

Dear Commissioners,

We, my wife and I, purchased property near Hallam, Nebraska for its beauty and tranquility. We chose to live in the country for many reasons with a few being the openness, wildlife, sense of community, and the fantastic views. This commercial wind farm will take all of that away in an instant, and as a matter of fact has already started to drive wedges between neighbors and even families. But let me be very clear, we are not opposed to alternative energy as long as it is placed and operated responsibly. During one of the working group meetings, those in favor of this commercial wind farm stated they just want to use their land as they saw fit and those opposing the wind farm shouldn't tell them how to use their land that they have bought and paid for. We are just asking for the same thing, whether you own a town lot or several thousand acres. We cannot allow big business, that doesn't even have an office in Nebraska or big land owners to dictate county policy. The wants of the few should not out way the concerns of the many when it comes to safety. I would like to address several huge concerns of mine.

1. Setbacks:

Currently the setbacks are 1000 feet from an occupied dwelling. This is a very old standard that was developed when commercial wind turbines were small, nothing in comparison to the extremely large wind turbines; almost 500 feet in height with some projected to be around 600 feet. All setbacks need to be measured from a property line; this will allow a non-participating land owners to use all of the land they bought and paid for and not limit the use of their land. Just because a dwelling exist at a particular place on a land owner's property right now should not be used to determine the required setbacks. Said land owner might want to build a new house on a different site on their property, if the setbacks were measured from the previous dwelling then they could be at a higher risk of health issues, flying debris, noise levels that are above stated acceptable levels, etc. Again, affecting the use of someone's land that is not being compensated for these wind turbines is unacceptable. Volkswind's representative stated the noise output at the rotor hub is approximately 110 decibels; using the standard sound dissipation formula, under ideal conditions, it takes 3150 feet for the sound level to drop to 40 decibels; three times the suggested setback. For the sound level to reach 37 decibels, the setback would need to be **4450 feet** and this should be measured from the property line as not to affect the use of a neighbors land. Volkswind representative also argued that setting this low standard would essentially kill the project. We (citizens) should not have to accept higher risks just because the wind turbine manufactures cannot design a quieter turbine. As a matter of fact, a firm is constructing a quieter turbine with no moving parts as we speak. The lab test are complete and they estimate having a full scale prototype for testing in less than a year. Siting a wind farm must be done with public safety as the number one concern and established in sparsely populated areas, not next to or between two small communities with numerous small acreages. Power transmission line accessibility shouldn't be the number one criteria for site selection as portrayed by Volkswind. Based on this, the land owner/owners or wind farm developer should be required to own enough continuous property or have a number of land owners with signed lease agreements to obtain the above setback to allow for sound dissipation.

2. Health Concerns:

Health issues have been documented among people living in close proximity of commercial wind turbines. Multiple personal accounts of how wind turbines have negatively changed their lives and created health issues have been documented. Plus scientific studies document that these elevated health risks are due to noise annoyances. Wind farm developers state there is no causality proven. That might be true, but there isn't enough studies to disprove it either. The study cited by developer's states there is a very high probability that a significant number of people will develop health issues at or above 35 decibels. Please consider this while applying setback requirements. Please do not make the citizens of Lancaster County, unwilling participants in a live health study. Let's do the research before approving these potentially hazardous turbines in Lancaster County. Please slow down and allow scientific testing to catch up and make sound decisions for the greater good of all involved. Some people for the wind farm, cite that the carbon emissions from burning fossil fuels to produce energy (Sheldon Power Plant – Coal) and the health hazards this produces as a reason for installing the wind farm to produce energy. A California firm that produces carbon black, a black pigment readily used in many products is scheduled to build a plant in Hallam next to Sheldon. Hydrogen gas is a by-product of this production and is going to be used to power Sheldon, a cleaner hotter burn. This firm is scheduled to employ 600 people. Proponents for the wind farm state that if build it will decrease these emission. This is a false statement since Volkswind does not have a contract to sell the energy produced to OPPD, NPPD or LES. The power will be transmitted to other states, no benefit to local residents, Lancaster County, or the Great state of Nebraska. Plus, this will not decrease the burn rate at Sheldon because none of the electricity will be used locally.

3. Shadow Flicker and Ice Throw

Shadow flicker and ice throw are other reasons to establish the setbacks from a property line, or public road and increase them to the above stated distance of 4450 feet. This will ensure everyone's safety and no property damage to neighboring property or outbuildings. Shadow flicker is extremely annoying and certain instances could be disorienting, cause seizures and if severe enough become fatal. This is a proven fact, and has been used by the military to disorient the enemy and gain the upper hand in a non-lethal way. For these reasons shadow flicker should not be allow to affect any non-participating land owner. The flicker effect must not cross any portion of a non-participating owner's land or this will essentially hamper their use of their land. These increased setbacks will also ensure no flying debris lands on public roads, or any non-participating land owner's property.

#### 4. Noise levels

There should not be a difference between daylight and night time noise levels. This is an archaic system used when this area was solely an agricultural society and work was completed during daylight hours only. The world and the United States to include Nebraska does not solely operate that way any longer. Society is now 24/7 with shift work. Therefore the lower night time noise level should be enforced the entire day. As stated in the setback paragraph above to achieve this, the setbacks must be increased to over 4400 feet. The proposed area for the wind farm is flat without anything to stop or absorb the sounds produced by wind turbines. Actually if you are downwind, the sound is going to travel much further before dissipating to acceptable levels; 4450 feet will be the minimum setback and could drastically increase because of wind direction and turbine placement. Sound studies have proven that a constant sound is very well tolerated by humans and can be zoned out as white noise, but the sound produced by wind turbines is modulated and **NOT** tolerated. A change of only 3 decibels is detectable to most humans of any age; huge reason to drastically increase require setbacks. Volkswind stated that farming noise is louder than the proposed limits. That may be true, but it is constant and comes at very predictable times; not considered annoying by most people. It is the modulation of the sound produced by the turbines that is annoying and this annoyance does cause elevated health risks. It is documents that wind farm developers do not care about the noise levels produced after the turbines are in service. Little is done to enforce the levels and if cited the developer just ignores it until a lawsuit is filled. Even then it is still several years before the suit goes to court. Please consider extending the setbacks to a minimum of 4450 feet to allow the sound to decrease and not cause honest hard working Nebraskans any health issues, and long costly lawsuits. Plus, it is the unheard sound (infrasound – below human hearing levels) that is also causing serious health issues; well documented from people living near wind farms. Most wind developers violate the noise levels without consequences, as documented by people living near wind farms and even some people resorting to costly lawsuits and winning an undisclosed amount. Please do not put the residents of Lancaster County in this situation. Please take all of this into consideration before amending existing code.

#### 5. Decommissioning Plan

A formal plan should be submitted prior to final approval to construct a wind farm and a bond for the entire estimated cost, not less than construction cost, should be funded. The entire turbine and concrete base should be removed at decommissioning. One selling point Volkswind uses is the upgrades they will do to roads and infrastructure to construct the farm and all of the employees required to do this. The reason for funding decommissioning upfront is the 1400 turbines in California just sitting there, decommissioned and still standing. The reason for the decommissioning bond to equal construction cost is to allow for inflation and what was trucked in and erected must be tore down and hauled away; cost should be about equal. California is just one example of developers leaving and not living up to these contracts. At least if decommissioning

was already funded, money would be available to remove the turbines, and return the land to the same state as before the wind farm.

#### 6. Economics

It appears very little economic gain will come to our community. Volkswind states there will be this huge economic boost for Hallam in the form of taxes and jobs. Taxes will be collected on the name plate production capacity and go to Lancaster County to be distribute according to current laws. This will help the schools with funding in the short term, but when the wind farm is decommissioned this revenue will need to be replaced from some other source. When asked how it would affect property taxes; no answer was given, not even an estimate. As for the increase in jobs, I do not see it. The crews required to erect these turbines will be specialized and brought in from outside the local area. The only permanent job created will be the maintenance employee to monitor the wind turbines. Hallam will see little to no economic growth, but will be burdened with the health issues, unsightly wind turbines, and the overall annoyance of the noise produced by the turbines.

#### 7. Emergency Response

Volkswind does not even want to address this issue. When asked who is responsible for any damage caused by the turbines, their representative failed to respond. Will the land owner (leaser) be responsible for any damage caused by fire or falling objects or will the developer? Another unanswered question of many posed to Volkswind. As a first responder for the area, the addition of this wind farm will increase the risk to my life dramatically by adding the element of high angle rescue, hazmat spills, and highly flammable liquid fires requiring foam to extinguish to name a few.

In closing, please consider all of the points addressed in this letter and the ones documented from eye witnesses (people currently living near or have lived next to a commercial wind farm) before making any decisions about this commercial wind farm and Lancaster County ordinances. Please make public safety our first priority by increasing the setbacks to a minimum of 4450 feet from a land owner's property line; participating or not; whereby decreasing health risks to acceptable levels. Big business should not be able to outweigh the right of a land owner to use all of their property, from a town lot to large farm, as they see fit under the laws of Nebraska.