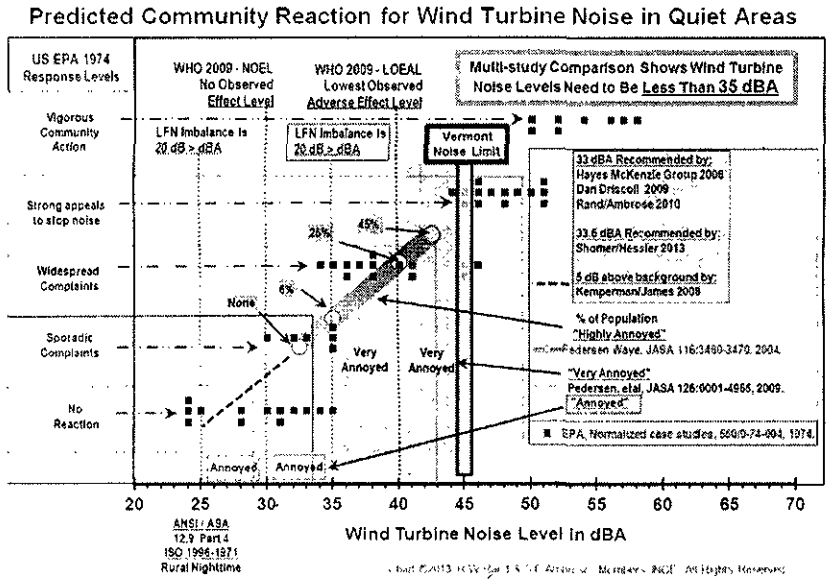
The wind industry's assertion that the Kelley study is irrelevant and that infrasound levels are negligible with the current, newer turbine design and may be ignored is unfounded, and more recent evidence confirms this. (See the 2012 Falmouth study by Ambrose and Rand; Bob Thorne's excellent quality of life study in 2011 [12]; Steven Cooper's preliminary results in Australia, final results due in September 2014 [11]; and others.)

The aforementioned studies were performed by independent professional acousticians not connected to the wind industry. Incidentally, the severely affected patient described in my 2012 testimony never did perceive any audible noise from the turbine (and this is quite typical, the sound is more felt than heard), nor did he harbor any feelings pro or con about the installation when his problems began, though after he understood the source of his ill-health, I have no doubt that the "nocebo" effect may have added to his stress, adding insult to injury. He has since abandoned that home, and is once again sleeping soundly and feeling well.

The current sound standards, based as they are on dBA weighted acoustic measurements, gives particular weight to audible frequencies in the soundscape, but very little or no weight to low sound frequencies and infrasound, particularly below 10 Hz, which comprises a significant proportion of the sound generated by large turbines. People do not hear dBA, they hear qualitatively different sounds, birds, insects, running water, wind in the trees, etc. Basing noise criteria solely on this single number ignores the unique nature of the sound produced by large wind turbines, with its constantly changing loudness, frequency, harmonics, pitch, and impulsive quality.

It is precisely these qualities that make the sound feel so intrusive and annoying, especially in quiet rural environments where these projects are usually located (12). Parenthetically, the word "annoying" is somewhat misleading, as it implies a minor, temporary, or occasional nuisance that perhaps might be mostly ignored, rather than what it is: a repetitive stressor that can degrade one's short and long term health and well being, and from which there is no escape over the lifetime of the project short of having to abandon one's home.

It is worth repeating here that the current Public Service Board threshold of 45 dBA of audible sound, averaged over an hour, has never been proven safe or protective, and that most studies agree that audible sound should not exceed 35 dBA, or 5dBA above normal background sound levels. (This is especially important in rural areas where background noise is minimal.) The level should be a maximum, not an hourly average. Above 35 dBA there are likely to be significantly more complaints, particularly difficulty sleeping.



Before concluding, I would like to emphasize that the bulk of scientific evidence for adverse health effects due to industrial wind installations comes in the form of thousands of case reports like the patient I described. One or two sporadic anecdotal cases can legitimately be viewed with a wait-and-see skepticism, but not thousands where the symptoms are so similar, along with the ease of observing exposure and measuring outcomes, wherever these projects have been built. I agree with Epidemiologist Carl Phillips, who opined that "these case reports taken together offer the most compelling scientific evidence of serious harm. Just because the prevailing models have failed to explain observed adverse health effects does not mean they do not exist", and, as he succinctly, though in my opinion a bit too harshly, concluded: "The attempts to deny the evidence cannot be seen as honest scientific disagreement and represent either gross incompetence or intentional bias" (13).

I am aware that the members of the PSB bear a heavy responsibility for Vermont's overall energy future and have many other issues on their plate besides this one. Rather than presenting you with a long list of literature references, most of which would likely go unread (but they are included just in case), I recommend a careful review of just one study in particular: Bob Thorne, a professional acoustician in Australia, presented an excellent and well thought-out clinical study to the Australian Senate in 2011 (12). It really does cover the waterfront, including WHO quality of life measures, audible and infrasound measurements, and health measures, in a balanced and scientific way. For your convenience there is a hard copy of this study included with my presentation today.

His comprehensive (including the full sound spectrum, not only dBA weighted sound) and protective recommendations for sound criteria are reasonable, and if adopted, would be likely more acceptable to neighboring households and communities. However, given that wind developers are these days building bigger turbines atop taller towers in order to maximize power generation and profits, adoption of these safer limits would necessitate siting the installations farther from dwellings. A 1-2 km setback is not nearly sufficient; significant low frequency sound pressure measurements have been recorded in homes 3-6 miles from large projects in Australia

The outcomes of the study are concerned with the potential for adverse health effects due to wind farm modified audible and low frequency sound and infrasound. The study confirms that the logging of sound levels without a detailed knowledge of what the sound levels relate to renders the data uncertain in nature and content. Observation is needed to confirm the character of the sound being recorded. Sound recordings are needed to confirm the character of the sound being recorded.

The measures of wind turbine noise exposure that the study has identified as being acoustical markers for excessive noise and known risk of serious harm to health (significant adverse health effects):

(1) Criterion: An LAeq or 'F' sound level of 32 dB(A) or above over any 10 minute interval, outside;
(2) Criterion: An LAeq or 'F' sound level of 22 dB(A) or above over any 10 minute interval inside a dwelling with windows open or closed.
(3) Criterion: Measured sound levels shall not exhibit unreasonable or excessive modulation ('fluctuation').
(4) Criterion: An audible sound level is modulating when measured by the A-weighted LAeq or 'F' time-weighting at 8 to 10 discrete samples/second and (a) the amplitude of peak to trough variation or (b) if the third octave or narrow band characteristics exhibit a peak to trough variation that exceeds the following criteria on a regularly varying basis: 2dB exceedance is negligible, 4dB exceedance is unreasonable and 6dB exceedance is excessive.
(5) Criterion: A low frequency sound and infrasound is modulating when measured by the Z- weighted LZeq or 'F' time-weighting at 8 to 10 discrete samples/second and (a) the amplitude of peak to trough variation or (b) if the third octave or narrow band characteristics exhibit a peak to trough variation that exceeds the following criteria on a regularly varying basis: 2dB exceedance is negligible, 4dB exceedance is unreasonable and 6dB exceedance is excessive.
(6) Definitions: 'LAeq' means the A-weighted equivalent-continuous sound pressure level [18]; 'F' time-weighting has the meaning under IEC 61672-1 and [18]; "regularly varying" is where the sound exceeds the criterion for 10% or more of the measurement time interval [18] of 10 minutes; and Z-weighting has the meaning under AS IEC 61672.1 with a lower limit of 0.5Hz.
(7) Approval authorities and regulators should set wind farm noise compliance levels at least 5 dB(A) below the sound levels in criterion (1) and criterion (2) above. The compliance levels then become the criteria for unreasonable noise.

Measures (1-6) above are appropriate for a 'noise' assessment by visual display and level comparison. Investigation of health effects and the complex nature of wind turbine noise require the more detailed perceptual measures of sound character such as audibility, loudness fluctuation strength, and dissonance.

To exclude careful independent well-designed case studies like Thorne's (and others) in a review of the scientific literature that purports to be thorough is, I repeat, a serious omission and is not "scientific". Careful consideration of these independent well done studies, if nothing else, should encourage regulatory agencies to adopt a much more precautionary approach to the siting of today's very big industrial wind projects in order to adequately protect public health.

For better or worse, in today's "information age" we are perhaps too fascinated by computers and mountains of data, but truth is truth, wherever you find it, even in small places.

Contact:

....Sandy Reider, MD
....PO Box 10
....East Burke, VT 05832
. ..(802) 626-6007
. ..sandyreider@yahoo.com

*Many thanks to Dr. Sarah Laurie, CEO of the Waubra Foundation, for her tireless work, and generosity in sharing so much information.

1. Pierpont, N 2009 from the executive summary of her peer-reviewed study. http://waubrafoundation.org.au/resources/wind-turbine-syndrome-executive-summary/

2. Capuccio et al 2011 "Sleep Duration predicts cardiovascular outcomes: a systemic review and meta-analysis of prospective studies" *European Heart Journal*, (2011) 32, 1484–1492 http://waubrafoundation.org.au/resources/sleep-duration-predicts-cardiovascular-outcomes/

3. Nissenbaum, M Hanning, C and Aramini J 2012 "Effects of industrial wind turbines on sleep and health" *Noise and Health*, October 2012

4. Shepherd, D et al 2011 "Evaluating the impact of wind turbine noise on health related quality of life" *Noise and Health*, October 2011 http://waubrafoundation.org.au/resources/evaluating-impact-wind-turbine-noise-health-related-quality-life/

5. Arra, M & Lynn H 2013 Powerpoint presentation to the Grey Bruce Health Unit, Ontario, "Association between Wind Turbine Noise and Human Distress" http://waubrafoundation.org.au/resources/association-between-wind-turbine-noise-and-human-distress/

6. "Acoustic noise associated with Mod 1 Turbine, its impact and control" http://waubrafoundation.org.au/resources/kelley-et-al-1985-acoustic-noise-associated-with-mod-1-wind-turbine/

7. James, R 2012 "Wind Turbine Infra and Low Frequency Sound: Warning Signs That Went Unheard" *Bulletin of Science, Technology and Society* 32(2) 108 – 127, accessed via Professor Colin Hansen's submission to the Australian Federal Senate Inquiry Excessive Noise from Windfarms Bill (Renewable Energy Act) November 2012 http://waubrafoundation.org.au/resources/testimony-hansenc-excessive-noise-bill-inquiry-submission/. James references another useful bibliography of references of the early NASA research, compiled by Hubbard & Shepherd 1988 "Wind Turbine Acoustic Research Bibliography with selected Annotation" http://waubrafoundation.org.au/resources/hubbard-h-shepherd-k-nasa-wind-turbine-acoustics-research/

8. Hubbard, H 1982 "Noise induced house vibrations and Human Perception" http://waubrafoundation.org.au/resources/hubbard-h-1982-noise-induced house vibrations-human-perception/

9. Ambrose, Stephen and Rand, Robert 2011 "Bruce McPherson Infrasound and Low Frequency Noise Study" http://waubrafoundation.org.au/resources/bruce-mcpherson-infrasound-low-frequency-noise-study/

10. http://waubrafoundation.org.au/resources/schomer-et-al-wind-turbine-noise-conference-denver-august-2013/

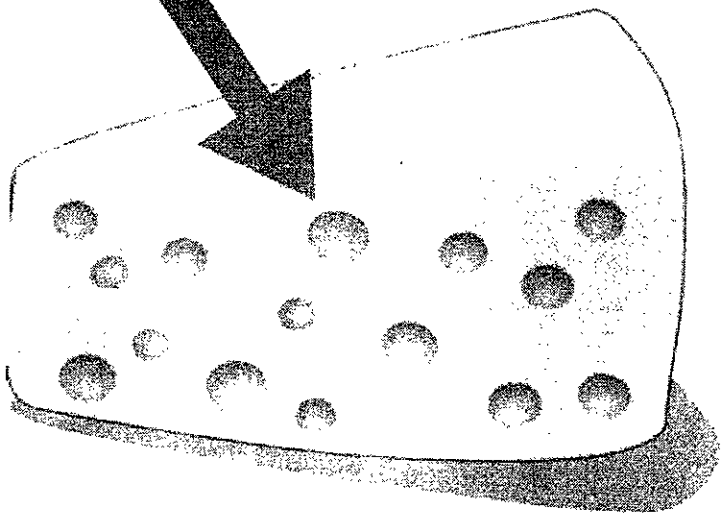
11. http://waubrafoundation.org.au/2014/pacific-hydro-commended-initiating-wind-turbine-noise-acoustic-survey/

12. http://waubrafoundation.org.au/resources/wind-farm-generated-noise-and-adverse-health-effects/

13. "Properly interpreting the Epidemiological evidence about the health effects of Industrial Wind turbines on nearby residents" *Bulletin of Science, Technology and Society* vol 31 No 4 (August 2011) pp 303–315 http://waubrafoundation.org.au/resources/properly-interpreting-epidemiologic-evidence-about-health-effects/

See: Bob Thorne, "The Problems with 'Noise Numbers' for Wind Farm Noise Assessment," *Bulletin of Science, Technology & Society* 2011 31: 262. DOI: 10.1177/0270467611412557, http://bst.sagepub.com/content/31/4/262

This is your brain when you live next to a "wind park"!



windturbinesyndrome.com
http://www.windturbinesyndrome.com/2013/wind-turbine-syndrome-was-being-documented-in-science-journals-in-the-late-70s-early-80s-u-s-dept-of-energy/

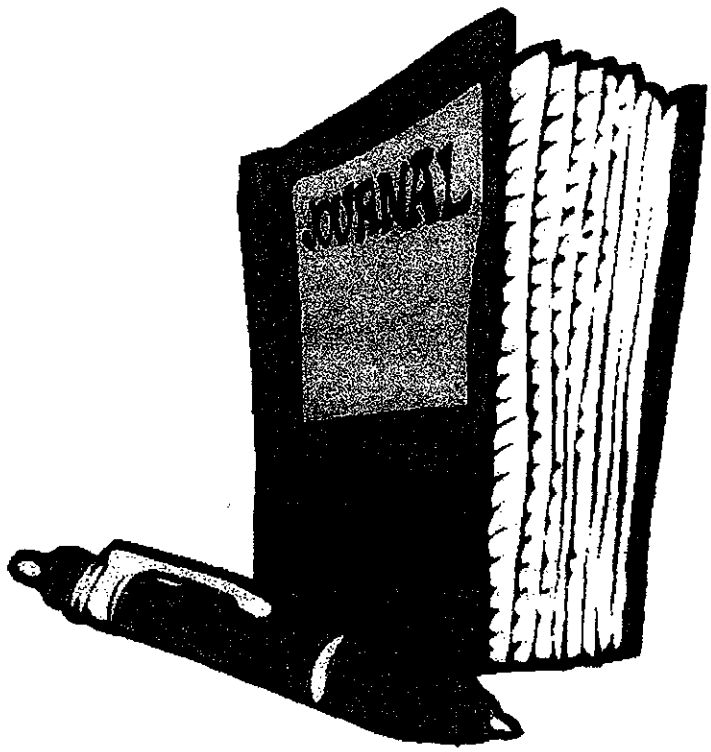
(2)

Wind Turbine Syndrome was being documented in science journals in the late 70s, early 80s (U.S. Dept. of Energy)

Editor's note: Read this article—or skim it, with attention to the highlighted passages—to discover why the corrupt bastards with PhD's and MD's, who argue for the hilarious "nocebo effect" as the cause of Wind Turbine Syndrome, ought to be horsewhipped.

For it turns out that researchers were reporting and analyzing WTS decades ago, in the late 1970s and early 1980s—because the poor saps living within 3 km of wind turbines were complaining of the same symptoms away back then!

Horsewhipped or tarred and feathered? And definitely stripped of their professional credentials!



Dear OPSB,

Infrasound Low-Frequency Noise is NOT a part of "The Staff Report" yet is the main source of harm to humans reported by thousands around the world 3km - 10km from these massive Industrial Wind Turbines. Yet another reason to DENY this Certificate.

Sincerely,
Valerie Malichi

Compare to Pierpont et al.

acoustic and vibration measurements inside and outside of their homes during turbine operations. In addition to the physical measurements, we visited many of the other complaining families and received a description of the annoying sounds. In summary, the complaints centered on the following perceptions:

(*i*) the annoyance was described as a periodic "thumping" sound accompanied by vibrations;

(*ii*) many persons reported they could "feel" more than hear the sounds;

(*iii*) the sounds were louder and more annoying inside their homes than out; and

(*iv*) some experienced the rattle of a loose glass in picture frames mounted on outside walls and small objects such as

Aug 14, 2014

Dear OPSB,

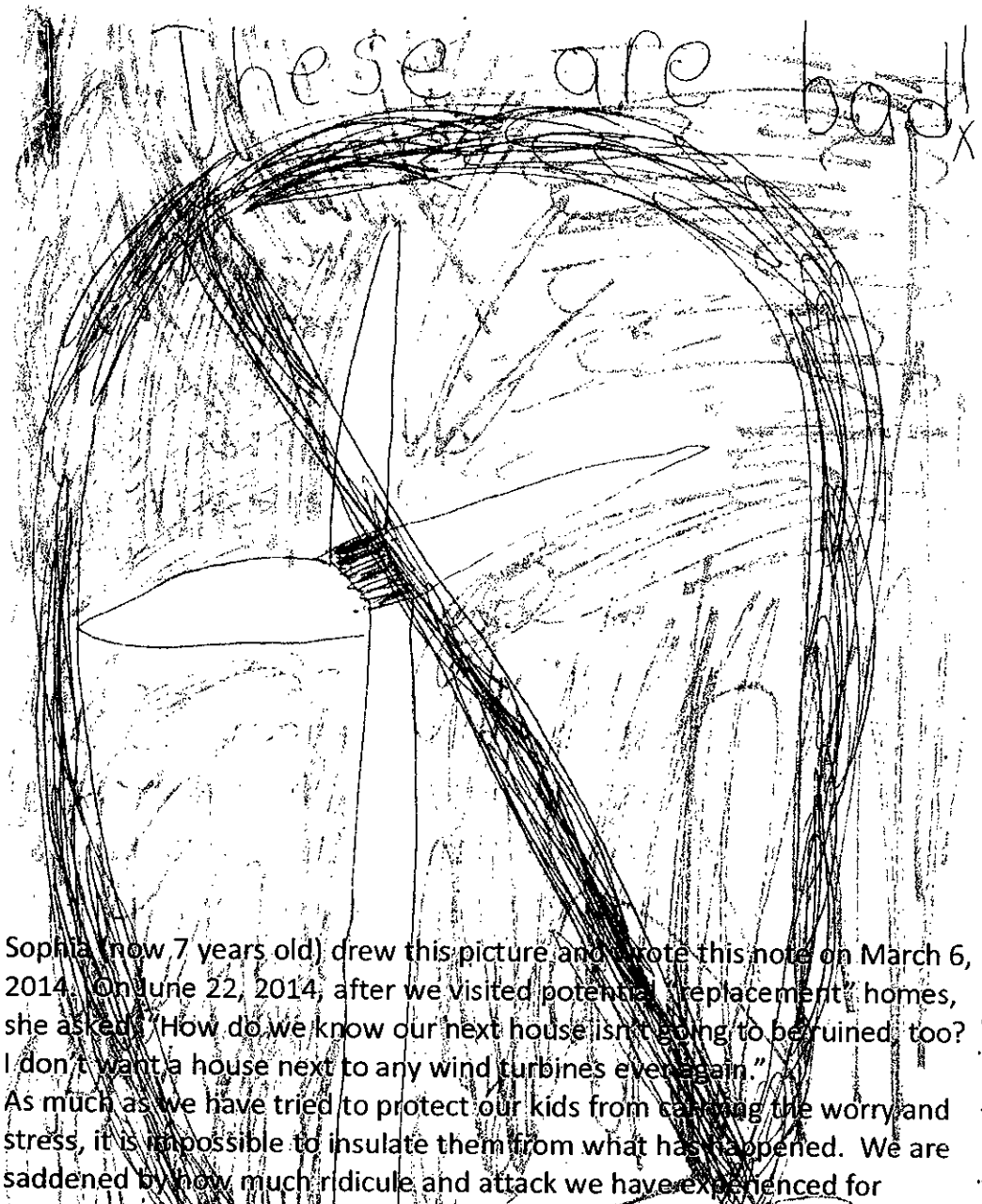
Please deny the certificate! Protect our kids!

FROM: The Malicki's

Russell, Valerie, Rosie & Violet Malicki

& Valerie Malicki

valeriechristina@rocketmail.com 419-681-5581



Sophia (now 7 years old) drew this picture and wrote this note on March 6, 2014. On June 22, 2014, after we visited potential "replacement" homes, she asked, "How do we know our next house isn't going to be ruined, too? I don't want a house next to any wind turbines ever again."

As much as we have tried to protect our kids from carrying the worry and stress, it is impossible to insulate them from what has happened. We are saddened by how much ridicule and attack we have experienced for "putting our kids through this" and "having our kids fight these battles for us." If you can help your community avoid this dilemma from happening to local children and parents, please take steps to make sure wind companies certify that placement of turbines will not interrupt healthy sleep in the surrounding homes. Our property and our children's bedrooms should not be used as industrial noise easement areas.

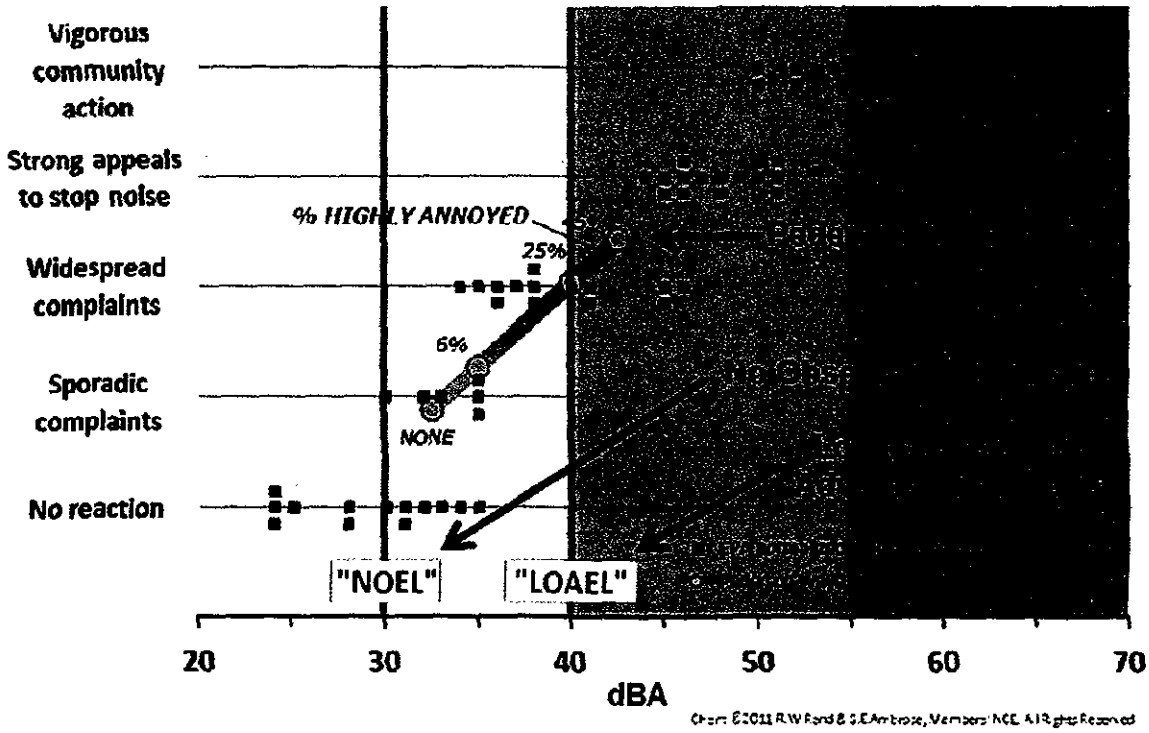
by Sophia Ruth Hartke

You may think windtubins are good but when you have fifty by your home... You can't sleep in your own room and you try to sleep but you can't because of the windturbins ingen nous. I had to move in to a moble home because my Mom dad and brother plus me could't sleep

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

Community Response Prediction

WHO 2009 HEALTH EFFECTS GUIDELINES



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, *INCE, Board Certified*
Principal Consultant