

(Answers provided by Town Supervisor appear at bottom of this letter)

February 8, 2008

To: Town of Hamlin

From: Tammy Huffer Henderson

Re: Questions from 2/7 meeting on Wind Towers

Town of Hamlin Officials;

The questions I posed last night are:

1. Pertaining to page 11 of the local law draft, #6: "An assessment of potential electromagnetic interference with microwave, radio, television, personal communication systems, and other wireless communication."

How will this assessment be done without having the towers in place to fully understand the impact? As a speaker prior to me alluded to, this should be done considering the topography of Hamlin, not simply based on data gathered at other tower locations. If this assessment concludes there will not be a problem, but after the towers are installed homeowners DO experience problems, what recourse will the homeowner have? Will it be that referenced on page 10 K referring to complaint resolution? How will the independent mediator or arbitrator be selected? Who will incur the cost for the mediation/arbitration? It doesn't seem like the person with the problem should be forced to pay to have it resolved.

My concern with this issue is this: Will the wind towers interfere with cell, TV and radio reception? The research I have done is mixed. A telecommunications person told me the only interference would be to those who would have the tower between them and the signal they were trying to receive. Another source indicated the interference to be unlikely if the rotating blades were not metal. I don't know what the construction material will be. Can you elaborate on that, or provide any information you might have on cell, radio, TV, microwave interference issues and recourse should they present a problem?

2. Is it true the cost of electricity and/or taxes for the town will go up due to upgrades needing to be made to the electric transmission and distribution system?

3. What are the specific monetary benefits to the town and school district? I know this was discussed before but I was not at that meeting and cannot find that information on the town web page, where I thought I could find previously presented information on the issue. Also those I spoke to are unclear if those previously discussed benefits are still in place now that we are dealing with a new company on the towers. Also are the benefits a set amount or are they contingent on the amount of power generated?

4. I've heard justification for the 1700' from property line, such as ice throw concerns. Can you elaborate on why it is now being discussed that this number should be reduced to 1000 or 1500 feet and also why it should be from the home instead of the property line?

5. I would like to ensure funds are secured and held from the company for removal of the towers once they are no longer operated.

6. Based on comments at last night's meeting by the audiologist and other concerned citizens I believe the affects of the ambient noise levels and the sound pressure definition should be revisited. It seems reasonable that the ambient sound should be taken at the time the noise would be most obvious, at night. This is especially a question to me as to why the 50 decibel level that is mentioned is above the 30 decibels recommended by the World Health Organization. These are serious lifestyle and health issues and cannot be disregarded. There seems to be a significant amount of data available to substantiate these claims and should be seriously considered when making the final decision.

Finally I would like to thank the town for the opportunity to speak at last night's meeting and to submit these questions. I have not formed an opinion on the wind tower issue yet and would like to be well informed. I just moved back to Hamlin, where I've lived most of my life, this summer so I know you said many of the questions from last night have been asked before but people I spoke to at the meeting said they have been at prior meetings and didn't know the answers either. Could a list of questions you are responding to and the answers be placed on your web site and copies be made available at the town hall for those without internet access?

The farmers talked about making a living and the income this would bring them. I love the farming nature of this town. I grew up on Redman Rd and remember riding my bike to Brightly's to get eggs. I lived on Martin Rd from 1986-2005 and during that time both Breslawski and Martin Farms either farmed my land, used my driveway to access their fields, and/or stored their equipment behind my barn at night during times they were working out back. I always had a wonderful relationship with both farms and my cousin is married to a farmer. I want the farmers to succeed. I don't think however that anyone has the right to succeed at the expense of their neighbors and believe the town board has the obligation to ensure that the landowners, town, and school aren't causing hardship to their neighbors by moving ahead with this project.

To just address my personal situation, I have only a cell phone, no home phone. Should I have to pay another \$30-40/month in order to allow others to profit on these towers? My parents don't have cable. They rely on an antenna for their reception. Would it be right for them to have to pay for a more powerful antenna or sign up for cable because towers now interfered with their reception? A couple years ago my mother had a couple incidences of vertigo. She's been fine since but has been told to avoid strobe effects like the ones mentioned with these spinning blades. She's lived in her home since 1962. Is it fair for others to profit if it causes her to once again to suffer these debilitating attacks? Maybe these are non-issues and if so I'm willing to support towers being installed, if the town can find a way to do it without harming some citizens so others can profit. Property

values also need to be more thoroughly addressed. People have not only poured their life savings into their homes in this community, with these homes sometimes constituting what amounts to their retirement fund. This is more than just where we live, it's "home". Please make the questions and answers you've received available to the public so we can be informed, and hopefully in so doing, the town will hopefully be less divided on this issue. Thank you.

Sincerely,

Tammy Huffer Henderson

April 22, 2008

TO: Tammy Henderson

RE: Response to Questions from 2/7

First, I apologize for not responding to your questions immediately following the first public hearing. I know that you said that you were submitting them but the Town Clerk could not find them.

1. If the assessment concludes that no problem with EMI exists and it is later found that it does, article J.g. states, "No WECS shall be installed in any location where its proximity with existing fixed broadcast, retransmission, or reception antenna for radio, television, or wireless phone or other communication systems would produce EMI with signal transmission or reception. If it is determined that a WECS is causing EMI, the operator shall take the necessary corrective action to eliminate this interference including relocation or removal of facilities, or resolution of the issue with the impacted parties. Failure to remedy EMI is grounds for revocation of the Special Use Permit for the specific WECS or WECSs causing the interference."
2. No. Any upgrades needed are the responsibility of the developer.
3. Specific benefits to the Town are determined when a proposal is received. Article BB3 enables the Town to enter into a Host Community Agreement. By Article CC, the Town opts out of the tax exemption provisions of the Real Property Tax Law, which enables the Town to fully tax the towers, rather than doing a PILOT (Payment in Lieu of Taxes). Most towns are using the PILOT. Taxes and PILOTs are typically distributed among the tax entities, which are the county, school district and town. In summary, the Town can realize revenues via full taxation or the Host Community Agreement and PILOT. Until a project is

proposed, I can't give you specific monetary benefits. I spoke to the Town of Eagle. They arranged a licensing agreement whereby the Town, prior to the PILOT payments, gets 80% of the wind-generated revenue up front. The remaining 20% goes into the PILOT, which is distributed 30% to county, 40% to school and 30% to Town. That means the town of Eagle gets 86% of the revenue. Most arrangements provide revenue of \$8,000 per MW per tower per year. For a 1.5 MW tower that would mean \$12,000. Under an agreement similar to Eagle's the town would then receive \$10,320 per tower per year. Again, that's just a general estimate if conditions were similar.

4. Safe Setbacks:

a. Blade Throw: Studies demonstrate that blade failure (or blade loss) is extremely rare, and the safety risk - particularly outside the immediate area under the turbine - is so low it's insignificant.¹ The overall risk of blade throw is extremely low and the risk of being hit by turbine parts or ice fragments within a distance of 210 meters (689 feet) is 1:10,000,000.^{2,3}

b. Ice Throw: One paper done on the risk assessment of injury or property damage notes that, "there has been no reported injury from ice thrown from wind turbines, despite the installation of more than 6,000 MW of wind energy worldwide." The paper concludes that the risk of anything or anyone being hit by ice from a wind turbine is "10⁻⁶ strikes/m²/year, which is the typical probability of (being hit by a) lightning strike in the UK." (The authors are from the UK.)⁴ Using the data from the *Safety distance for different icing levels (50 m rotor)*, our 1,200-foot setback from structures achieves the level of risk equal to being struck by lightning.⁵ Another report cites a general rule of thumb to use to calculate ice throw is $D = 1.5(HH + RD)$ where D = setback distance; HH = hub height of tower; and, RD = rotor diameter. For a Vestas 66 Turbine with an HH of 78 meters (255.8 feet) and RD of 66 meters (216 feet), the safety setback would be 708 feet.⁶ Since our limitation on tower height is 400 feet, a safety setback would be 600 feet. Again, our 1,200-foot setback from structures and 600 feet from property line provides an acceptable safety margin.

Argument has been made that the 600-foot setback from roadways is not sufficient to protect the citizenry from ice throw. However, the study most cited in ice throw, *Risk Analysis of Ice Throw from Wind Turbines* by Henry Seifert, Annette Westerhellweg, and Jurgen Kroning, presented at BOREAS in Finland (German scientists responsible for the $D = 1.5[HH+RD]$ equation noted above) plotted throw distance including the weight of ice pieces. They observed three pieces heavier than 2.2 pounds with a maximum throw distance of less than 410 feet. The three scientists made an estimate as to the risk of a person being hit (not necessarily fatal) by ice throw as follows: "If 15,000 persons pass the road close to the wind turbine per year, there might be one accident in 300 years."⁷

5. Provided for in Article H.1.j. of the regulations.

6. Based on comments heard at the first public hearing, we changed the sound level from not to exceed L₁₀ - 50 dBA to not to exceed ambient plus 6 dBA. This is both the State standard as well as the level desired by some opposition groups. The regulations

require that the ambient noise level measurements must be measured at the exterior of potentially affected existing residences. This is probably one of the most restrictive sound level regulations incorporated in any Town's regulations.

Sources

¹ *Wind Energy and the Environment*, American Wind Energy Association

² *Environmental, Health, and Safety Guidelines, WIND ENERGY*, International Finance Corporation, World Bank Group, April 30, 2007, pg. 7.

³ *How to Plan the Nuisance out of Wind Energy*, TOWN AND COUNTRY PLANNING 60(5), D. Taylor and M. Rand, 1991, 152-155.

⁴ "Assessment Of Safety Risks Arising From Wind Turbine Icing," by Colin Morgan, Ervin Bossanyi, and Henry Siefert, BOREAS IV, 31 March – 2 April 1998, Hetta, Finland

⁵ *ibid*, pg. 120

⁶ *Land Use Issues of Wind Turbine Generator Sites*, Otsego County Planning Commission White Paper, Original Issue 19 January 2004, Section 6-Ice Throw, page 1 of 1.

⁷ *Risk Analysis of Ice Throw from Wind Turbines*, by Henry Seifert, Annette Westerhellweg, and Jurgen Kronin, Paper presented at BOREAS VI, 9 to 11 April 2003, Phya, Finland, page 8.