



**Health Commissioner Harry Chen, MD Testimony
On Wind Turbines and Public Health**

Senate Health & Welfare Committee – April 7, 2016

I understand – and do not doubt – that some people may be affected by living near a wind farm. They may have anxiety, lose sleep or lose their sense of wellbeing.

But to date, no scientific research has been able to demonstrate a direct cause-and-effect link between living near wind turbines, the noise they emit, and physiological health effects.

Health Department experts continue to review any new studies, and so far have not changed the general conclusions we reached in the 2010 health impact assessment of wind turbines.

We will revisit and update that report this summer based on a considerable amount new research.

- A special issue of the *Journal of the Acoustical Society of America* just came out the other day with four articles on wind turbine noise and stress, annoyance, health effects and shadow flicker, plus two articles on noise modeling and noise monitoring. All are products of the Health Canada study. Health Department experts are reviewing this.
- We should discuss how we address (prevent and mitigate) annoyance. If study results emerge that suggest that the Health Department's 40dBA annual recommendation or the Public Service Board's 45dBA hourly level should be revised to protect public health, we will re-examine those levels.

There is no doubt that stress/annoyance can affect an individual's health, but annoyance is a complex condition.

Annoyance is a result of more than noise and relates to more than wind turbines. With wind turbines, it appears to be also based on visual effects like flicker and flashing lights, noise sensitivity, perceived safety concerns and one's general opinion of wind turbines.

You may feel stress or annoyance if you feel you've had no input, or insufficient input, into a decision that affects your life. You feel a loss of control. You've experienced a major change without having made the decision to change.

You may feel less stressed or annoyed if you did personally benefit – you were compensated, for example.

If the costs and benefits of a wind turbine development are inequitably distributed, it will cause further community discord and increase annoyance.

This additional stress may compound other stressors in your life.

Is annoyance a public health issue? I don't have a ready answer for that.

While we can't dismiss the effects of annoyance, the World Health Organization has excluded annoyance as an outcome because of a lack of a clear definition. It is a complex human response to events.

Clearly the Health Department cannot be the regulator of annoyance.

But there are ways to mitigate annoyance with policy decisions or approaches: compensation, a more thorough process for community input and decision-making.

It's possible that as a society we may decide that lower sound limits are warranted to prevent the noise annoyance, even if this decision is not made on the basis of public health science.

The Health Dept. does not have jurisdiction over siting of energy development projects. We have advocated that public health questions and concerns be considered as part of the regulatory process:

- Greater community involvement in the siting process, including requiring developers of large-scale energy projects to conduct a health impact assessment.
- Require developers to use best practices to model the potential noise impacts during the application process.
- Require rigorous post-installation noise monitoring for a minimum of three years.
- Require a 'Good Neighbor' policy to address complaints that result from projects.

Regarding health complaints received over the past three years to date:

- Environmental Health staff talked with five individuals. Some had health concerns for their family members, bringing the total to 11.
- The communities represented are Georgia, Sheffield, Vergennes, and Lowell.
- Staff also talked with two health care providers, one of which is an MD. Health care providers have also given other reasons why the individual may have been having health concerns, unrelated to wind.

To standardize our efforts from today forward, when any staff takes a complaint about wind they will fill out an EISS (Environmental Health Exposure Incident) form and keep it in a location on the network. Each time a form is completed, they will email the other staff members involved.