

## **CFERS, LLC Comments on E-999/CI-09-845**

**A little over two years ago, 6 September 2007, CFERS last appeared before the PUC to present our petition for reconsideration of your decision to permit the Kenyon Wind project. Sadly, at that time, the commission did not have the fortitude--or the courtesy--to allow us to be heard in a contested case or reconsideration of the Order for the permit. Nonetheless, I filed our justification for reconsideration in File #06-1445, not expecting to have another opportunity to speak on behalf of the >75 individuals who reside in or around the proposed project area—and who are still very much opposed to that project today.**

**In our argument, CFERS requested that if the project were to proceed as permitted that certain additional conditions be required, which included setbacks be increased from ridiculously minimal distances in the proposed permit to:**

- a) Major Roads—1000 feet**
- b) Residences—1000 feet**
- c) Wetlands—5 RD to protect wildlife**
- d) Township Roads—500 feet**
- e) Residents with migraine/motion syndrome—0.6 mile**

**These basic requirements should be a part of all permits and are consistent with the Dept. of Health report.**

**CFERS, LLC was encouraged by the Minnesota Department of Commerce's Office of Energy Security request of the Minnesota Department of Health to research and publish a white paper evaluating the possible health effects associated with low frequency vibrations and sound arising from Large Wind Energy Conversion Systems. We eagerly and thoroughly read through this document and found great comfort in the fact that there was at least one MN state agency that had the fortitude and conviction to report the facts that substantiate our demands for increased setbacks to assure the safety of Minnesotans wherever LWECs are planned to be sited. Important highlights of this white paper include:**

- 1) The National Research Council of the National Academies (NRC, 2007) concluded that noise, low frequency vibration, and shadow flicker may have the most effect on health.**
- 2) The NRC noted that during quiet conditions at night, low frequency modulation of higher frequency sounds—such as are produced by turbine blades--is possible.**
- 3) The World Health Organization (WHO) suggests that A-scale weighting of noise that has a large low frequency component is not a reliable assessment of loudness.**
- 4) Aerodynamic noise from a wind turbine may be underestimated during planning due to the fact that most meteorological wind speed data is taken at 10 meters above the ground. The van den Berg study (2004) found that wind speeds at the hub were 2.6 times higher than modeled—and noise levels were 15 dB higher than predicted.**

5) Noise from multiple turbines similarly distant from a residence can be noticeably louder than a lone turbine due to synchrony between noise from more than one turbine—and may include an audible beat or dissonance with stable winds.

6) Modeling by the MN Dept of Health shows that shadow flicker can occur up to 1.5 hours each day. It was also noted that setbacks of 10 RD (~0.6 miles) would eliminate flicker as a concern. Also, Ireland requires setbacks of 300 meters from roadways to avoid driver distraction.

7) Worldwide studies show a wide variety of negative effects from wind turbines on people, including: sleep disturbance, headaches, palpitations, migraines, tinnitus, anxiety, depression, ear pressure, vertigo, nausea, visual blurring, tachycardia, irritability, cognitive problems, and disturbance of equilibrium.

8) While low frequency noise is typically not perceived beyond 0.5 mile, noise can be detected beyond that distance due to aerodynamic modulation.

CFERS, LLC restates its position that increased setbacks are **ESSENTIAL** if wind energy is to be successfully established in Minnesota.

We respectfully request that the conclusions of the MN Dept of Health white paper be accepted as fact and used to develop **MORE APPROPRIATE** setbacks that ensure the health and welfare of MN citizens are given top consideration.

We **DEMAND** that the new more appropriate setbacks of > 0.6 mile from residences be applied immediately to all LWECS projects—including those previously permitted, such as in the case of Kenyon Wind.

To do anything less, in light of the MN Dept of Health white paper, would be a great injustice to MN residents---and a dereliction of duty for the PUC, whose mission statement reads:

*“The Minnesota Public Utilities Commission's mission is to create and maintain a regulatory environment that ensures safe, reliable and efficient utility services at fair and reasonable rates”.*

Note that “safety” comes before “reliable” and “efficient”. Without safety, we have **NOTHING**.

Do “the right thing”.....reset the setbacks to > 0.6 miles from residences, and >1000 feet from roadways.

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