

Hi David,

Sorry that I missed adding input to your stories. I have been studying the noise problem for almost 5 years and have presented invited papers at 3 conferences on the subject, including the 2008 World Wind Energy Conference. The noise regulations are far too lenient, presumably as a result of intense lobbying by the wind industry. The consultants who should know better are in the pay of the wind industry or the Ministry of the Environment. As an example, your expert Dr. Ramakrishnan from Ryerson University was hired by the Ministry to review the scientific work of Dr. van den Berg on the subject of masking noise. Three countries world-wide were allowing a turbine noise limit that increased with wind speed; the basis was that noise from vegetation around a house would mask the turbine noise. Dr. van den Berg had published a thesis and scientific papers showing that for much of the year, the masking noise was not there. Bill Palmer, an Ontario engineer, had shown the same thing in an Ontario setting. Dr. Ramakrishnan put together an embarrassing report that denied the van den Berg conclusion. That, after all, was what MOE wanted to hear. It was so easy to take the report apart. Van den Berg's work was sufficient for the Netherlands and New Zealand to drop the allowance; only Ontario still has it in its regulations.

There are three other glaring problems with the Ontario regulations:

All turbines are sited on the basis of noise predictions. The predictions are based upon a model that is specifically limited to noise sources less than 30 metres above ground; turbine blades rotate with a centre of rotation at a height of 80 metres. The model specifically includes uncertainty in its prediction. Any engineer will understand this, but not the consultants or Ministry engineers. A prediction of 40 decibels, the Ontario noise limit, really means a noise level between 36 and 44 decibels. To meet the limit, the predicted noise level needs to be kept to 36 decibels (i.e. 32 to 40 decibels).

Germany, with all of its experience with wind energy, has a noise limit of 35 decibels. The population density of Ontario in very small comparison with Germany. There is no reason that Ontario, or anywhere in Canada, should have more turbine noise at homes than Germany.

A major source of turbine noise is the aerodynamic noise as the blades rotate in turbulent air. This turbulence arises naturally in the atmosphere and is generated by up-wind turbines. This latter cause is especially important because, in the words of a wind company executive, Ontario has been shoe-horning turbines into southern Ontario. Despite repeated appeals to MOE, it refuses to even acknowledge this noise source.

In Ontario, the wind industry and MOE are treading on very thin ice. MOE has at long last produced a protocol for measuring turbine noise at a home. Until now MOE has been relying only upon the predictions and, as you now know, the denial of noise complaints. I am sure as can be that when tested with a proper procedure there are going to be a huge number of turbines that will have to be shut down. Of particular note is part of the judgment of the Kent-Breeze Tribunal:

"Nevertheless, if the modeling does end up being inaccurate (recognizing the general point that pre-operation modeling has limitations as compared to accurate post-operation field measurements), then adjustments will have to be made to ensure ongoing compliance. The 40 dB limit is a real limit that Suncor must abide by regardless of its modeling exercises."

I have been writing to MOE for 4 years at least. They have no excuse!

Best regards,
John