

## **In-Home Wind Turbine Noise Is Conducive to Vibroacoustic Disease**

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... to be presented September 20, 2007 at the

*Wind Turbine Noise Conference*

September 20-21, 2007

Lyon, France

<http://windturbineoise2007.org>

### **ABSTRACT**

**Introduction.** This team has been systematically studying the effects of infrasound and low frequency noise (ILFN, <500 Hz) in both human and animal models since 1980. Recently, yet another source of infrasound and low frequency noise (ILFN) has appeared: wind turbines (WT). Like many other ILFN-generating devices, wind turbines can greatly benefit humankind if, and only if, responsible and intelligent measures are taken for their implementation. Vibroacoustic disease (VAD) is the pathology that is acquired with repeated exposures to ILFN environments (occupational, residential or recreational). This can be considered a scientific fact because there are 27 years of valid and robust scientific data supporting this assertion.

**Goal.** To evaluate if infrasound and low frequency noise (ILFN) levels obtained in a home near wind turbines are conducive to vibroacoustic disease (VAD).

**Methodology.** *Case 1:* documented in 2004, in-home ILFN levels generated by a port grain terminal, 2 adults and a 10-year-old child diagnosed with VAD. *Case 2:* isolated farm in agricultural area, four 2MW [2 Megawatt] wind turbines that began operation in Nov 2006, located between 300 m [984 feet] and 700 m [2297 feet] from the residential building, 3 adults and 2 children (8 and 12-years-old). Infrasound and low frequency noise (ILFN) levels of *Case 2* were compared to those in *Case 1*. In both, ILFN was assessed in 1/3 octave bands, without A-weighting, (i.e. in dB Linear). In *Case 1*, the lower limiting frequency was 6.3 Hz, while in *Case 2*, it was 1 Hz.

**Results.** Infrasound and low frequency noise levels in the home of *Case 2* were higher than those obtained in the home of *Case 1*.

**Discussion.** Infrasound and low frequency noise (ILFN) levels contaminating the home of *Case 2* are amply sufficient to cause VAD. This family has already received standard diagnostic tests to monitor clinical evolution of VAD.

Safe distances from residences have not yet been scientifically established, despite statements by other authors claiming to possess this knowledge. Acceptance, as fact, of statements or assertions not supported by any type of valid scientific data, defeats all principles on which true scientific endeavor is founded.

Thus, widespread statements claiming no harm is caused by in-home infrasound and low frequency noise (ILFN) produced by wind turbines are fallacies that cannot, in good conscience, continue to be perpetuated. In-home infrasound and low frequency noise generated by wind turbines can lead to severe health problems, specifically, VAD. Therefore, real and efficient zoning for wind turbines must be scientifically determined, and quickly adopted, in order to competently and responsibly protect public health.