## STATE OF MAINE BOARD OF ENVIRONMENTAL PROTECTION

In Re:
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RECORD HILL WIND, LLC	)
Roxbury, Oxford County	) AFFIDAVIT OF
RECORD HILL WIND PROJECT	) MICHAEL A. NISSENBAUM, M.D.
L-24441-24-A-N (approval	)
L-24441-TF-B-N (approval)	)

- I, Michael A. Nissenbaum, M.D., being first duly sworn, do depose and say as follows:
- 1. My name is Michael A. Nissenbaum, M.D. I am a graduate of University of Toronto Medical School with post graduate training at McGill University and the University of California. I am a specialist in diagnostic imaging, whose training and work involves developing and utilizing an understanding of the effects of energy deposition, including sound, on human tissues. I am a former Associate Director of MRI at a major Harvard hospital, a former faculty member (junior) at Harvard University, and a published author. A copy of my CV is attached to this Affidavit as *Exhibit A*.
- 2. I give this Affidavit in support of citizens of the Roxbury, Maine area who are requesting the Board of Environmental Protection ("BEP") to grant a hearing on the health effects of the proposed Record Hill Wind Project.
- 3. I developed an interest in the health effects of wind turbine projects after becoming aware of and investigating the wide spread and serious health effects suffered by most of the residents of Mars Hill, Maine who live in proximity to a linear arrangement of wind turbines comprising a ridgeline wind Industrial Wind Project. I am preparing a formal study, which includes a control group, on the subject for publication in a peer reviewed medical journal. The draft will be sent to the New England Journal of Medicine for consideration for publication.

I attach a slide show on the preliminary findings of my research project as *Exhibit B* to this Affidavit.

- 4. There are some differences in the Mars Hill Wind Project now operating and the proposed Record Hill Wind Project. However, there are also some similarities regarding the DEP assessments and permitting process applied which are generally acknowledged to have failed in Mars Hill, and yet were applied once again at Record Hill. It is my opinion that the BEP should hold a public hearing to examine the potential health effects of the Record Hill Wind Project given the potential seriousness of the health issues, and to ensure that an appropriately corrected modeling process (compared to the flawed model that was in fact used) is implemented to best predict the sound emissions that can be expected from the Record Hill Wind Project.
- 5. The Final Order in the Record Hill application states at page 10 that "Enrad stated that infrasound has been widely accepted to be of no concern below the common human perception threshold of tonal sounds." This statement is in error. Infrasound has not been widely accepted to be of no concern other than by non-physicians doing work contracted by members of the Wind Industry, and some of the key non-physicians utilized by the Wind Industry have issued self conflicting and contradictory opinions on the issue. There has been no medical refutation of the potential negative health effects of infrasound emmited by Industrial Wind Turbines and the subject is at the least an open medical issue of concern warranting immediate investigation given the haste with which Industrial Wind Projects are being planned and established. There is additionally at this point a small body of unrefuted medical research indicating that there may be problems associated with infrasound. Regardless, there are clear issues relating to audible low frequency noise of a persistent, pulsatile nature such as created by Industrial Wind Turbines.

- 6. The Final Order in Record Hill at pg. 10 also states that "MCDC found no evidence in peer- reviewed medical and health effects from noise generated by wind turbines other than occasional reports of annoyances." While the word 'annoyance' has been used in European studies relating to this turbine noise, the term has been misinterpreted by the Wind Industry and the Maine CDC to mean an inconsequential disturbance, whereas the authors, not being medical doctors, and not being native English speakers, did not describe the health significance or severity of the 'annoyance' in medical terms. A review of the Mars Hill and Ontario findings, however, indicates that this 'annoyance' is one of the root causes of the sleep disturbances and secondary negative health effects suffered by the residents of Mars Hill, Maine.
- 7. Furthermore, and more significantly, the Maine CDC did not investigate the cluster of health complaints in Mars Hill for potential significance. Given that Mars Hill potentially represents a new negative health phenomenon resulting from the interaction of a ridge line source of Industrial Wind Turbines sited too close to human dwellings after faulty pre installation sound modeling, this represents a failure of the Maine CDC to comply with its mandate to investigate newly arising health issues to better understand them and propose solutions for mitigation and future prevention where required. As such, any statements emanating from the Maine CDC on this subject must be viewed as being based on incomplete information, at this point in time.
- 8. Ex-Governor Angus King, a principal in the Record Hill Wind Project, has publicly admitted to mistakes made in Mars Hill. To the extent that these mistakes relate to faulty pre installation sound modeling, he should be expected to agree that the same modeling mistakes should not be repeated in Record Hill.

- 9. Credible evidence of negative health effects from Industrial Wind Projects has been collected in Ontario, Canada by Robert McMurtry, M.D. My own preliminary but significant findings from Mars Hill, Maine and a draft of a potential landmark book, "Wind Turbine Syndrome" by Nina Pierpont, M.D.., and others, are also new sources of concern. Dr. Pierpont is an accomplished and well respected physician who is making significant contributions to the body of knowledge on the health impacts of wind turbines. Her basic premises have been well received by some of the foremost experts in the field of Otorhinolaryngology and Otology. I furthermore agree with her statements and recommendations at pages 11-12 of an excerpt of her Draft Report attached hereto as *Exhibit C*.
- 10. On Saturday, September 12, 2009, the Maine Medical Association passed a resolution, attached hereto as *Exhibit D*, expressing enough concern about the potential health effects of wind projects to urge caution and appropriate sensitivity in siting and permitting, as well as further studies on the subject.
- 11. This resolution was passed over the prior objections (to a similar resolution in an MMA subcommittee) of the Director of the Maine CDC. The Maine CDC Director's refusal to recognize even potential negative health effects of wind power projects, and her public statements urging the rapid establishment of Industrial Wind Projects in Maine seem to be at odds with the caution expressed by the wider medical community, as indicated by the attached Maine Medical Association resolution, and, as noted above, appears based upon erroneously interpreted and incomplete information.
- 12. Pending the use of more appropriately designed modeling studies, and the establishment of more appropriate regulations, the DEP and LURC should exercise more caution and deliberation prior to permitting additional IndustrialWind Projects, recognizing that

there are still currently unknowns. The physical scale of the Industrial Wind Turbines used today is relatively new and we are only beginning to learn, as physicians, about the presence or absence of negative health effects that may result from poor siting decisions. In so doing, they will be better discharging their responsibility to protect the health and safety of Maine citizens.

13. I urge BEP to hold a public hearing on the appeal of the DEP Final Order for Record Hill on health effects of the approved Industrial Wind Project and, if that hearing is held, I will give testimony summarized in this Affidavit.

Dated: September 17, 2009

Michael A. Nissenbaum, M.D.

STATE OF MAINE Aroostook, ss.

September 17, 2009

Personally appeared the above-named Michael Nissenbaum, M.D., and being sworn, made oath that the foregoing statements by him described are upon his own knowledge, information and belief and that, so far as upon information and belief, that he believes this information to be true.

Before me,

Notary Public/Attorney-at-Law

My commission expires:

SALLY CARRIER
Notary Public, Maine
My Commission Expires
February 1, 2014

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