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April 23, 2010

Mr. Urban Hirschey – Supervisor
Town of Cape Vincent
1964 NYS Rte 12E
Cape Vincent, NY 13618

Dear Supervisor Hirschey:

This letter is my response to Mr. David Hessler's April 14, 2010 presentation to the Cape Vincent Planning Board regarding my report, "Background sound measurements and analysis in the vicinity of Cape Vincent, New York."

Mr. Hessler continues to ignore important facts. Specifically, he:

1. Mixes winter and summer wind speed versus ambient sound level together as if the same processes governed both seasons,
2. Continues to reject Site 4 data because they are "too quiet."

Consider winter. Mr. Hessler examines the ambient when the wind at 10 m is thought to be about 7 m/s and shows (Hessler's BP winter study Figure 2.5.5) that about 80 % of the ambient data are louder than 37 dB with few data that are greatly quieter.¹ This indicates that in winter when the winds (at 10 m) are about 7 m/s that the wind turbine can produce up to 43 dB at an affected property and be in compliance with the New York State guideline. But that is all it shows. It cannot necessarily be extrapolated to other wind speeds, and it definitely cannot be extrapolated to summer. Consider Figure 2.5.5 at 4 m/s. Here, about 80 % of the ambient data exceed 20 dB. So in winter, when the wind is 4 m/s, the turbine noise at an affected property must be less than 26 dB in order to comply with NYSDEC policy of 6 dB above background sound levels. Nowhere is this shown to be the case.

In summer, Hessler uses the winter ambient noise versus wind speed relation to predict the summer ambient even though, as Cavanaugh-Tocci has correctly noted, the summer data exhibit virtually no correlation between ambient sound level and wind speed. And, indeed, there is none. The summer data are dominated by insect noise, a high frequency noise that cannot and does not mask the low-frequency wind-turbine noise. Even more importantly, regularly and frequently, especially at night, the relation between wind speed and altitude cited by Hessler breaks down completely. It is simply wrong. This is not some idle theory; it is a well known and well documented fact, and Hessler acknowledges this phenomena in his presentation (see quote below). What actually happens is that the wind is strong at hub height but it is calm near the ground (10 m). So the wind turbine can easily operate and make

¹ Rightfully, Mr. Hessler chooses a wind speed and corresponding ambient sound level such that about 80% of the time the ambient is greater than 37 dB and 20% of the time it is quieter. This can be thought of as protecting 80% of the population or protecting 80% of the time, or some combination of these two. The important point is that the protection should be at least at the 80 to 90% level—not at 50%.

noise while at the same time there is no masking wind noise at ground level.

How often does this condition occur? At the InterNoise2009 conference last August, the one Hessler mentions in his presentation, I chaired a session in which a paper was presented that contained factual data showing that this condition, strong winds at hub height and zero winds at 10 m, occurs almost every other night during the warmer weather months at Cape Vincent—almost every other night.

How loud is it? As Hessler stated during the recent hearing:

“Now turbine sound level varies with wind and weather conditions and time of day, no question about that. In particular, at night, wind tends to blow up above while calmer near the ground; the curvature of the shear profile is pretty slanted, so the top of the blades are in high wind and the bottom of the blades are in lower wind. That causes them to make a kind of churning noise, most often it happens at night. So, levels are going to vary, some time it's going to be completely inaudible and other times temporarily rather loud, it's just the way wind turbines are.”

“*Rather loud*” means louder than predicted; louder than the “permitted” 43 dB(A). How much louder? The wind turbine manufacturers do not measure it—perhaps 5 to 10 dB.

What is the bottom line? During warm-weather months, almost every other night, the ambient, as we and Hessler both measured, will be about 25 dB(A). At the same time the wind turbine can be producing on the order of 50 dB. Rather than the permitted 6 dB increase, the true increase will be about 25 dB, and this huge increase may occur almost every other night.

People will be very unhappy—and rightfully so.



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