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Mr Martti Warpenius
Chairman
Association of Australian Acoustical Consultants

By email to martti.warpenius@aecom.com

Dear Sir,

I write to you as Chairman of the Waubra Foundation and also as an engineer with a reasonable level of knowledge of acoustics, a long history of working with Australia's best neuroscientists, and three years of listening to and observing first hand many people impacted by noise and vibrations at multiple wind projects in Australia.

The ignorance of the AAAC's statement on wind farm noise and health is simply astounding, even to one who has observed, on multiple occasions, incomplete, inadequate and misleading "expert" advice and evidence regarding wind turbine noise.

I simply do not know whether a large section of the acoustical profession is ignorant, which seems unlikely; or a part of, or captive to, the wind industry. Whichever, it is now clear that within the AAAC the problem is endemic and the organisation and its members need to change their strategy and join with the sufferers and the enlightened acousticians working to place appropriate controls on an industry that, at this time, is still out of control.

In fact it is the same enlightened acousticians who are, and will remain, independent of the wind industry, that have demonstrated again and again what is truly happening around wind projects.

We have seen the exchange with, and the tutorials offered you by, Professor Alec Salt and wind-savvy American acoustician Stephen Ambrose. I hope you pass that information on to your members; some of them sorely need it. We also note your exchange with Patina Schneider who seems to be overwhelmingly better informed than those members of the AAAC involved in the Statement. I also note your sensitivity in jumping to the conclusion that Patina Schneider was threatening you with by referring to an action in the US against an acoustician. Presumably you prefer not to be made aware of such matters.

Patina Schneider's last email generously draws your attention to a number of key documents that seem have eluded the authors of your statement. Some of those documents are, you will note, freely and easily accessible on the Waubra Foundation's website. Not hard to find, but now difficult to ignore. Perhaps you should take a really good look at that website. It is designed to quickly bring the uninformed and the misinformed right up to date.

Noise from turbines and neighbours' ill health is a most complicated matter and requires the alignment of information and current knowledge of multiple engineering and scientific disciplines. Unless the AAAC has significant expertise in psycho-acoustics, it would be both wise and proper to focus entirely on understanding the facts of the noise actually emanating from turbines and the presence of noise at certain frequencies and

damaging levels inside homes. Unfortunately some members (including the Statement authors) of your organisation have not yet demonstrated competence in that area. An attachment to this letter includes some commentary on your statement which we hope will help with the competence problem.

Acousticians have worked closely with the wind industry over a long period, first to set the noise guidelines and then to demonstrate to planning authorities that proposed wind project layouts would meet these guidelines. With industry assertions that the guidelines were among the toughest anywhere, and the talk of nimbys and scaremongers, this was enough to keep the game going and the fee flow high.

It is now clear that the guidelines were incompetent and incomplete; and more a licence to damage than to protect. The work done by acousticians not engaged by, and therefore independent of, the industry, and by the Waubra Foundation has begun to uncover the true value of acoustic firms' submissions to planning authorities, Senate inquiries, the Clean Energy Regulator (re project compliance) and sundry others. It seems that some acousticians may now be feeling uncomfortable and somewhat exposed by their part in this game, and have persuaded the AAAC to demean itself to the point of owning this quite silly statement and thereby helping to protect those members. Perhaps you might consider whether the AAAC has been manipulated by some of your own members?

Of course the AAAC should withdraw the Statement immediately, but that would involve a huge repast of humble pie and the anger of those members or member firms that wrote the Statement. Perhaps you should arrange a hasty merger with the AAS which that might help focus attention elsewhere.

Unwittingly, however, it seems that victims of wind turbine noise might be better served in the coming court battles over nuisance if your Statement was left in the public arena.

Yours faithfully,

Peter R. Mitchell, AM BChE
Chairman

Attachment

Some Comments on AAAC Position Statement

Page 1, Para 1: “AAAC members assess environmental noise against objective criteria set by relevant authorities.”

- Firstly, some AAAC members (who are also AAS members) have themselves participated in the writing of the “objective criteria set by relevant authorities” being the State-based noise guidelines. This defies the adjective “objective” in the Position Statement because instead of being protective they are, in practice, operating as a licence to damage the health of rural residents.
- Where is the empirical evidence used by these AAAC members to write those State noise guidelines?
- Why have long standing acoustic conventions, such as those which acknowledge that night time background noise is quieter, been ignored?
- Who came up with the suggestion that 35dBA was an acceptable limit, when background noise in rural Australia can be well down below 20 dBA. This will inevitably, and regularly, cause an unacceptable and health damaging acoustic impact because of sleep disturbance.
- Why were these figures chosen and based upon what research, and upon whose authority did this occur? There is the unmistakable impression that wind industry commercial interests rather than the protection of public health were the dominant driver of these decisions.

Your members also have a professional and moral obligation to assess the impact of the sound energy on members of the community, and ensure that people’s health is not being harmed. This is not being assessed by some of your AAAC members, who choose instead to ignore their ethical responsibility by saying “I was following my client’s instructions”. The first ethical instruction in the AAS ethical code of conduct says *that the health of the community must come before private or commercial interests*. AAAC members are generally also AAS members.

- Why is this ethical obligation being ignored?
- Why is the sleep deprivation and the damage to health being ignored by the AAAC and many of its members who are consultants working for the wind companies?

Page 1, Dot Point 2: “A” frequency weighted sound levels from wind farms can be reliably predicted.”

- First, there are frequently expressed concerns by acousticians with direct experience collecting wind turbine noise measurements that the current models do NOT reliably predict the sound energy the residents will experience, particularly because the effects of cumulative impact from multiple turbines are not addressed in these models.
- Secondly, what about low frequency noise? Why has this been omitted from the Position Statement, when it is well known to directly cause a range of symptoms. This has been acknowledged by acousticians, including Professor Leventhall, to be identical to the “wind turbine syndrome” symptoms detailed by Dr Nina Pierpont, but known as “annoyance” to acousticians, and long acknowledged as a cause of adverse health impacts?

Page 2, Dot Point 1: “Investigations have found that infrasound levels around wind farms are no higher than levels measured at other locations where people live, work and sleep. Those investigations conclude that infrasound levels adjacent to wind farms are below the threshold of perception and below currently accepted limits set for infrasound.

This statement is misleading.

Kelley et al established in 1985 that thresholds of perception of the impulsive wind turbine sound energy **were well below the thresholds of audible perception**. In other words, people could perceive the sound energy and develop annoyance symptoms from it well before they could hear it at these low frequencies in the infrasound range.

It is thresholds of *audible* perception of infrasound (rather than the thresholds of perception) which are being suggested by the wind industry and its favourite acousticians as the “currently accepted limits” and 85 dB is commonly referred to. These are much higher than the evidence based limits suggested by Kelley et al, which were as follows: (from page 225 of the 1985 Mod 1 SERI report)

*“the joint radiation levels (expressed in terms of acoustic intensity and measured external to a structure) in the 8, 16, 31.5, and 63 Hz standard (ISO) octaves **should not exceed band intensity threshold limits of 60, 50, 40 and 40 dB** more than 20% of the time. These figures compare favourably with a summary of low-frequency annoyance situations by Hubbard.”*

Kelley et al’s evidence based limits of infrasound and low frequency noise exposure from 1985 have been ignored, to the detriment of the health of rural residents around the world, particularly in the English speaking world ever since ETSU 97 was written.

Kelley has recently confirmed that this research is valid for modern upwind bladed turbines emitting impulsive infrasound and low frequency noise, so the argument of the wind industry lobby group that this research is of no relevance because it relates to a different design of wind turbine has fallen flat. As Kelley points out in his report, work by Hubbard in 1982 detailing perception of sound energy within buildings which resonated was consistent with his own findings. *These limits are therefore of vital importance and should be the limits used for all wind turbine noise pollution regulations until further research improves them.*

Serious questions now need to be asked about why these Kelley parameters relating to infrasound and low frequency noise are not in the existing wind turbine noise pollution guidelines, and who made the decision to leave them out.

AAAC Member Chris Turnbull, principal of Sonus, has pointed out in his recent presentation to the International Wind Turbine noise conference in Denver that the basis of all the wind turbine noise guidelines in Australia is the ETSU 97 document. Turnbull also referred to the fact that the AAAC was putting together a Position Statement, and whilst authorship of the Statement is not disclosed by the AAAC, it would appear possible that Turnbull therefore had a hand in writing it. If so, the failure to disclose the identity of the author(s) and conflicts of interest does not enhance the standing of the AAAC in the eyes of anyone, and in particular would appear to be a breach of the organisation’s Code of Conduct with respect to full disclosure of conflicts of interest.

The authors of the AAAC Position Statement have not addressed the extensive criticisms of the SA EPA Resonate Acoustics paper referred to in Dot Point 3. There are a number of acousticians who have expressed their concern about this report and its findings, including Professor Randall, Renzo Tonin (at the AAS meeting in Sydney in March 2013) and Steven Cooper (in print, and also at the same AAS meeting).

Page 2, Final Para: “AAAC members should continue to primarily rely on the view of government bodies in relation to the health effects of wind farms and should conduct assessments in accordance with the relevant guidelines in each state.”

Given that:

- the authors of the State wind turbine noise pollution guidelines have ignored longstanding research such as Kelley et al, which in 1985 established evidence based guidelines to protect the community from annoyance from infrasound and low frequency noise;
- acoustic consultants working for the wind industry who are members of the AAAC and the AAS would appear to be ignoring their ethical obligations as acoustical engineers to protect the health of the community by not paying attention to the actual noise impacts at existing wind developments;

this paragraph appears to be a direction to your members that they must follow the current health damaging guidelines at all times, and not question their adequacy until the health departments do so.

This advice therefore also appears to be in direct conflict with the ethical obligations of members of the AAAC who become aware that the current guidelines are not protecting health adequately, even if the guidelines themselves are being met.

Intended or not, the Statement seemingly instructs members to follow the 'group think' of an unknown (in size, name and conflicts) coterie of members almost certainly without soliciting the advice and thoughts of acousticians who have, *on behalf of victims*, measured noise from turbines at a full range of frequencies both inside and outside homes. To a man these acousticians have valid and legitimate concerns about the effects of wind turbine noise on members of the community from their own investigations as independent professionals.

Surely a professional acoustician has an **OBLIGATION** to raise their concerns, and investigate as they see fit, to try and understand the problem better.