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Dear Sirs:

This letter is to express our deepest disappointment with the lack of objectivity in the recent report from the Victoria Department of Health "Wind Farms, Sound and Health: Technical Information".

There are a number of false statements in your report. One severe example is "… the available evidence does not support claims that inaudible sounds can have direct physiological effects.".

Below we have provide citations to six publications from our group where we showed how the ear responds to low frequency sounds up to 50 dB below the levels that would be heard. The experimental methods that were used are well established in the field of auditory physiology. Three of the below citations were peer-reviewed and published in some of the most well respected journals in the field of acoustics and hearing science. Our publications, which were clearly neglected or conveniently overlooked, show that inaudible low frequency sounds do indeed stimulate the ear and produce marked physiological effects.

The stimulation of human inner-ear sensory cells occurs by identical processes to those seen in commonly used laboratory mammals, so there is no evidence that humans are different from other mammals in this respect. Indeed, to be technical, the observation that in humans the response to low frequency maskers changes phase by 90 degrees as frequency is lowered *(Zwicker, E., 1977. Masking-period patterns produced by very-low-frequency maskers and their possible relation to basilar-membrane displacement. J. Acoust. Soc. Am. 61, 1031)* is confirmation that the sensory cells of humans are responding in an identical manner to the mammals that we, and others, have studied.

It is highly irresponsible for a Health Department to state as a fact that low frequency sounds can have no physiological effects when publicly-available experimental results prove otherwise. The Health Department is failing to

PROTECT the public by their lack of objective and balanced review of the potential risks of low frequency noise.

We are truly sincere,

Alec N Salt, PhD.
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Jeffery T Lichtenhan, PhD
Assistant Professor of Otolaryngology

**Publications Cited (which can be provided on request):**

Salt AN, Hullar TE. Responses of the Ear to Low Frequency Sounds, Infrasound and Wind Turbines. Hearing Research 2010; 268: 12-21

Salt AN, LichtenhanJT. Responses of the Inner Ear to Infrasound. Proceedings of the Fourth International Meeting on Wind Turbine Noise, Rome Italy April 2011

Salt AN, Kaltenbach JA. Infrasound from Wind Turbines Could Affect Humans. Bulletin of Science, Technology & Society 31, 296-302, 2011

Salt AN, Lichtenhan, JT. Perception-based protection from low-frequency sounds may not be enough. Proceedings of InterNoise 2012, New York, 2012.

Salt AN, Lichtenhan JT, Gill RM, Hartsock JJ. Large endolymphatic potentials from low-frequency and infrasonic tones in the guinea pig. J Acoust Soc Am. 2013 133 :1561-1571.

Lichtenhan, J.T. Salt, A.N. (In Press) Amplitude modulation of audible sounds by non-audible sounds: Understanding the effects of wind turbine noise. *Proceedings of Meetings on Acoustics* by the Acoustical Society of America.