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FILE

**From:** Ted Hartke [mailto:tedhartke@hartke.pro]  
**Sent:** Wednesday, August 20, 2014 8:57 AM  
**To:** Puco Contact OPSB  
**Subject:** Fwd: Decommissioning and Community Noise Limits

RECEIVED-DOCKETING DIV

2014 AUG 21 AM 11:34

PUCO

Dear Ohio Power Siting Board,

I am sure you are swamped with information.

This noise level has been developed to map noise response in humans, and it is very important to use for the protection of health.

It shows the allowable community noise limits, and has been used to show that current wind turbine noise measurements fall significantly above the levels which are acceptable for human populations. The reason wind turbine noise has suddenly become a sensitive issue is because they often run 24/7 with no relief for the nearby residents.

The negative experience from wind turbine noise exposure is a dose response. Humans can withstand a lot of discomfort for short periods of time (sporting events, tractor pulls), and humans can withstand a small amount of discomfort for longer periods of time, (riding on a train or airplane), but it is proven that a significant percent of the human population, for some physical reason, cannot live in a healthy manner with constant amounts of chronic disturbance.

My previous email stated that turbines should not be constructed within a half mile of a home. The low frequency noise produced by wind turbines have been studied and measured at distances of MANY miles. Sleep disturbance in our wind farm here in Illinois has been experienced at a mile and a half. The setback of wind turbines from homes need to be established based upon the noise level. The maximum turbine nighttime noise contribution needs to be 34 dBA or LESS to protect against sleep deprivation for humans. This translates to a 1.25 to 1.50 mile setback for turbines which are approximately 500' tall measured to the highest blade tip.

The key is low frequency noise.....which is something which cannot be soundproofed against without majorly changing a lifestyle. I think it is the critical flaw .....ruining it for people being able to live near turbines. If it wasn't for the nighttime noise problem, I would have probably never taken issue with the turbines near my house.

I say again.....wind turbines are no different than asbestos, PCB's, second-hand smoke, DDT, and lead paint.....which we found out were all bad only after-the-fact. Do not permit wind turbine placement to damage the health of rural residents in Greenwich, Ohio. Follow the 34 dBA noise limit as shown to be acceptable per the attached chart. If you fail to protect residents, you will likely be implicated in future litigation for ignoring the facts I have presented. You, as individuals on the OPSB board, have the jurisdiction and responsibility and power to avoid the inevitable pain and suffering from improperly sited turbines.

Sincerely,

Theodore P. Hartke, PE, PLS

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 Technician TE Date Processed AUG 21 2014

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**US EPA 1974  
Response Levels**

**WHO 2009 - NOEL**  
**No Observed**  
**Effect Level**

**WHO 2009 - LOEAL  
Lowest Observed  
Adverse Effect Level**

## Multi-study Comparison Shows Wind Turbine Noise Levels Need to Be Less Than 35 dBA

**Vigorous  
Community  
Action**

**LFN imbalance is  
20 dB > dBA**

**LFN Imbalance is  
20 dB > dBA**

## Vermont Noise Limit

## Strong appeals to stop noise

## Widespread Complaints

## Sporadic Complaints

**No  
Reaction**

**33 dBA Recommended by:**  
Hayes McKenzie Group 2006  
Dan Driscoll 2009  
Rand/Ambrose 2010

**33.5 dBA Recommended by:**  
ShomenHessler 2013

**5 dBA above background by:**  
Kempman/James 2008

**% of Population  
"Highly Annoyed"**

**"Very Annoyed"**  
Pedersen, et al, J

■ EPA, Normalized case studies, 550/9-74-004, 197

**ANSI / ASA**  
**12.9 Part 4**  
**ISO 1996-1974**  
**Rural Nighttime**

### Wind Turbine Noise Level in dBA

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