

**Extract from expert evidence statement given by
Mr Les Huson, Acoustician,
in the Cherry Tree Victorian Civil Administrative Tribunal
Hearing on 24th October, 2013 in Melbourne, Australia**

Statement of Opinion

1. Infrasound propagation attenuation is minimal in the near field to a large wind farm such as Macarthur. Little infrasound attenuation is observed from 1800m out to 6400m from the nearest turbines on the southern side of the wind farm.
2. For far field infrasound propagation from two wind turbines at Leonards Hill we have measured a propagation attenuation rate that follows $11.4 \text{ Log}_{10}(R1/R2)$ where R1 is the nearer distance from the sound source and R2 is the further distance. This propagation result is valid for the conditions of measurement and may increase with increased turbulence or decrease in less turbulent wind conditions.
3. Industrial infrasound levels of 0.5 Pa pk-pk at 12.5 Hz have caused recognised and accepted nuisance complaints.¹ Pressure transients exceeding 5 Pa pk-pk have been observed that correlate with observation of Mr Gardner that causes him concern. Other lower amplitude pk-pk pressure transients have also correlated with Mr Gardner's diary logs with an overall correlation of 86%.
4. I find it entirely plausible that infrasound can cause nuisance and disturbed sleep in communities surrounding wind farm developments similar to the Macarthur and Leonards Hill developments.
5. My research to further analyse infrasound propagation under differing weather conditions has yet to be completed. However, rms spectral peaks in the frequency range between 0.5 Hz and 5 Hz at distances out to 6400m inside a bedroom of a brick veneer dwelling with windows closed have been measured in excess of 70 dB re 2E-5 Pa rms from the Macarthur wind farm that uses the Vestas V112 turbines (see chart 20 of PowerPoint presentation). Similar infrasound levels are observed 650m from two 2MW turbines at Leonards Hill.
6. Further research to correlate infrasound with sleep patterns is needed and this is not the subject of my current research.

1. <http://www.dpea.scotland.gov.uk/Documents/qJ12573/J165244.PDF>